

NEWSLETTER

No. 17

May 2021

Chairman's Update ...

We are, at last able to get back to work on our restorations out at Alford and all of the volunteers are glad to be back at work. We have expected to get the OK for this from the Scottish Government all month and the false start of a short period under the "stay local" condition was not helpful!

During this period I did have occasion to get out to Alford to let various people in to service equipment etc, and felt that we must do everything to let industry carry on with its contracts. This gave me a chance to have a preliminary check on the premises and the state of our batteries. We have "hit the ground running" and have been able to paint the roof of Daimler 11 and get a programme of battery charging under way.

The AEC Monocoach has also moved forward with work on the front panels nearly complete and all of the re-wired light fittings of the interior replaced and tested.

Most of the programme for events related to preserved buses have been cancelled or tentatively postponed until later in the year so, there is not much chance we can run an event this year.

Grampian Transport Museum are re-opening to the public on 29th April, they will be encouraging their visitors to use the open spaces in the grounds, how this may affect our activities I do not know at this stage. One aspect that has already changed is the fitting of new gates to the entrance from Stewart Road so, entry may only be from the Museum main entrance in the future. This is related to a new group taking over the Alford Valley Railway.

Stay well ... Stay Safe! Gordon Mills, Trust Chairman

Aberdeen's Leyland Tiger Cubs – Pioneers of One-Man Operation 2

More than a half century has elapsed since Aberdeen's first six Tiger Cubs entered service in February 1966, and you may wonder why the Leyland product was selected from the alternatives then available. On further scrutiny, there were four obvious choices, Bristol, Daimler, AEC and Leyland so here's my take on this.

Bristol did in fact have a suitable product. It came to the market in 1962, was of rear engine layout and was invariably offered with a service bus body built at Lowestoft by the well-known coachbuilder Eastern Coach Works. This model had no following in Scotland.

Aberdeen's major supplier Daimler had always concentrated on the manufacture of double deckers, and simply did not have in its range, a suitable lightweight single decker.

The city's other big customer, AEC, had in 1953 launched its Monocoach and Reliance models as direct competitors to the Tiger Cub. Both employed horizontal 410 and 470 versions of the vertical 470 type engine employed in Aberdeen's AEC Regent double deckers. There were operational issues especially with horizontal AEC power units in the fleets of many bus companies, so much so that by 1965 AEC had embarked on a major re-design of this engine, while simultaneously launching its own rear engine single deck service bus, the Swift.



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The Bus Collection at Alford is open again to visitors, please check our website for further visitor information: <http://thebuscollectionatalford.co.uk/>

Aberdeen's Leyland Tiger Cubs – Pioneers of One-Man Operation 2 - Continued

My personal assessment is, that for these reasons amongst others, Leyland's Tiger Cub was seen to offer the potentially best choice to meet Aberdeen's needs ; furthermore I believe there was also a significant cost consideration in their selection. As alternative models suited to city service, Leyland had recently launched its own rear engined Panther Cub, an offspring of its bigger engined Panther, but neither, especially the former, which had been tried in Manchester, made any significant impression on the British bus market. Operators could also specify Leyland's popular Leopard model, on which various coachbuilders constructed bus seated bodywork, but this was an altogether heavier, costlier vehicle to buy.



Aberdeen had carried out limited experimentation with one man operated buses in the 1950s and in the first half of the 1960s, some further trials had been carried out before the final selection of the Tiger Cub was made.

Unexpected choices did not just rest there. Until around 1959, the bodybuilding firm Alexanders of Falkirk had not greatly featured in deliveries to Aberdeen, but from that time on, Daimler double deckers began to be so equipped. The firm became the principal supplier to the city. Its 1966 double deck deliveries were equipped with 2 door bodies to Alexander's striking 1962 design for the Corporation's first rear engined buses, Daimler Fleetlines 100 – 111.

Guest Writer - Lawrence MacDuff

Looking at the oily bits! - (Brake Systems 2)

Moving on from the manual systems as found on the 1930 Albion, the next development that took place from the early thirties featured on most new models of bus was the introduction of vacuum servo brakes. The next oldest buses in our collection are the two Daimler CVD6 single-deckers 11 and 14, both now under restoration. They both featured vacuum servo brakes, the design carried on after the war until updated in the early 1950s.



Power assistance for bus brakes was achieved by having a rotary "vane" type exhauster which was usually driven by fitting it between the timing gears and the fuel pump. Our two Daimlers were rather unusual as the timing gears on the CD6 engine were situated at the back of the engine whereas competing models had the timing chain or gears at the front. This meant that the almost identical looking Simms or CAV Bosch type fuel pumps fitted, rotated in the opposite direction on the Daimler engine compared to their competitor's products – don't get them mixed up in the workshop! Just to complicate matter further, Gardner in their 5LW and 6LW engines, fitted by many manufacturers as an option, used a two-stage piston type vacuum pump at the front of the engine. Our Daimler CVG6 160 (Dating from 1951) had a Gardner 6LW engine fitted, on overhaul this was checked and found to have no evidence of wear on the pistons or cylinders, I imagine that failures were rarely experienced. To complete the picture, some earlier petrol engine buses had vacuum assisted brake systems with vacuum sourced from the inlet manifold depression, a system that failed immediately if the engine stopped!

The next element in the system on the Daimlers is a large vacuum tank placed on the outside of the offside chassis member just behind the front bulkhead of the bus. It connects to the exhauster with a large (3/4") pipe. There is a one-way valve at the inlet to the tank to preserve the vacuum when the engine stops. Fitted on the inside of the chassis at the same location is the vacuum servo unit. This consists of a large diameter piston and cylinder with a return spring. Mounted directly on top of this is a hydraulic master cylinder. An application of the footbrake moves a rod connected to the top of the servo, this immediately opens a valve connecting the vacuum tank to the front of the servo cylinder. The piston moves forward with some force and this operates the hydraulic master cylinder via a lever.


The hydraulic system works very much like a car braking system. Two separate hydraulic pipes lead to each of the front wheels and via a rubber hose, either side, operate the front brakes with a slave cylinder directly fixed to the brake shoe expanders. The rear brakes work in a similar way with just one pipe going to the back of the bus and splitting to go to each side of the bus just in front of the rear axle. Fixed slave cylinders operate the brakes via a rod and lever system to turn the expanders at the front of the rear brake shoes.

We have a problem these days with brake liners. These were manufactured originally from an asbestos compound and the dangers of having asbestos fibres in the atmosphere, especially in the manufacturing environment were just not recognised. Asbestos is completely banned from the process these days but, the forces involved in a modern brake system are massive compared to when the Daimlers were designed consequently, modern brake liner materials are very hard and wear resistant but, just too hard to get the right braking for older buses.

Gordon Mills

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