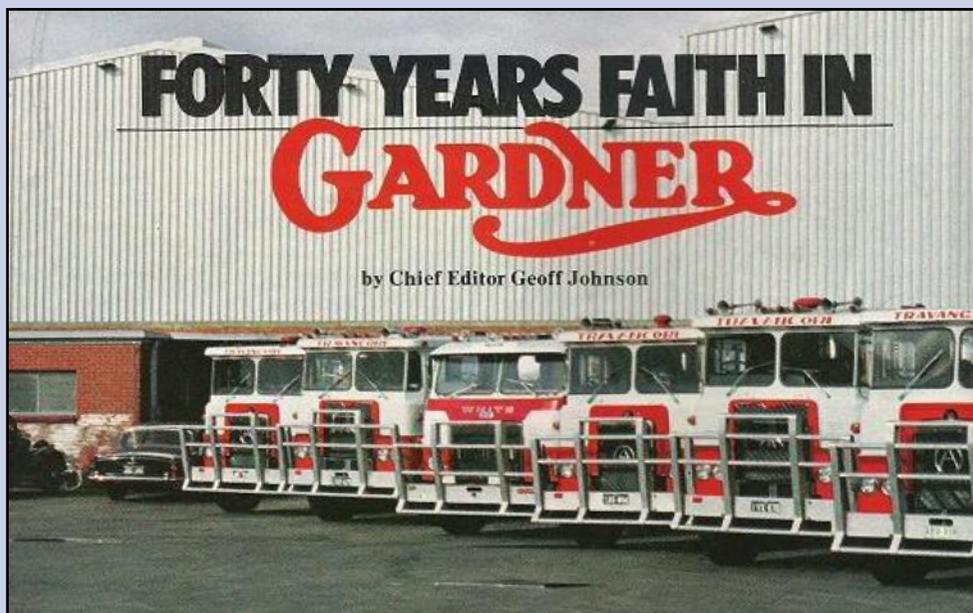


GARDNER

Engine Forum



Spring 2011 Issue

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“The aims of the Forum are to promote and foster interest in all Gardner engines”

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CHAIRMAN'S NOTES

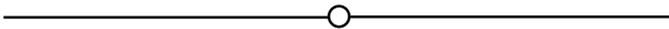
It has been a long, hard winter and the slight thaw over the last two days has revealed a couple of leaks on my well winterised vessel! I hope fellow members boats, engines, radiators etc. have survived without any serious damage.

I paid a visit to the River Thames in July, at the invitation of the Thames Traditional Boat Club, to evaluate the possibility of joining their Rally in 2013. A report of my visit appeared in the last issue of the magazine. As only 3 people appeared interested in attending a Rally at this location the Committee, regretfully, informed the Thames Traditional Boat Club that the Forum would not be attending their 2013 Rally. We, therefore, now need a venue and organiser for the 2013 Rally.

There is much discussion at the present time in the vintage engine world about the changes in the chemical make-up of red diesel. Apparently, the latest red diesel contains chemicals which are unkind to copper pipe and rubber seals etc. As I read it one should source diesel that is "FAME" free (FAME is the short name for an un-pronounceable chemical). Further information is included elsewhere in this publication. Something else to worry about then!

May I end by wishing all Forum members a successful 2011. Hope to meet you at the Gardner Gathering at Bugsworth in June.

Mike.



Welcome to new members

Mr D Briggs of Tynmouth
Mr M Burn of Newcastle on Tyne
Mr J Swann of Wrabness Manningtree. 2L2
Mr J Cairnie of Falkirk 5LW
Mr P Syms of Maccelsfield. 4LK
Mr D Learey of Chesterfield. 4LW
Mr P Skears of Towcester

Forty Years Faith In Gardners

Reports of transport companies which have used one make of truck exclusively for many years are not exactly common place although there are a few examples around, but when an operator boasts of having powered trucks with the one make of engine for over 40 years, then there has to be a good story in it somewhere. But when I discovered that the One engine make used by Travancore Transport of Melbourne just happened to be a Gardner I wasn't surprised because I have long been a Gardner enthusiast. Never the less, loyalty to one engine through several chassis makers is quite a story, and for that reason I was very pleased when Bert Bevan-Davis of Diesel Equipment Pty Ltd suggested that I should have a look at Travancore operations when I was able to arrange a suitable day in Melbourne

As I discovered more than one coincidence came to light as I started to research and cover the Travancore –Diesel Equipment-Gardner story. For there had to be some convincing reasons apart from the usual solid facts about the engine's claimed reliability, hard slogging features and its proven fuel economy. The Gardner organisation in Britain has always adopted a rather low-key profile in "ballyhooping" its products; it's very conservative advertising, its "no bull" sales brochures and the fact that the supply of these engines to Australia has never been exactly plentiful. On the other hand, I grew up in an atmosphere of Gardner's both in road transport and marine applications and, like many others I have a great respect for the Patricroft product.

Now this preamble only points to the fact that I was fully convinced before I went to Melbourne that there was a good story in the making- all I had to do was listen to Travancote chairman Allan Martin and Bert Bevan-Davis as they reminisced , and keep on writing! The story of Travancote is very much the story of Allan Martin, the chairman of directors.

Today the company operates a fleet of six semi-trailer tankers hauling bulk milk from country districts to distributing depots in Melbourne northern suburbs, Allan's involvement in the business began over 45 years ago when he started to haul bulk milk from rural districts to a milk company called Travancore Dairies located at Ascot Vale, about 5km (3 miles) north of Melbourne.

"Why Travancore?" I asked, it appears that the dairy had been established in a housing estate opened up just after the end of World War 1, for some reason the sub-division was called Travancore estate and the streets were named after

Indian cities such as Lucknow, Bengal, Madura, and Mangalore. (Travancore is also an Indian city)

SEVEN DAY TASK

In 1937 Allan took over the running of the dairy, combining the haulage of bulk milk from production areas to distribution point with household deliveries, and an earlier article in T&BT about the company, written by former editor Jack Maddok mentions its involvement with battery electric and petrol/ hydraulic transmission low speed delivery units.

In 1959 Travancore sold of its milk distribution business to concentrate on the bulk haulage side of the operation, "I decided to keep the tanker activities" Allan told me, "partly from sentiment and partly to maintain an interest in road transport, but mostly to keep actively involved in the industry I had known since my very early days." The city drop points for the Travancore operations are milk drop points at Cogburg and Broadmeadows, 10 and 17 km respectively from Melbourne. The loading points vary with the supply and demand situation of the darying industry but are mainly in country towns such as Camperdown, Colac and Milawac, return runs of about 400 km Milk haulage is naturally a seven day a week task and each vehicle in the Travancore fleet is rostered for six return trips per week, Departure of the first tanker from the companies depot at Broadmeadows is usually about 1am, returning around 10 am for delivery to the bottling and distribution plants and then the meticulous washing down and cleaning that is is an absolute necessity with equipment used for milk transport, The last tanker returns around 2 pm

When I spoke to Allan Martin the company was operating five Atkinson's, one White Road Commander with a second Road Commander on order.

The oldest vehicle in the fleet was purchased in October 1972 and the company usually buys a new unit every 12 months, Thus each prime mover is kept "in survey" for about six years. On average each truck covers about 113,000 km (170.00 miles) in 12 months Tell me more about your predilection for "Gardners" I interposed at this point in the interview "you must have some solid reasons for sticking with this make"

USEFUL STATISTICS

We have stayed with Gardner purely as a matter of economics "Allan replied" We weigh their higher initial costs (compared to equivalent OEM engines) with their low fuel consumption results, their longer life, lower maintenance costs and their resale value, and we have figures to prove all this. Both Allan Martin and managing director Bert Harper an accountant who have been associated with Travan-

core for 27 years are great believers in the value of extensive statistics, provided that they are meaningful.

“But how did you get started with Gardner’s?” I asked.

Back in the late 1930’s we were running several Thornycroft trucks “said Allan” We had used another British diesel engine (no longer manufactured) but found it unsatisfactory. We were advised by Bert Bevan-Davis to try Gardner which we did. We became so enthusiastic about the performance of the early 4LW Gardner that we have stuck with the make ever since. “Incidentally that original engine outlived two truck chassis and we understand that it is still in use powering a ferry boat on the Yarra River. We are hoping to buy back this engine as an interesting memento of our operations from 1937 to 1979. That’s not a bad life for diesel engine under hard slog in anybody’s language for a small engine is it?” asked Allan. I had to agree.

At the end of World War II we added Fodens to our fleet and more recently Atkinsons. In this period we used 4LK’s and 4LW’s in the Thornys 5LW’s and 6LW’s in the Fodens and 6LX’s, 6LXB’s and 8LXB’s in the Atkinsons

“When Atkinson was acquired by International and Gardner no longer available in this make we realised that after 40 years we may have to consider another engine make” said Allan. However Bert Bevan-Davis spoke to the White Motor Company of Australia and convinced them that Gardner would make an ideal power option for their Road Commander chassis, So Travancore in 1978 acquired their first White prime mover equipped with a Gardner 8LXB engine

LOW MAINTENANCE COSTS

Thus the Gardner tradition has been maintained with the company and they believe that no other transport operator in Australia has had such continuing success with Gardner power as themselves.

Any takers?

“Our experience with Gardner has been confirmed by an article that appeared in a recent issue of the Institute of Road Transport Engineers Journal”, This article looked closely at 16 Diesel engines available in Britain and found that the 6LXB and 8LXB engines incurred the lowest maintenance cost of all. It explains why the demand for Gardner continually outstrips supply and why the prices of used Gardner engine trucks are higher than average” said Allan. “Those conditions apply in Britain but they confirm the results we have reached with Gardners”

The institute investigations resulted in a maintenance cost per mile of 0.477 cents (Australian) for the 6LXB engine and 0.601 cents (Aus) for the 8 cyl Version. Nearest competitor was the Cummins 250 engine with a cost of 0.709 (Aus) per mile.

The survey also looked at Leyland, Mercedes, Volvo, Daf, Man, Scania, Rolls Royce , and Magarus engines and is most illuminating in its fully researched maintenance figures.

Travencore uses Tiemans stainless steel tanker trailers exclusively. These vary in capacity from 21,800 litres (4800 galls) through 17,275 litres (3800 galls) 36,370 litres (3,600 galls) to 15,000 litres (3,300 galls)



The first Road Commander in Australia to bear the joint White Gardner Name. The Road Commander had a more stylised cab and paintwork than the Atkinson's in the fleet

I took the opportunity to visit the Diesel Equipment plant at Dandenong and see the Gardner 8LXB engine being fitted in the second White Road Commander chassis for Travencore

To all extents it looked as if the the Gardner had been made for the White chassis or vice versa and very little modification had been required A small section of the top flange of the nearside chassis rail had been cut away by 12.5mm (1/2") in depth to provide better accessibility for the servicing of the oil cooler pump . Front and rear engine mountings had been fabricated to take the Gardner engine. Diesel Equipment had also fabricated a fitting to take the gearchange mechanism. This coupled very neatly to a bracket on the offside of the Gardner engine provided by the manufacturer for this purpose.



A Spicer 12-14 spoiler and Spicer 14 inch clutch were amongst the modifications to the White chassis and all the engine ,clutch and gearbox installation was carried out by Diesel Equipment. We were very pleased when Bert Bevan-Davis came up with the suggestion about Gardner power in the White Commander because we thought that after 42 years we might have to look for another engine make” said Allan

MULTINATIONALS

We were happy with the result and are planning to make further purchases of this chassis/engine combination in accordance with our fleet requirements. Our first White is rather unique in that it has the Chalmers suspension, this means that the chassis is an American designed unit fitted with Canadian suspension, a British

engine and is Australian assembled. To put this together took almost 18 months of research and negotiation.

“The White Road Commander combined with Gardner power met all our parameters in several areas-fuel economy, reliability, low maintenance, greater flexibility in the bogie drive, improved riding characteristics, limited top speed and gearbox and a good chassis and cab. “Bob Shand of White Motor Corporation introduced us to the Chalmers suspension and supplied drawings. We had these evaluated by engineers and after some discussion decided to by one. Our drivers report that the ride both laded and unladen has greatly improved giving a stable vehicle that appears to be ideal for tanker applications. Travancore records show that the White is returning a fuel consumption figure of 7.9 miles per gallon and this compares with 7.6 mpg from the Atkinsons hauling the same sized trailer due to lower revs. The company operates four Gardner 8LXB engines (as fitted to the White) and two 6LXBs and the fleet average consumption is 8.2 mpg.

“However we believe it takes 160,000 km (100,000 miles) before a trucks fuel consumption figures shake down” . Allan told me The engine speed of the 8LXB in the White has been cut back from 1850 rpm to 1700 rpm to give a maximum speed of 80km/h. This is Travancore’s very serious approach to the question of speed

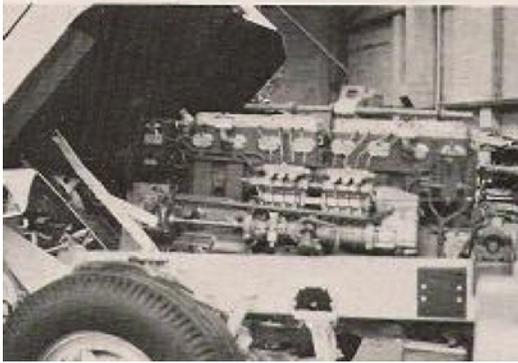
SAFETY FACTORS

We believe in operating our trucks at a realistic speed in order to reduce fuel consumption, tyre wear, brake wear and keep maintenance to minimal levels.

“We are very conscious of the safety factor and we are prepared to spend any money to obtain safety. The perishable nature of our cargo and the importance of our schedules are further incentives towards greater safety and the elimination of excessive speeds”. The reduction of top speeds to 1700rpm and 80 km/h has shown an improvement of 0.212 km per litre (1.6 mpg) as compared with a similar engine running at a top speed of 90 km/h with maximum engine revs of 1980,Allan told me, and that is an improvement any operator would be proud to admit to.

Travancore works out of a depot at Broadmeadows where normal maintenance and servicing tasks are carried out. The average 9 hour stretch between unloading at the adjacent plant and early morning departures provides sufficient time for any necessary adjustments or servicing tasks to be carried out.

The company employs six drivers, one relief driver, Forman and mechanic. The drivers work a five day week and the relief driver handles the the sixth trip and covers holidays. The drivers take a real pride in their work and vehicles and often spent part of their own time to wash down and clean them, maintaining a sparkling and well-kept appearance for which Travancore has been renowned for many years.



LONG ASSOCIATIONS

Any major work and overhauls on the Travancore fleet is handled by Diesel equipment of Dandenong. Allan Martin spoke highly of the very cordial relationship which has existed between the two companies for many years. Bert Bevan-Davis one of the best known automotive engineers in Melbourne also has an interesting story to tell. His father, who was one of the very early Gardner employees and their first overseas engineer, came to Australia in 1910 to establish the first Gardner agency in Australia, located in Melbourne, to be followed later by the appointment of agents in all States and New Zealand.

After completing his apprenticeship in Melbourne Bert spent three years at the Gardner factory in Patricroft. (UK) before returning to Australia on behalf of Gardner's to work on the sales and engineering side in the automotive, marine and industrial applications. Bert's father-in-law, one of the earliest automotive engineers in Australia ran a small engineering business in Melbourne and

was associated with Gardner engines before the company entered the automotive field, back in the days when their gas engines were very popular for farm and stationary applications. Later in conjunction with his father and brother in law Tom and Phil Smith Bert formed Diesel Services Pty Ltd to handle sales and service of Gardner and other engines as well as heavy vehicles.

He obtained the Gardner agency in Victoria and later the Atkinson dealership. This activity became Atkinson Vehicles (Australia) Pty Ltd. It was at this stage that Bert sold Gardner powered Atkinson's to Travancore.

When International Harvester acquired Atkinson manufacturing and servicing in Australia Bert thought he had earned a life of leisurely retirement! No Sir!

BOUGHT 'OFF PAPERS'

Bert told me “our problems start when Allan takes delivery of a new prime mover. We are responsible for keeping it on the road and we work around the clock if necessary, because we realise the importance of keeping vehicles in this vital traffic in the best condition. “But I can’t remember the last time we had a breakdown on the road” Allan chipped in”. In fact we make sure that a truck doesn't leave the yard if it can't get home”.

“Our first factory engineered Gardner powered trucks were the Fodens we purchased back in 1950” Allan continued “The first Foden we brought right of the paper at Bert’s advice because there wasn’t a unit in Australia that we could inspect. In those days the average size of the tanker trailers was 2,300 gallons. Now it is approaching 5,000 gallons. That’s how our business has grown through step ups in vehicle carry capacity rather than in additional units” Travancore has stayed static as six units for many years.

All the trucks in the fleet are fitted with tachographs and Allan Martin and Bert Harper acclaim these as worthwhile aid to vehicle control and safe driving “Initially we had some driver resistance to these machines but we pointed out that they were being fitted to prove how good the drivers were job, after that no problems”. “These are checked weekly and we look mainly to see that maximum engine speeds have not been exceeded, particularly over revving on hills, They also show up that drivers are changing gears at the correct speeds . Additionally the charts indicate standing and running time and so we have an immediate check on the movement of the vehicle at all time.”

So that was my coverage of Travancore, not a large transport operator by any means not acing exotic or unusual loads, just a company undertaking an important community task, a vital link in the supply chain for bulk milk from producer to consumer.

The comments of Allan Martin only echoed what I heard from other Gardner users, ‘they may cost more initially than a competitive engine but they pay off in reliability, fuel economy and lower maintenance.

But 40 odd years exclusively with one make, that’s certainly got to something for the Guinness Book of Records!

The preceding article was published in the January 1980 Edition of Truck & Transportation, (Australia) and was written by Geoff Johnson.

It was found on the message board of the Historic & Commercial Vehicle club of Australia at the following URL.

<http://www.hcvc.com.au/forum/YaBB.pl?num=1260539953/59#59>

Transport aficionados may find the following you tube video interesting
http://www.youtube.com/watch?v=7ucUC0mO_XQ

Google Groups

According to my data, there are 193 members in the GEF. Of these 68 have email addresses. To save postage I try to use these email addresses for communication as much as possible: subscription reminders and acknowledgements.

But recently the thought struck me: why isn't the GEF using the Internet more to share data and information? My experience as membership secretary has taught me that amongst GEF members there lies a huge wealth of information on Gardner engines. Yes, the twice yearly publication is wonderful but in this day and age it is too slow for effective information exchange. For this reason I have set up a simple Google Group and I invited all those with email addresses to get involved. There are Google Groups on all sorts of subjects: art and entertainment, computers, home making, business, health, science and technology, .There is no reason why we can't have one on Gardner engines.

Any GEF member with an email address can post to the GEF Google Group.

Just send an email to: gardner-engine-forum@googlegroups.com. They can ask technical questions, offer advice or items for sale, try to source parts Once posted every subscribed member gets a copy of the post and can respond to it. It's almost the equivalent of people sitting round a table. No technical knowledge is required. All you need is the willingness to use a keyboard and an Internet connection.

At the moment there are 23 subscribed members to the GEF Google Group and nine topics of discussion: the Gardner Forum (discussion on the Group itself), Ultra low sulphur bio diesel, test subject (suspect postings on canaries and faulty spoons!), 4LK's, Low Sulphur Diesel, L2's, 3L2's, Rally June 2011 and L3 Rocker Cover's.

Now, I know that many of you do not have computers and look with some suspicion on this new fangled technology. And rightly so. Some of its aspects are both insidious and worrying (it's effect on young people for example). But as a means of sharing and disseminating information it is unequalled.

So come on, subscribe to the group, share your stories and your experience. It really is super fun. If you need any help getting set up with IT, give me a ring: 07802572441.

Joe McCool

.WHITE ,RED AND BIO DIESEL

So what is the difference between white and red diesel?

Apart from colour of course! EN590:2004 sets out the specification that all diesel fuel must meet if it is to be sold in the European Union, Iceland, Norway and Switzerland for oad use. The original UK standard for red diesel was covered by BS 2869: 1988 (back then, this standard covered both road and non-road use). The most recent specification is covered by BS 2869:2006 which specifies requirements for eight classes of petroleum

fuels for engines including red diesel. The new standard greatly reduces the sulphur content of red diesel and from 2011 it will be the same as road fuel although there is a waiver for some sectors until January 2012. This will mean more processing which will reduce the economic advantages of producing red diesel for off-road use. No engine adjustments are required to use low sulphur diesel. Both specifications permit the blending of up to 5% biodiesel by volume with 'conventional' diesel, so just because its red does not mean that it won't have any biodiesel in it. Biodiesel for engine use must conform to EN 14214:2003, the European standard that describes the minimum specification for biodiesel. Red and white diesel may also differ in cetane rating. Diesel's cetane rating is the opposite of petrol's octane rating. The higher the value, the easier the fuel is to ignite by compression, which makes for smoother running, especially when the engine is cold. Using a higher cetane fuel can improve combustion, meaning less soot or potentially increasing the power available. Diesel fuel supplied to the relevant British and European Standards must have a cetane rating of 46 or more. Typically, fuel supplied to BS 2869 has a cetane value of 47 and in general diesel engines run well with a cetane value between 40 and 55. It is also said that diesel engines run more smoothly on biodiesel, because it has good lubricating properties. When low sulphur fuels were introduced, problems were experienced with fuel pumps which often seized up because of the 'dryness' of the new fuel, biodiesel combats this problem. As the 2 specifications converge it is likely red diesel will be the same product as white diesel will the red dye and other 'euromarkers' added.

So what is biodiesel then?

Biodiesel is the generic name for fuels obtained by transesterification of a vegetable oil from plant crops such as rape seed or animal fat such as tallow. During manufacture, the oil molecules are broken up and are then reformed into

fatty acid methyl esters (FAME) and glycerol, before being separated and purified. The process produces a fuel with very similar combustion properties to diesel. Almost three quarters of European biodiesel is commercially produced from oil seed rape, the remainder being produced from sunflower and waste vegetable oils. There are currently approximately 40 processing plants in the EU mainly located in Germany, Italy, Austria, France and Sweden. Biodiesel is blended with conventional diesel and blends are designated as 'B' followed by a number. B100 is 100% pure biodiesel; B5 is 5% biodiesel and 95% conventional diesel and so on. It is understood that in some countries such as France, all diesel sold routinely contains this 95/5 mix. The maximum limit for blending of biodiesel with conventional diesel is 5% by volume (B5) which is the maximum biofuel content allowed by the relevant standards.

So why are we putting bio fuels into retail supplies then?

In October 2007, Parliament approved the Renewable Transport Fuel Obligation (RTFO), requiring suppliers of road fuels to incorporate a proportion of biofuel in petrol or diesel, or pay a penalty. The Renewable Fuels Agency (RFA) was established on 26th October 2007 when the RTFO Order 2007 was made and is responsible for monitoring the implementation of the RTFO by obligated companies. The RTFO applies across the whole of the UK. Refiners, importers and any others who supply more than 450,000 litres of The RTFO commenced on 15 April 2008 and in January 2009, Government announced the RTFO for the next 5 years. Subject to parliamentary approval, the yearly obligation level for fuel suppliers under the RTFO will be: 3.25% for 2009/10; 3.5% for 2010/11; 4% for 2011/12; 4.5% for 2012/13; 5% for 2013/14. The original RTFO targets envisaged a biofuel content of 3.75% in 2009/10, rising to 5% in 2010/11.

So how can biodiesel damage my engine?

Several practical issues concerning the use of pure or high percentage biodiesel blends have emerged from real-world use. The solvent properties of ester-based biodiesel are different from those of conventional diesel. In its raw state, it will degrade natural rubber products, some copper based alloys, painted surfaces, soft plastics and is harmful to teak, decks with polysulfide seams. Engine parts and equipment with rubber seals and piping may need replacing with non-rubber alternatives such as fluoro-carbon rubber which is nonreactive to biodiesel. The solvent properties of Biodiesel have been known to break down deposits of residue in the fuel lines where petro-diesel has been used. As a result, fuel filters

may become clogged with particulates if a quick transition to pure biodiesel is made. Therefore, it is recommended that fuel filters are changed shortly after first switching to a biodiesel blend. In addition and at colder temperatures, biodiesel is prone to 'waxing out' much like conventional diesel used to do 30 odd years ago. This effect (known as the Cold Filter Plugging Point) can clog fuel lines, fuel filters and fuel injectors. To reduce these problems, biodiesel blends should comply with EN 590, the standard for B5 and below. However, few if any of these problems are noticeable below a 20% biodiesel blend by volume. The fact is that most private and commercial vehicle manufacturers have approved the B5 (5%) Biodiesel blend within mineral diesel (some accept much more) and the UK Petroleum Industry Association (UKPIA) states that vehicle engines require no modification to use this level of blend. However, the oil industry is working with other organisations within the European Standards Organisation, CEN, to examine if the current limits on biofuel composition of road fuels can safely be increased to 7% and then to 10% for biodiesel. More recently under the Recreational Craft Directive, engine fuel system and components are covered by BS EN ISO16147:2002, this states that all materials used in fuel systems shall be resistant to deterioration by the fuel and to other liquids or compounds with which they may come into contact under normal operating conditions. So the 64K dollar question is will biodiesel affect my boat engine? The most compelling evidence that I can find is a survey carried out in the United States over a 4 year period and involving engines mostly between 10 and 25 years old and blends in excess of 50% biodiesel by volume. Results showed that 87% of those surveyed reported no problems. So in the volumes that may be found in red and white diesel either now or in the future, the answer is more than likely to be no!

No doubt, those with warranties that are still extant will no doubt wish to check them, but it does seem that biodiesel blends conforming to agreed standards produce fewer harmful emissions in comparison with ordinary low sulphur diesel and can reduce wear and tear on engines, pumps and injectors.

Stuart Carruthers
RYA Cruising Manager
RYA Magazine Summer 2009

With thanks to Nick Vass of Omega Yacht Services who provided the foundation for this article and to Steve Moody, Technical Expert for Rix Biodiesel Ltd

BMF Guidance Note to Industry December 2010

FUEL QUALITY DIRECTIVE



EU Directive 2009/30/EC requires that, from 1st January 2011, all gas oil marketed for use in non-road mobile machinery (i.e. mobile off road equipment) must contain no more than 10 milligrams of sulphur per kilogram of fuel (virtually 'sulphur free'). Applicability to Marine Sector It will be an offence to sell gas oil containing more than 10 mg (20 mg at point of sale) of sulphur per kilogram of fuel to inland waterway craft and recreational craft when not at sea. Sea going craft, heating or stationary equipment are excluded. Definition of 'at sea' The Department for Transport has advised that the definitions from the Merchant Shipping (Prevention of Air Pollution) Regulations will be adopted to define the geographical limits of the Directive. This means that 'not at sea', and hence the limit of the applicability of the Directive, will include all of MCA Category A & B waters. In addition deep lakes and lochs within Category C will be considered 'not at sea' where the significant wave height will not exceed 1.2m. Supply The overriding concern is that some suppliers will provide road diesel with a red marker dye and this supply will contain up to 7% biodiesel or FAME (fatty acid methyl ester). The Department of Transport have completed a survey of fuel suppliers and estimate that 75% of the gas oil supply to the relevant sectors will be 'sulphur free' and will not contain FAME. Full details of this survey are not yet available but the following suppliers have made their intent public:

- Greenergy - Dedicated sulphur free gas oil no FAME content
- Ineos - Dedicated sulphur free gas oil no FAME content
- Mabanft – Dedicated sulphur free gas oil no FAME content from 5 out of 6 terminals,
- 1 will have FAME content

This supply is likely to incur a price premium estimated at between 2 and 4 pence per litre. A FAME free supply may not be available in all parts of the country so it is critical that you discuss the situation with your fuel supplier who should be able to advise you of the sulphur and bio-fuel content of the fuel. Wherever possible a FAME-free supply should be secured in which case the implications of the change

are expected to be minimal and limited to the lubricity characteristics of the fuel which can be relatively easily addressed by the use of an additive.

We have been informed that the Federation of Petroleum Suppliers are in the process of producing a chart highlighting the nationwide availability of sulphur free gas oil with no FAME content. We will distribute this information as soon as available.

ENSURE YOU KNOW EXACTLY WHAT TYPE OF FUEL IS BEING SUPPLIED

If a FAME-free supply cannot be secured then the following precautions are advised:

Storage

Because of the changes in fuel quality, you will need to exercise increased care in the storage of sulphur free gas oil where this contains biodiesel.

The following has been recommended by the UK petroleum industry:

Remove all water from tanks and conduct monthly checks to ensure, as far as practical, that they remain free of water.

Tanks that don't already have drain points for removing water are likely to need modification.

Examine sight gauges on older fuel storage tanks for signs of leakage and replace any leaking seals.

If you are having tanks serviced before you receive the new fuel it would be advisable to replace fuel seals as a one-off precautionary exercise.

Replace fuel filters after 2 to 3 deliveries/turnover of the new fuel.

Ensure the content of tanks is turned over every 6 months or in any event no less often than every 12 months.

Equipment

The majority of equipment and engines supplied in the last 10 years should not have any problems with the fuel but a few precautions are recommended particularly for installations of older engines and equipment. Examine fuel systems following the switch to the new fuel and ensure that any seals or pipes found to be leaking are replaced.

If you are having older engines and equipment serviced, replace fuel seals and fuel hoses as a precaution.

Replace fuel filters after the first 2 to 3 tank fulls of the new fuel.

The current specification for fuel hose to meet the requirements of the Recreational Craft Directive for new craft construction is for the hose to be CE marked under the responsibility of a Notified Body. The hose is normally certified against the harmonised standard EN ISO 7840 for fire resistant hoses and EN ISO 8469 for non-fire resistant hoses. There is currently concern that these hose specifications have not been approved for use with bio-fuel and this should be checked with the hose supplier. Bio fuel is a very good solvent and may release accumulated sediments in fuel tanks. Although it may not be necessary to clean fuel tanks and fuel lines before using bio-fuel in the lower levels of 7% it would be good practice to monitor filter plugging and keep extra filters to hand.

Some metals as well as rubbers and plastics are not recommended for use with bio-fuel particularly at high concentrations, see table below. Although not normally a problem at low level concentrations it is known that bio-fuel will ‘pick up’ metal such as copper.

Usage

The advice on storage on board the craft is the same as for shore based tanks. However the ability to turn over the fuel contents within six months is not necessarily practical. A regular check on the condition of the fuel and fuel components is advisable.

Compatibility

Diesel blends containing FAME up to 10% will generally not have any appreciable effect on materials currently used. However some sensitivity to nitrile rubbers has been reported and some metals should still be avoided in order to minimise the potential for metal pick-up. The following table and much of the following information is reproduced from the ‘Concawe’ document produced by its Fuels Quality and Emissions Management Group special task force, entitled ‘Guidelines for handling and blending FAME’ November 2009

Material compatibilities with FAME (B100)

Material	Recommended	Not Recommended
Metals	Carbon steel Stainless steel Aluminium	Brass Bronze Copper Lead Tin Zinc
Elastomers	Fluorocarbon Nylon Teflon® Viton®	Nitrile rubber Neoprene Chloroprene Natural rubber Hypalon Styrene-Butadiene rubber Butadiene rubber
Polymers	Carbon filled acetal	Polyethylene Polypropylene Polyurethane Polyvinylchloride
Others	Fibreglass	

Biological growth (The bug)

Due to its chemical structure FAME, and diesel blends in particular, are more susceptible to biological attack by micro-organisms. These aerobic micro-organisms usually grow at the interface between fuel and water in tanks; anaerobic species can actively grow on tank surfaces and can contribute to metal corrosion. If microbiological growth remains undetected it will eventually cause fouling and filter plugging. If considering the use of fuel cleaning or biocide treatment expert advice should be sought from your fuel supplier.

Health and Safety and the Environment

Safety precautions for handling and storing diesel blends are similar to those used for hydrocarbon-only diesel fuels. Protective equipment including gloves should always be worn and skin that is inadvertently exposed to fuel should be washed with soapy water. The relevant Safety Data sheets should be reviewed for recommendations on safe handling, type of gloves, and related procedures before beginning work with biodiesel blends. Spills and underground leaks should be treated in the same manner as conventional diesel fuel spills and leaks including notification to the proper authorities. Rags and cloths saturated with diesel oil should be put into dedicated disposal drum filled with water.

Fire protection and fire fighting agents use similar techniques as approaching a conventional diesel fire.

NOTE: BMF have made considerable efforts to ensure the accuracy and reliability of the above information. However neither BMF nor its employees can accept liability for any loss, damage or injury whatsoever resulting from the use of this information.

6 December 2010

From the Manchester Evening News February 07, 2003

At the forefront of technology

L Gardner became best known for diesel engines powering buses and trucks - supplying firms like Scammell, Guy, Foden, ERF, Dennis and Atkinson.

Also renowned for marine engines, they were at the forefront of a golden era of British engineering which would last well into the 1970s.

Paul added: "In the late 60s and late 70s, L Gardner employed 3,000 people involved in every aspect of design, construction and sale of engines across the world. And all from a factory in Patricroft. There were many faces to the eventual decline of the company.

As time went on the labour costs went up and the management wasn't as keen as it had been. I suppose they became complacent. When everybody is beating a path to your door and asking to buy your products, you just keep on putting the prices up. But then competing engines from overseas started to come onto the market. They weren't as good as the Gardner engine but they weren't as expensive.

People thought 'these aren't bad. They're not as good as the old Gardner was, but they have the right power and the right price'. I suppose you could say that the company had failed to react to the fact that competitive markets were starting to open up. Along the way British truck companies and bus companies were being bought up. Leyland was bought by Volvo, ERF by MANN. All of these people made their own engines - so who were we going to sell our engines to. But even if we had still been supplying engines to the continentals, the Gardner engine would probably still be too expensive because of the labour costs. Everything has become so very price conscious these days. Everybody is concerned about making a profit tomorrow, rather than investing for the future and looking five years ahead."

Sale

It was in July 1979 - 11 years after the company's centenary - that L Gardner was sold by the surviving members of the Gardner family, including Paul, who was by then a board member.

Initially acquired by the Hawker Siddeley Group, it then passed into the ownership of American group Verity. Sadly, it was to become a small cog in a massive engineering conglomerate when Verity merged with Lucas, ultimately leading to the sidelining and demise of the once-great L Gardner name.

Despite this Paul Gardner, who lives in Lymm, is still understandably proud to have been part of the Gardner dynasty.

He said: "I worked for L Gardner man and boy. I was so lucky to have been brought up in the 50s and 70s. We didn't consider ourselves to be wealthy, but the Gardners were a respected family in the area. I am enormously proud to be a member of that family. My father, John, and grandfather, Joe, also worked for L Gardner. There were also generations of Gardner employees there as well. It wasn't unusual to have found three generations of the same family working there in its heyday. It was a job for life. But no-one these days seems to have a job which is safe for even 10 years." But while there were good times at L Gardner, it took the bad times to really bring out the true emotions attached to the place.

Paul added: "Unfortunately there was a strike in 1973 when the new labour laws were introduced. There was a 13 week strike which broke my father's heart. Many of the men on the picket line were people he had recruited."

More recently, L Gardner has re-emerged as an Birmingham-based PLC with few links to the original engine business, apart from the Gardner Parts division on the Patricroft site. Administrative receivers from accountant KPMG are now trying to find a buyer for Gardner Parts and three other divisions owned by the PLC. KPMG says it is optimistic about a sale for Gardner Parts, which employs 66 people.

○

Annual General Meeting
Notice is hereby given for the
Ordinary Annual General Meeting of the
Gardner Engine Forum
At Bugsworth Interchange Basin
Near to Whaley Bridge
High Peak District
SK23 7NE
See map on inside back cover
on Saturday 11th June 2011 at 5 pm.

The purpose of this A.G.M is to present accounts for the year 2010/11 and to elect officers onto the committee. Any member wishing to raise other subjects should send there intentions to the secretary (address on inside of front cover) A full agenda will be sent out near to the time



CANALS & WATERWAYS



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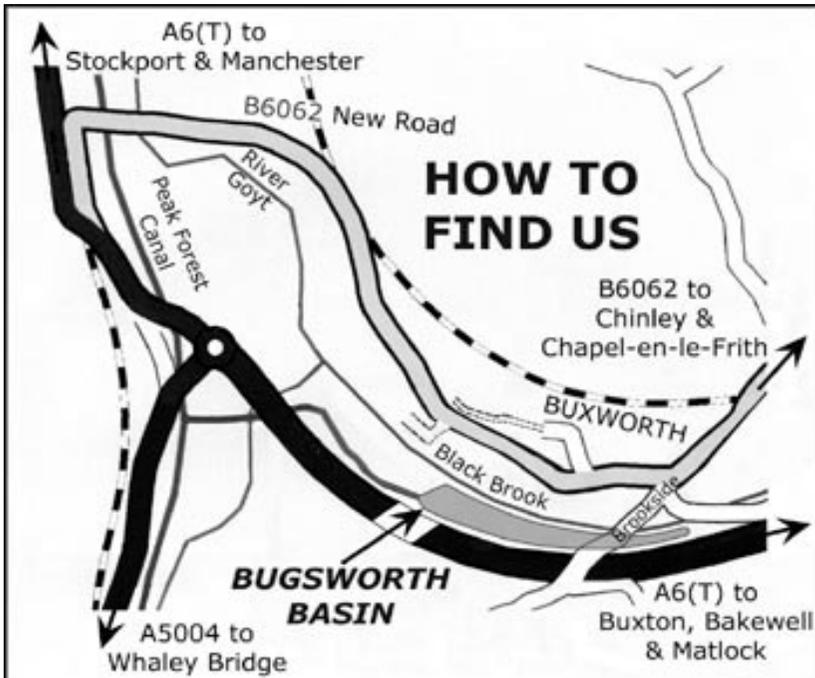
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