



Issue 31

22th October 2020

Dear all,

Hope you are all well.

We now have been given the details of John Gange's funeral which will be held on Friday 30th October at 11:30 am at the Bury St Edmunds crematorium about 20 miles from their home at Diss.

If anyone wishes to go then please let Roy Preston know full contact details (name, address, telephone number and e-mail address) so that Roy can send the information to the family as these details are needed by the funeral directors as part of Covid-19 rules. Please let Roy know as soon as possible or latest next Wednesday 28th October.

The family wish is for donations to be made to the British Heart Foundation which can be arranged through the funeral directors (Rosedale Funeral Home, Diss). The funeral directors telephone number is 01379 640810. That also applies to flowers although the family would prefer donations.

The club will be making a donation on behalf of the members.

Norman Payne who has been suffering over the past weeks has let us know that he is going into hospital next Wednesday 28th subject to a clear Covid test. Our thoughts are with the family at this time and I am sure you all join me in wishing him well and a speedy recovery.

We have had a crazy week we started thinking about Christmas and food storage. As lifestyle changes by the day at the moment we have been reviewing how to plan for Christmas and decided that frozen food would be the answer so we have bought ourselves a small freezer, to give us additional space, that is having to go in my workshop, a fridge would have been better I could have then had a few beers down there, consequently, after a visit to Wickes to get some timber to modify my workbench, this week has been revamping my workshop to get it in.

The weather has gone off because Lorema bought some bulbs for me to plant so that's gone on the list of jobs to do.

Hope you enjoy the 31st Edition.

Keep Safe everyone.

Mike W

Brief club house NEWS

The roof is on a roll and I have taken a few photos of progress.



End of day 1 Monday 19th October



Day 2 Tuesday the front roof covered.



Day 3 Wednesday Heavy rain no roofing. The tiles finally arrive (Photo Mike P)



Day 4 at lunchtime, on the way for completion of across the back. The action plan subject to weather is to finish end roof over the engine shed on Friday which means the re felting and battening of the roof will be complete. The talk is then the flat roofs will be recovered with the tiles off as it gives more access to the Flat roofer when working close to the building. I will take pictures as we go forward. Let's keep our fingers crossed for good weather.

Mike W.

Mike P's musings No.29

A few more days and the clocks go back! Where has this year gone? Sometimes, it has seemed never ending with the lockdown dragging on, but, of late, time seems to have speeded up. Spooky, eh? Talking of which, even Halloween trick or treat is under the Covid kaibosh in my village. Anyway, since there are no dentists working, it's probably kinder not to give the little angels any candy! Ha,ha. (A bit of bah humbug creeping in early there!). Still, lockdown fever is real for many people and I'm still hoping we don't suffer the dreaded "tier 3" in Sussex. I have been following the medical discussions and theories on the internet and it seems almost certain that Vitamin C and D, with zinc supplement is shown to give your body some help in keeping well, and the Covid at bay. (Usual disclaimer.)

Continuing the autumnal theme, I have passed some beautiful trees on my daily walk (yes, I'm still doing it!) In the back lane, Beech Hurst park, and outside our own police station, there were wonderful colours. I've sent Mike a few pics if he feels they are of interest to print.



This week I have walked to town via the park to be nosey and see what the builders were up to. By the time I passed at 11.00am yesterday (Monday), they had all the tiles and old felt off of the south facing side of the workshop roof. By the time I walked back, just before 1pm, the new felt was on and the battens being fixed! This morning, like yesterday, it was still fine and the tiles were off of the east side. So, good progress so far. I've sent Mike a few pics, but he may have some of his own anyway. As, you can see, there are big signs, stating the scaffolding is alarmed.



At the end of last week, I also went exploring up in the top of the back field behind the club and poked my camera through the wire netting. I had heard the heavy machinery working in there, during my walks down the lane, on the other side. As you can see, a large area has been cleared and I think scaffolding is going up soon. This is all in the old council depot area. We live in interesting times.

Stay safe.

Mike P.

Andrew Ellis

Hot off the easel.



Thanks Andrew for this one I am one of the sad ones who enjoys the snow. It reminds me of my younger times and skiing in Colorado. Mike W.



A Short Exposition Of The Vacuum Brake. Part 2.

By John Richardson.

The vacuum brake cylinders have a few features which are worthy of a mention, the first being the means of sealing. If a normal fixed 'O' ring was used to seal the piston in the cylinder, the friction would be considerable and in any event it would soon wear out. Instead, the piston which has a section somewhat deeper than the full stroke, is made with a large circumferential clearance except at the top and bottom edges and this gap is taken up by a ring which rolls up and down between the piston and the cylinder wall as the piston moves, thereby reducing friction and wear. The piston rod exits the cylinder at the bottom where it is sealed by a gland.

As I said earlier, the maximum pressure available to operate the brake is only 10 psi, this being the difference between atmospheric pressure beneath the piston and 21" of vacuum above it. Now consider what would happen if the piston had to move through half the height of the cylinder to take up any slack in the linkage before the brakes started to work:- that 21" of vacuum is actually an absolute pressure of 4.5 psi and if we reduce the volume by half as the piston rises in the cylinder, then this pressure will be raised to 9 psi absolute (Boyle's Law of Pressures). We see immediately that our braking effort is now the difference between atmospheric pressure below the piston at 15 psi and 9 psi on top – a paltry 6 psi in fact. To mitigate this serious effect, the vacuum cylinders are usually enclosed in a bell shaped reservoir of larger diameter connected directly to the top side of the cylinder. This gives a much larger volume that has to be compressed as the piston rises, thereby reducing the loss of brake force as the brakes wear and the travel increases. It still remains important however, to keep the brake blocks adjusted well up to the wheels for best results.

In the bottom of the cylinder is a ball valve operating on a passage between the top and bottom of the cylinders. This ball will remain sitting on its seat all the time the pressure below the piston is greater or equal to the pressure above. When the driver opens his ejector to release the brakes, the train pipe pressure will decrease until 21" of vacuum is obtained and if any of the cylinders have lost any vacuum due to leakage past the rings or ball valves, then it will now be restored as the valves will be lifted off their seats and the air sucked out, until top and bottom side pressures are both at 21" again. Normally, when the locomotive uncouples from the train, the train brakes will be hard on but over a long period of time the vacuum will gradually leak away and the brakes will be released. For this reason it is imperative to apply the handbrake as well when vehicles are going to be parked unattended on a gradient. The ball valves may also be manually released by pulling cords on the brake cylinders in the event of a brake dragging, which equalises the pressure above and below the piston and allows the piston to fall under its' own weight thus releasing the brake – this is known as 'pulling the strings'.

One refinement of this basic system is the 'direct admission valve' which may be fitted adjacent to each vacuum brake cylinder. On a long train, a lot of air has to be admitted through the driver's application valve before enough vacuum has been destroyed and the brakes actually start to work. To reduce this effect, the direct admission valves detect the drop in train pipe vacuum as the driver brakes and these in turn open valves which let in air direct from the atmosphere to their respective cylinders – this gives a much more rapid action to the brake.

Compared to the injectors, the ejectors are very simple devices, consisting of little more than a steam jet squirting down a tube, which draws in the air from the train pipe behind it. The exhaust steam and air is discharged into the smokebox and up the chimney. To prevent the vacuum leaking off immediately the ejector is shut off, ball

valves are fitted, which will sit back on their seats and seal off the passage to the train pipe when the ejector steam valve is shut off; thereby maintaining the vacuum and preventing any smokebox gases and ash from being sucked back into the system. There will also be a vacuum relief valve fitted, which is there to prevent the vacuum rising above the required 21". Normally, locomotives are fitted with two ejectors – a small one which is left on all the time to maintain the vacuum against minor leakages in the system, and a large one which may be used to 'blow the brakes off' quickly following station stops. The Great Western, which made a point of doing things differently, fitted a vacuum pump to one of the engine crossheads to maintain the vacuum whilst running and did away with the small ejector.

Because of the large size of vacuum brake cylinders, locomotives are often fitted with a steam brake instead, the cylinder of which will have full boiler pressure to work it and can therefore be made very much smaller, thus making it easier to find a space to fit it between the locomotive frames. The driver's application valve on a steam braked locomotive, apart from being simply a means of letting air into the train pipe, will also be fitted with a diaphragm operated valve, which will operate progressively as the train pipe vacuum is destroyed and automatically apply the locomotive steam brake at the same time. Another advantage of the steam brake is that it will still work even at quite low steam pressures, which makes it possible to carry out light engine movements with as little as 80 psi on the gauge. The driver under such conditions should however be fully aware that his braking power is reduced in proportion to the boiler pressure available and to allow additional stopping distance to compensate. With a vacuum braked locomotive on the other hand, the ejectors may require 150 psi or more to enable the brakes to be released.

Before moving off shed a driver needs to carry out several tests to ensure that the brakes will actually work when required; these are as follows:-

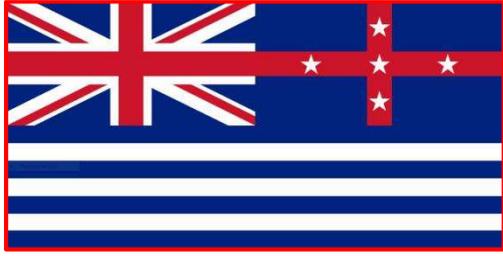
- 1) With the brake handle in the 'run' position, the vacuum is created using the small ejector – a reading of 21" should be obtained.
- 2) The ejector is now shut off and the time taken for the vacuum to drop to 12" measured; this should be at least 20 seconds. If it drops more rapidly than this it means there is an air leak into the system, which should be traced and rectified.
- 3) With the full 21" on the gauge the ejector is shut off and a full brake application made, the brake handle being quickly restored to the 'run' position. At this point the train pipe gauge will read zero and the chamber side nearly 21". If the chamber side gauge now falls and the train pipe rises, it shows there is a leak past the cylinder rolling rings or ball valves.
- 4) The fireman now removes the vacuum hose from the front coupling while the driver tries to create a vacuum using the large ejector – the fireman should hear the inrush of air and the gauge should not exceed 3" of vacuum. The test is then repeated for the rear coupling and is carried out to prove that the train pipe is clear of obstructions from one end of the locomotive to the other.
- 5) With the fireman standing by to stop the locomotive should it start to move, the brakes should now be released while the driver walks around to see how far clear of the wheels the brake shoes are – as discussed earlier, excessive travel reduces the efficiency of the brake.
- 6) With the brakes now applied, the driver should go round again and ensure that all the brake shoes are actually in hard contact with the wheels – a hefty boot being the usual method.
- 7) As soon as possible after moving off, the brakes should be tried to ensure they will actually stop the engine and how quickly.

- 8) If the locomotive is fitted with A.W.S. (Automatic Warning System) equipment, this can be tested by not cancelling the siren when the first distant signal is passed at caution, which should cause the brakes to be applied automatically within a few seconds.

After coupling onto the train, the brake is created on the signal being given by the shunter and the guard applies the brake from the far end of the train – the driver should observe the drop in vacuum as the brakes are applied. This brake test is repeated each time the locomotive is coupled to the train after ‘running round’ to ensure that there is a continuous brake all down the train. The green flag given by the guard to the driver when the train starts is not just a signal for the driver to proceed but is also verifying that the guard is satisfied that his end of the brake is in or

John R

News From Afar - 21 Oct.



Eastern Rosella - again



Just for a change. - Above left - The Flag of the Upper Murray River Boats. The four dark blue stripes are said to represent the four major rivers of the Murray - Darling river system.

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Maintenance Work - Sunday and Monday 18/19 Oct.



'AN1' on the steaming bay for some overdue maintenance some would say. It is up on the steaming bay so that some of the old gits do not have to lay on the ground to work underneath.

The two pictures below show part of the home built propulsion system, bastardised from a Datsun 120Y automatic. Now chain driven from the modified diff. through transfer shafts. Note the very short prop shaft.



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The tractor shed once black and gloomy from smoke damage, now white and bright ready for work in part on 'Charley', at the back of the container.



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Monday, Darryl seen moving parts of the donated car port frame into the party area ready for reconstruction Wednesday. We will endeavor to make sure all the legs are the same length and then weld the frame back together and leave it at that as we have another public run Sunday next. We may put a 'tarp' over the frame or maybe

shade cloth for the weekend but will leave the steel sheeting for another day. Eventually BBQ's are to be built underneath.

Wednesday. As stated prior, work continued on the donated carport where the frame is now all put back together (nearly anyway) and the extended posts concreted into the ground. We have, hopefully, another public running on Sunday. The forecast at present is atrocious with thunderstorms, hail and over two inches of rain expected over the coming days. What can you do? One of the pictures below may give you a clue.



The structure erect again. *Under.* Top clockwise, Darryl, Keith, Mick and Paul.



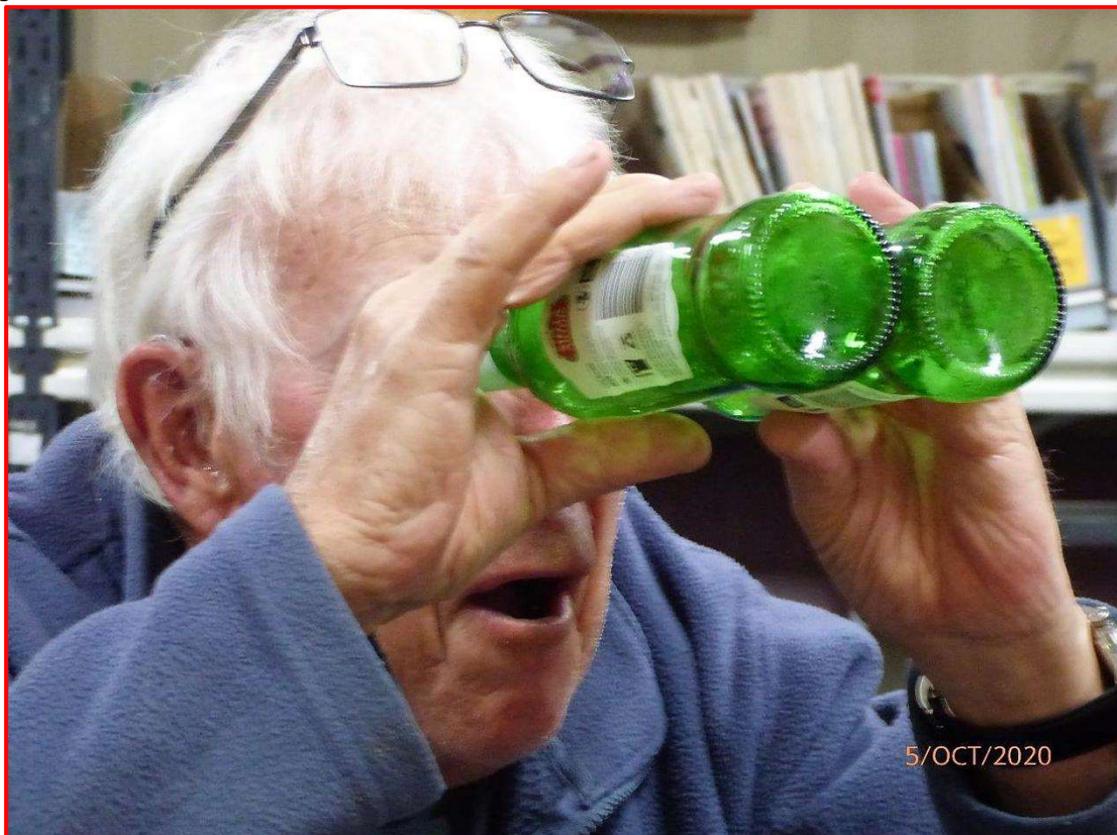
'Iron Jack' went down well.

Repairs.

The donated lathe came with a broken motor mounting. Monday evening I engineered a quick fix. The cast iron casting was soaked with oil which in my mind would have made brazing or welding difficult and outside my skill set. Luckily it just fitted in my 'Record' vice.



The right hand or bottom two screws are offset as originally I was going to drill and tap the holes, but after breaking a tap in the hole, 'Plan B' was adopted, drill slightly larger holes and attach nuts, much easier.



Life always looks brighter this way.

Photo by: Secretary Mick.



They are back destroying my tree again.

Stay well.

David - Canberra - 21st October 2020

Congratulations are needed.

I received a communication this week from down under from Mick Richardson the Hon. Secretary of The Canberra Society of Model & Experimental Engineers Inc. who operate the Canberra Miniature Railway (CMR). “The boy from Burwash” as David calls him.

It went along the lines of:-

“Hello from Canberra in the Australian Capital Territory!

The railway is the best in Canberra with the prospect of making it one of the finest locations for both engineering and miniature railway aficionados in the country. How grand! However, I wish to appraise you of the recent driving force behind the CMR which has resulted in your correspondent, David (The Pommie Squaddie!) Miles being awarded Society Member of the Year for 2020.



David being presented with Society Member of the Year by President Darryl



On the left, the official one, and on the right, the Secretary, Mick, alias 'The Boy from Burwash', says was an unintentional spelling error.

This is even more significant as he is an aging Man of Kent or Kentish Man as I believe there is an important distinction depending from what side of the tracks you come from. I thought it appropriate to provide you with just a pictorial soupçon of our now Vice President!



David driving train, on the Kubota,



Just finished spraying inside of Container.



This week David has been going about his business of cultural abuse of anyone from Sussex which, and I had to say this really slowly of course, will have to be curtailed now he is the holder of such high office.

I also found out recently David may visit you again as he likes to travel! In fact he met his wife in a travel agency – she was going through the brochures and he was the last resort.

Salutations from the Antipodes!

Mick Richardson.

Hon. Secretary of the Canberra Society of Model & Experimental Engineers Inc.

I am sure that you would all like to join me in congratulating David on his success and my grateful thanks go to David for sending in his weekly down under news,

Well done.

This came with the photos as well thanks to Mick.



I personally think David is getting into practice for when he comes over to England next year and is testing out a Covid – 19 protection Suit!

With one from Kent and one from Sussex I guess they are both “Poms”

Did you know where did the term Pommie come from?

Pom: British person): Australian from 1912. Contraction of pomegranate, rhyming slang for immigrant (“imme-granate”). The older **term** of Jimmy Grant, **meaning** immigrant, became Pommy Grant as the Australian sun allegedly turned immigrants’ skin pomegranate red.

Special Trains.

Fire Trains

Trolling through the web this week looking for something different I came across this photo.



It's a Russian fire train and there is some discussion on the web claiming that it looks like they used an American made Studebaker US6 truck that was sent to Russia during WWII. However there is another comment that it is based on a Russian GAZ-63, but it goes on to say that it would not surprise them if they used the Studebaker as a base design, as they did with numerous other Soviet vehicles, basing them off western designs



Studebaker US6 truck.



GAZ-63 truck

They do look similar but maybe Roy with his inside information has the answer. The GAZ-63 is a Russian 4x4 2 ton truck produced from 1948 to 1968 at the Gorky Automobile Plant. It was a development of the earlier GAZ-51 truck and is very similar in appearance. The GAZ-63 was in turn used as the basis for the BTR-40 armoured personnel carrier.

The Russians do seem to invest a lot of money in firefighting trains. This is well justified if the claim that since 2005 they have extinguished almost 10,500 fires and rescued 462 people. The claim also includes the saving from destruction of 96 locomotives, 684 cars and tanks with cargoes, 392 units of tractor equipment as well as almost 1337 buildings and structures worth around 2 Billion Rubles.

I have looked at the UK railways, and still need to look further, but there appears very little use of fire trains, if any in the UK.

The Russian rail network stretches the length of the country, from cities to mountainous forests. Fires can happen anywhere – even in the middle of nowhere – so the Russian Railways have their own fleet of fire-fighting trains, to put out the flames anywhere conventional fire trucks can't reach.

The trains are painted red with white stripes, and they reside at major railway stations. They are spaced at a maximum of 80 kilometres apart on class 1 mainline railways, and up to a maximum of 160 kilometres apart on class 5 branch lines



Each train has a full time crew of 6 fire-fighters, but additional staff are available to respond to incidents. This includes the railway police serving at the station on which the fire train is stationed, any off duty fire train crew living nearby, volunteer fire brigade members as well as employees of Russian Railways.

Fire-fighting trains are divided into two categories, category 1 is specialised equipped for the removal of dangerous goods from accident scenes and category 2 is general fire-fighting only.

There are 300 fire-fighting trains posted around the Russian Railways network, with around 80 of them being specialised category 1 trains.

A typical fire train consists of Pump wagon to house personnel, fire pump, power generator, fire extinguishers, breathing apparatus, and other fire extinguishing equipment, and 2 tank wagon for storage of water, 60m³ – 73m³ volume.

Category 1 trains also have an extra wagon for the accommodation of additional fire-fighting and rescue equipment, fire suppressants, and other materials; and pumps to transfer dangerous goods from damaged tank wagons.

As well as 'conventional' fire-fighting trains used to put out the flames anywhere conventional fire trucks can't reach, the Russian Railways have also started rolling out a fleet of 'robotic' trains that can be used to fight fires in railway tunnels, and other places where fire fighters can't go.

As well as 'conventional' fire-fighting trains, to put out the flames anywhere conventional fire trucks can't reach, the Russian Railways have started rolling out a fleet of 'robotic' trains that can be used to fight fires in railway tunnels, and other places where fire fighters can't go. The first train was ordered in

2010 and intended for use on the mountainous Adler to Alpika-Service railway, the main passenger artery for the 2014 Winter Olympic Games.

Between 2011 and 2015 a total of 84 new fire trains were manufactured, with a further 25 new fire trains manufactured in 2016.

The robotic part of the new trains is a wireless remote controlled unit LUF 60 manufactured in Austria and modified for use on the railways

The LUF 60 clears the path for advancement up to a distance of 300 m by incorporating a high capacity positive pressure ventilator and a “water beam” fog. This combination clears away smoke, heat, toxic gases and reduces the intensity of the fire, allowing fire fighters and rescue teams to follow safely. Using state of the art control elements ensure easy handling and high precision operation. As a high performance machine, it is highly flexible and easy to handle. The very short time it takes for the LUF 60 to control a tunnel fire reflects in the minimal damage to the tunnel structure itself and its associated infrastructure.



Although I can find information on many countries around the world who use fire trains if anyone can guide me to information on whether the UK rail network has ever used fire trains I would be very grateful as to date we seem to not have any. **Mike W.**

Puzzle Corner.

Lorema's last week's Challenge.

Find the word to fit the description that begins with Par....:-

1	A mother or father.	Parent
2	Early release of a prisoner.	Parole
3	A plump game bird native to Europe and Africa.	Partridge
4	Very drunk with Alcohol.	Paralytic
5	An old fashioned living room.	Parlour
6	Experiencing intense anxiety.	Paranoid.
7	A representative body having supreme legislative powers in a country.	Parliament
8	It's called kerosene in USA.	Paraffin
9	A member of the clergy.	Parson
10	A hooded outer garment originating from the Inuit people.	Parka
11	A set of brackets or the information within them.	Parenthesis
12	A short story that uses familiar events to illustrate an ethical point.	Parable
13	An Italian hard cheese.	Parmesan
14	Of chief concern or importance.	paramount
15	To become very dry.	Parched
16	A unit of length equal to 3.26 light years.	Parsec
17	Human conception without fertilisation by a male, virgin birth.	Parthenogenesis
18	A group of sentences that supports one unified idea.	Paragraph
19	Being an equal distance apart everywhere.	Parallel
20	A state of delight or happiness.	Paradise
21	Biased in support of a party, group or cause.	Partisan
22	A statement that seems to contradict itself but which may be true.	Paradox
23	A model of excellence or perfection of a kind;	Paragon
24	To analyse or separate into easily processed units.	parse
25	A small umbrella carried as protection from the sun.	Parasol

Lorema's this week challenge.

General Knowledge

1	On which Scottish island is the town of Stornoway?	
2	In what year did the Battle of Waterloo take place?	
3	How many ribs does a normal human possess?	
4	Which airport has the code LAX?	
5	On a standard European roulette wheel how many different numbers are there?	
6	Who wrote the novel Watership Down?	
7	What direction is opposite North West on a compass?	
8	What type of nut should you find in a Waldorf Salad?	
9	In which English county did the Tolpuddle Martyrs originate?	
10	According to the popular saying, what speaks louder than words?	
11	As at 2020, who is the longest serving US President?	
12	Which Scotsman was beaten finalist in the 2017, 2018 & 2019 World snooker Championship?	
13	On which London street was Sweeney Todd the Demon Barber said to have his shop?	
14	Which four US States begin with the letter "I"?	
15	Who was known as the "Father of the Atom Bomb"?	
16	Which foodstuff is known in Italian as Pomodoro?	
17	After whom is the headquarters of the MCC in North London Named?	
18	The city of Vilnius is the capital of which Baltic state?	
19	When was the toll on the M4 Severn Bridge abolished?	
20	How many stars feature on the New Zealand flag?	

My thanks go to all who keep sending me the material.

If you have something for the NEWS please contact me

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