Newsletter

March 2020

The reality of this Corona Virus is now hitting us all, sometimes bringing out the very best in some of the people and the very worst in others. Judy just got a FaceTime call from her daughter Karen,who lives in Australia. She was a 'little' angry at a lady shopper in her local supermarket who piled her trolley with every single pack of fresh minced Beef - literally every single pack. Karen needed just two packs but the 'lady' resolutely (and apparently quite rudely) told Karen where to get off.

Karen reported this to the management who in short order removed all of that mince from the trolley and sent her on her way. The lady justified her necessity for all of that mince because it was for her dogs.

On the other side of the coin, we have neighbours who have offered to shop for us - they even reserve space for us always outside our house for our car to make it easy for Judy's wheelchair to take the shortest route inside.

Not easy times for any of us right now!

So, we'll take the precautions, and hopefully sooner rather than later, these restrictions can be safely lifted and life can return to normality. When it does, I bet we'll appreciate the small things in life that we never believed could ever have been taken away.

Well, this newsletter should be related to our hobby - model aircraft. JP kindly sent me in loads of pictures from his visit to Dubai. I was out there back in late 1970's and then it was just a noisy and not very big fishing town. I say noisy because car horns would sound quite literally 24/7 - they just never stopped.

Overloaded small ferry boats would struggle taking workers across the waters.

Looking at John's photos, Dubai has changed out of all proportion to what it was. I never flew model aircraft there and as far as I knew, there was no model club at that time. What John described was a model flying club to die for.

A stunning backdrop

Shaded Parking right in front of the Pits Area

How do you fancy that for a runway.

Preparing for lift off

No problem with the availability of models out there. John sent me loads of excellent pictures - thanks for sharing something cheerful.

A VIEW FROM THE HEDGE. (By Will Sparrow)

March 2020

Spring is upon us at last: everywhere things are beginning to stir. The hawthorn hedges are lining the roads with their fresh green, all creatures of fur or feather are showing signs of increasing friskiness and a blackbird (with whom I have a nodding acquaintance) is already sitting on eggs! I haven't noticed any new little rabbits appearing yet, but I bet those adult bunnies are hard at it underground.

I'm told that panic buying of ARTFs has been going on apace and, as stocks run out, more and more modellers are taking the traditional routes to modelling satisfaction. Model shops (?) are reporting a run on 1/8 sheet balsa, and shelves, that were once the home to bottles of glue, are starting to show vacant spaces. With schools about to close, your finger-on-the-pulse BMFA could well make simple plans available for download so that a new generation of would-be modellers could sample the delights you all experience. I heard, and one can never believe all one hears, that a child, wanting to get a closer look at a particular area of the plan laid out on the table before him, could not understand why, when he moved his fingers apart, the area did not get bigger!

The dreaded plague will obviously restrict your day-to-day activities. But there are, possibly, some precautions you can take. The WOO tells me that the resource you call the inter-web, is rich in suggestions as to how to avoid infection. One such (yes, really) is to rub your anus with violet oil – "has a very earthy aroma with pleasant floral undertones…" Good luck with that one, say I!

The other day I flapped off my twig to give the flying field a good look-over. I have to report that the grass is very long and the ground is, in many places, waterlogged. Only if you own a large seaplane and a pair of waders are you likely to gain much pleasure from a visit. All is not, however, doom and gloom. The days are lengthening, the sun has a bit of warmth in it and the winds are able to do a bit of drying. Very soon the strip will dry out to the point where it is possible for the grass to be cut and then I will have something to view again.

All the model shows and events may be cancelled, perhaps for the whole year, but I know that such a cheery bunch of modellers will come out the other side. Even if you are in the depths of self-isolation, there is no reason that you can't venture out to the hallowed turf to enjoy the fresh air – just keep a couple of metres away from fellow club members – especially the ones giving off a very earthy aroma with pleasant floral undertones!

WS

Adhesives

March 2020

Article by Brian Holdsworth

A dictionary definition of an adhesive is "a substance that unites or bonds surfaces together" which covers a wide range of capabilities, ranging from mechanical fasteners to what are generally referred to as "glues".

The forces on an item can be divided into categories. Compression is a crushing force and is readily absorbed where two items adjoin. Tension is a force stretching or pulling apart; two adjoining items would require an adhesive of some sort between them to resist such forces so that they remain adjoined. Shear is a sliding force where two adjoining items tend to move past each other while remaining in contact; this also would require an adhesive between them. Most applications have to cope with a combination of these forces. Tension is difficult to handle and is often largely absorbed by shaping the adjoining items such that they interlock and convert part of the force into compression and perhaps shear; early examples can be seen in woodworking such as "Mortise and Tenon" joints - ideally, the joint should be tight enough on its own but a glue is often used to fill any gaps and keep the joint tight.

Some of the first structures built by ancient man consisted of tree branches tied together with vines, which are thin, flexible stems capable of being joined in a knot by being looped and tied back onto themselves. It was found that some plant stems could be split into fibres, capable of being twisted together to produce a stronger and more flexible tying agent. Inherently, the fibres have a rough surface and become locked together by the twisting action with the useful characteristic of becoming stronger under tension. By staggering the positions of individual fibres, the length may be increased beyond their individual length with no inherent limit. These have become identified by names such as "thread", "string", "cord" up to "cable" and "rope" as their diameter and consequential strength increases.

Several plants producing useful fibres have been cultivated. Hemp and sisal have been widely used to produce rope up to some very large items towards a foot diameter used for mooring ropes for large ships etc. They, and various similar plants, were also used for smaller items in the form of string etc.

Tendons extracted from slaughtered animals have also been used as tying agents where their small size and relatively short lengths are adequate. Early boats up to Viking Longboats often had their planks tied together with cords or tendons

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Article by Brian Holdsworth

where the continuous immersion in water helped to maintain their joining performance.

From early times, cotton has been cultivated where the fibres in their seed heads are extracted and spun into thin thread which can be woven in looms to produce fabric. That fabric can be cut into suitable shapes and sewn together with thicker cotton threads to produce clothing etc. Using the same joining material as that used to produce the fabric has the advantage of matching behaviour under stress so that the resultant item is less likely to tear.
This matching of performance between materials and joining agents is a fundamental requirement for effective adhesion between parts.

Wool obtained by shearing domesticated animals such as sheep can be similarly spun into a thread which is looser and of greater diameter than cotton. They can be knitted into fabric where pieces may be joined together by threads which are best derived from wool to match performance as above. While such materials have advantages for clothing, being inherently warmer than cotton, they have few other applications due to their relatively low strength.

These natural products have the major disadvantages of variability in performance together with deterioration due to attack from insects, fungi etc. which feed on them. In recent times, synthetic fibres have largely replaced them, being cheaper to produce and more predictable in their performance with invulnerability to insect attack etc. However, they have several degradation processes, mostly involving ultra-violet light or attack by chemicals such as ozone, which may require additional measures to reduce their impact. Their performance can be inferior in some respects; for instance, natural fibres are easy to tie into knots, but this is more difficult for synthetic fibres, being stiffer and with smooth surfaces, requiring specialised knots or other techniques.

After the industrial revolution increased the availability of iron with its greater strength, chains were introduced to replace or extend some jobs previously undertaken by ropes. These were capable of more challenging applications such as early suspension bridges. When steel refined from iron producing even greater tensile strength became available, this could be spun into wire as for thread. Small sizes replace thread for some high-strength applications. They can be spun into

Adhesives Continued/……

Article by Brian Holdsworth

cables up to very long, large-diameter items weighing many thousands of tons containing thousands of individual wires, such as those used in modern suspension bridges, allowing obstacles such as ravines and rivers to be crossed with single spans of a mile or more. Ultimate uniting!

Recently, carbon fibre and synthetics such as Kevlar, directly or combined with epoxy resins cooked at high temperatures to produce composites, have become available for some exotic cable or sheet applications where their high cost is justified by their high strength-weight ratio and the relative ease with which they can be moulded into complex shapes.

When early man started to build larger wooden structures, tree trunks were cut into planks which needed joining. This was achieved by complex joints such as "Mortise and Tenon" with tapered wooden pegs hammered into drilled holes locking them together. This technique matched their joining performance so well that many examples survive from medieval times including large ships. From before Roman times, some iron nails have also been used for joints. Being hand-made, these were quite large and very variable in size and quality. They were reasonably effective but rusted quickly with a short life.
The industrial revolution increased iron production, together with improved manufacturing techniques, so that nails became easier to make with better quality so that they became more widely used. Joining iron and steel was more of a problem. The first attempts used woodworking techniques as can be seen in the pioneering bridge at Ironbridge, though much of the original structure was replaced when it was refurbished to form part of the museum complex.

It was realised that two pieces of iron or steel could be joined by punching matching holes into them and fitting a rivet (a nail with a large domed head) snugly through the hole. If that rivet was previously heated to near melting point, the narrow end could be hammered to produce a matching domed head clamping the two pieces together. As the rivet cools, it shrinks, clamping the items tightly together. This became a widely used technique used in many ships and large structures such as the Forth Bridge.

While rivets have become obsolete, a derivative has appeared in the form of a pop-rivet with a hollow shaft allowing the end to be crushed and turned over cold

Adhesives Continued/……

Article by Brian Holdsworth

by using a special tool from one side. This has become a widely-used technique for joining thin metal, especially the aluminium sheeting on aircraft structures.

With the advent of steel, refined from iron to produce a much stronger material, other joining techniques became practicable. A nail with a tapered coarse thread on the shaft produced a wood screw; a slotted head allowed the use of a screwdriver to turn the screw and pull it into the wood, clamping the items together. Relatively recently, this has evolved into a self-tapping screw for joining thin metal sheets. To help automation, the original slotted head has become a cross-head form with several variations such as Phillips, Torx etc which are sufficiently incompatible as to require dedicated screwdrivers; in some cases, these screws are "fit-only" and would be difficult to remove.

Parallel-threaded bolts and matching nuts (or tapped holes into solid metal) were introduced which greatly assisted joining, particularly of smaller items. Some are so small as to need a magnifying glass to examine them, while some bolts could be described as huge, weighing over a hundred kilogrammes! A slot head, as for a woodscrew, may be used for small sizes, a hexagon-shaped hole in the head tightened by a corresponding Allen key, or a hexagon-shaped head is used, requiring a suitable spanner for tightening. Eventually, standardisation of thread sizes etc. was established with Whitworth sizes followed by standards such AF, BA, Metric, UNC, UNF etc. Unfortunately, there are now so many standards that confusion has returned, especially as many are so similar as to need specialised gauges to distinguish between them. This is of particular concern for the aircraft industry, and several crashes have been attributed to such confusion when a bolt has pulled through an oversize or damaged nut or tapped hole.

Looking Back

March 2020

This Club has run some amazing events and times like this, I often look back through my photo library at events we have enjoyed at the Weeton field. I've been taking pictures at the field for many years now so a have a few thousand images lurking on my hard drive.

I've chosen at random pictures of your models. I wonder how many are still sitting ready for flight in your hangar?

Is this one of your Sebarts Mr Higgins?

Nice Eflite Pulse

How to launch your model whilst simultaneously munching on a Spektrum and waving goodbye as the model reaches for the sky.

One of our more 'flamboyant' flyers - he put this thing through every manoeuvre in the book.

Club Instructors

Jason Reid, John Higgins, Chris Vernon, Mark Conlin, Brian Holdsworth, Jim Sheldon, Paul Cusworth, Andy Harrison, Justin Goldstone , John Prothero

In Conclusion

Well I guess that's it for this month. The forecast weather-wise seems to be good towards the end of this month. I would hope the field will dry out very soon ready for when we are cleared to fly once more. These may be strange times, the like of which we have never experienced before. Just follow the advice guys.

Take Care.