AIRSHIP HERITAGE NEWS

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EDITION NO.7

JUNE 2022

Welcome to the latest Edition of our Newsletter….

Exciting News! We have a new home

As we mentioned in the newsletter 6, the AHT trustees had been looking for a suitable storage and office location for moving much of the books, files, papers and stock. Much of this had been stored in the Trustees and members' homes for well over a decade.

Membership Secretary, Roger Allton was able to secure an office/store location, close to his home near Nottingham.

Located on the St James Business Park, located just outside Radcliffe -on-Trent, the office is situated behind the main business units.

Consisting of an office, kitchen, and research scanning space and archive, the St James location was a real find and within budget.

Proud to have our new AHT Office and Store

Office and administration

Large area for scanning documents

Unpacking: Still plenty of space for storage and archiving and still smiling

Getting started: We even have a space to host small meetings.

Members will be welcome to come to see what we have – buying items as well. Their assistance with the digitisation particularly, will be greatly appreciated.

Roger has generously offered his time and will personally operate this office/store, since it is only 2 miles from his home, and on a day time ‘every 10 mins’ bus route.

Located off the A52, 12 miles from the A1 or 3 miles from Radcliffe Station.

Please telephone Roger before visiting: Mobile. 07973223111, to make sure I shall be there.

Address:
St.James Business Park
Radcliffe on Trent, Nottingham NG12 2JP

We can now look to welcome members to come and visit and enjoy a coffee.

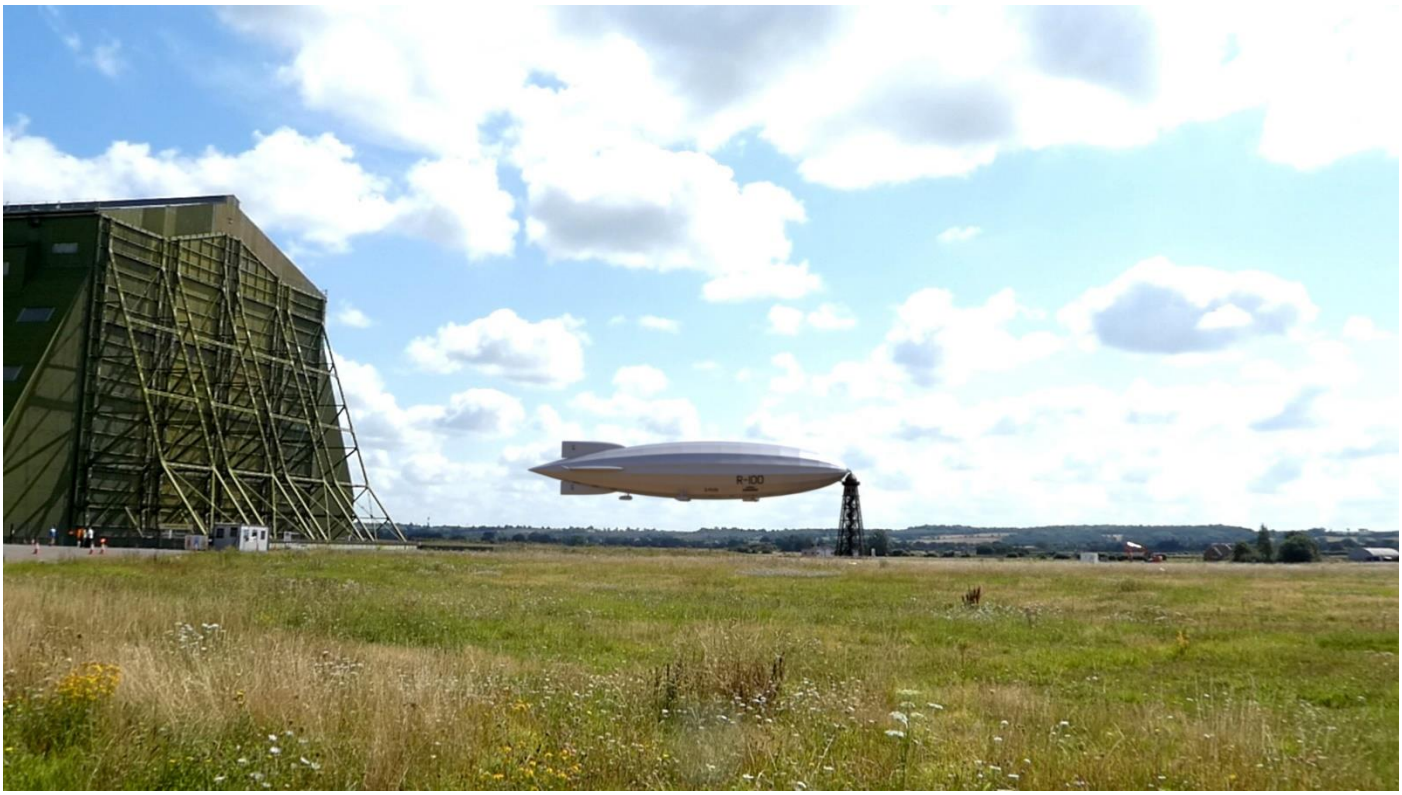
Special thanks to AHT Member Andy Millington who came and help set the storage, build racks. Andy also helped create a cataloguing system for items. Andy kindly volunteered and was generously given time off by his company, Games Workshop to come and help as part of their Charity Day initiatives.

Can you help…? Do you get time off from work as a charity initiative, if so the AHT needs you!

Sad News as well - Roger's wife Rae died on May 5th peacefully in her sleep. She had had heart issues for some years. Cremation and Celebration in church on May 30th. Notification of a 'death in the community' you can imagine, it will restrict my being available for a couple more weeks.

Here is a new early 1930 photo for your Desktop. Or is it?

Actually it is a CGI from a German AHT member, Stephan Neimeyer who used his CGI skills to great effect. Very realistic indeed, Great isn't it?

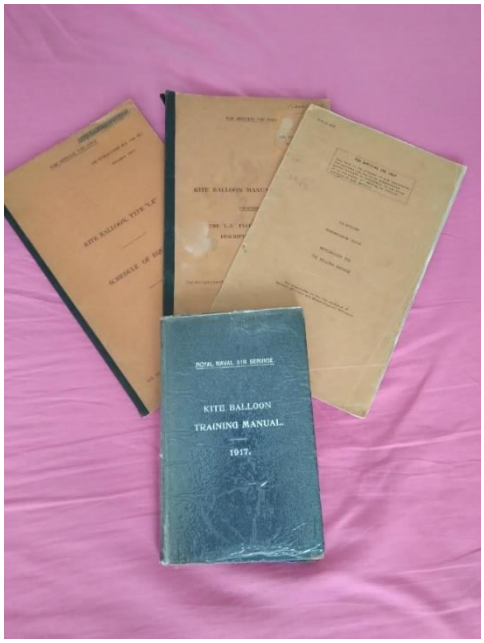


Speaking of things 'Virtual' the AGM via Teams will be held on Saturday 16th July 14.00 on Teams. (See notices at end of this newsletter for more details and registration)

Now for the vintage piece.

You may remember that the R-100 was inflated with 5.125 million cu. Ft. of Hydrogen, using the Silicol process. The apparatus was bought and removed from Armstrong Whitworth's former airship base at Barlow to nearby Howden. Major Teed was in charge of this.

Sadly, I cannot find anything written by him about the process at Howden.



However, Den. Burchmore's legacy brought to light three Tech. Manuals ref. Barrage Balloons and Meteorology for them, and a copy of the RNAS Kite Balloon Training Manual 1917, which has the following information about the 'portable Silicol process', used by the RNAS for refilling their 'balloons' when away from base. How was it was done in the field – see below.. *(Editor: All to be online shortly.)*

Apart from the Health & Safety aspects, what a risky process, and environmentally crazy!!

Instructions for Operating Silicol Hydrogen Plants (Portable Type).

1. See that an ample supply of water is at hand; in no case less than about 750 gallons per charge. It is preferable, though not absolutely essential, to employ fresh water for dissolving the caustic soda, about 75 gallons being required. For all other purposes sea-water may be used.

2. Fill water storage tank with water. During operation of the plant, the water should at no time be allowed to drop below about 1 inch from the top of the gauge glass, so as to insure a proper head.

3. Test all water connections, drains, and overflows individually, to see that there are no obstructions, and leave all valves and cocks closed.

4. Place about 300 lbs. caustic soda on the perforated plates in the soda tank and turn on the water supply through the distributing pipe. Fill up to within about an inch or so of the overflow and stir with a stick until all the soda is dissolved. The solution will be very hot.

Note.—If necessary the caustic soda should be broken into lumps not larger than about the size of the average closed fist. In removing the partly pulverised caustic from the drum by means of a spade or shovel it is desirable that the hands should be protected by rubber gloves. A mask of thin cheesecloth or similar material should be worn so as to cover the face if the caustic has to be handled in a confined space, such as the hold of a ship.

5. Put about 150 lbs. (one tin) "silicol" into the hopper "A" and close cover.

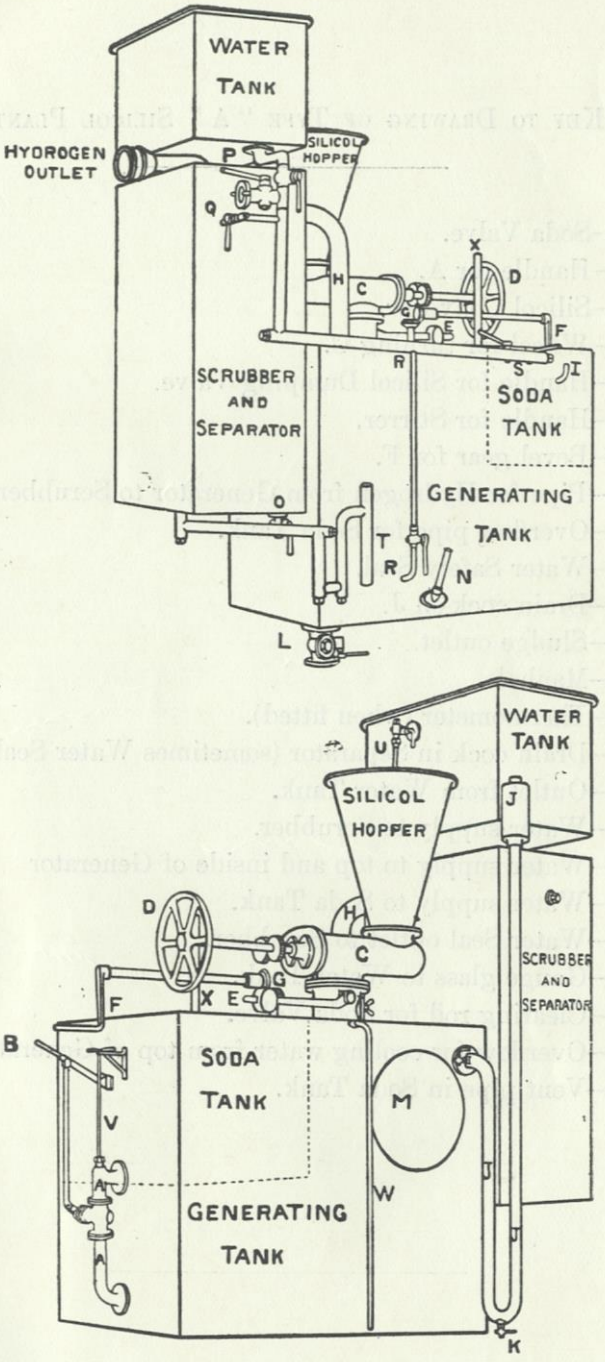
6. Prime the 2-inch seal pipe "B" at the side of the mixing tank until the water overflows into the tank.

7. Place about three handfuls (about 4 to 6 lbs.) of "anti-foaming" grease in the mixing tank and close the manhole.

8. Turn on the water to the scrubber, opening the cock fully, and to the cooling tray on top of the mixing tank. The quantity of water supplied to the scrubber must not be less than about 400 gallons per hour, or, say, about two ordinary

KEY TO DRAWING OF TYPE "A" SILICOL PLANT.

A.—Soda Valve.
B.—Handle for A.
C.—Silicol Conveyor.
D.—Wheel for turning C.
E.—Handle for Silicol Dumping Valve.
F.—Handle for Stirrer.
G.—Bevel gear for F.
H.—Pipe for Hydrogen from Generator to Scrubber.
I.—Overflow pipe for Soda Tank.
J.—Water Safety Seal.
K.—Drain cock on J.
L.—Sludge outlet.
M.—Manhole.
N.—Thermometer (when fitted).
O.—Drain cock in Separator (sometimes Water Seal fitted).
P.—Outlet from Water Tank.
Q.—Water supply to Scrubber.
R.—Water supply to top and inside of Generator
S.—Water supply to Soda Tank.
T.—Water Seal outlet to Scrubber.
U.—Gauge glass to Water Tank.
V.—Clearing rod for Soda Valve.
W.—Overflow for cooling water from top of Generator.
X.—Vent pipe in Soda Tank.



TYPE A SILICOL PLANT.

PLATE V.

PORTABLE SILICOL PLANT.

PLATE VI.

pailfuls per minute. This may readily be measured at the overflow from the trapped outlet "C" at the bottom.

9. Discharge the hot caustic soda solution into the mixing tank and close the discharge cock.

10. Turn the handwheel of the conveyer "D" a few turns to the right, until the silicol just becomes visible at the "peep-hole." Close the "peep-hole." Open the silicol feed valve "E" by lifting up the weighted level and close again at once. This should be done without jerking and the exercise of undue pressure.

11. Commence turning the stirring gear "F" in the mixing tank. This must be kept going continuously, when making gas, at the rate of not less than about 60 revolutions per minute.

12. If no signs of gas appear at the outlet give the conveyer handwheel another half-turn and open the silicol feed valve as before. Repeat this operation until the gas appears, and then afterwards, at intervals of about one minute, till the charge of silicol is used up. This should take about one and a half hours, but if much cooling water be available it may be hastened, so long as the hydrogen leaving the apparatus is cool.

13. As soon as everything is working regularly, water should be admitted to the soda tank until it reaches just below the false bottom of perforated plates. This water will gradually become heated up by the gas generated, and at the end of operations, before running off the sludge, should be run into the mixing tank and stirred up with the residue.

14. Finally, it should be noted that on first starting up the plant the air in it has to be displaced before the gas outlet can be coupled up to the balloon or holder. This may take from 10 seconds to one minute after the initial charge has been "dropped" and can readily be detected by observing the character of the issuing gas, which has a slight but distinct odour.

Simplification of Plants.—Experience is showing that an extremely simple plant is the most satisfactory, and small improvements are gradually being adopted.

The process is so "mechanical" in its nature that neither a thermometer nor pressure gauge is found necessary after a little experience, and these are being dispensed with.

A drop or two of water put on the side of the generating chamber is an excellent guide for temperature.

Hydrogen Supply.

Land Sections.—The hydrogen supply for any mobile unit is always a serious problem.

It can be solved by regular supply of bottles so long as these are *always* available, and there are also good transport facilities.

But to guard against delays in transport and also the possibility of the section being completely beyond the range of such a supply, a Type A portable plant and five nurse balloons, 5,000 cubic feet, are allotted to each section.

Hydrogen can be made at will and stored in the nurse balloons and used for topping up daily; and when necessary the balloon can be completely refilled with fresh gas in a comparatively short time, especially if the nurse balloons are filled ready beforehand. A fan delivering about 1,000 cubic feet per minute is of great assistance in transferring the gas from the nurse balloon to the kite balloon and only requires 3 or 4 horse-power to drive it.

Silicol is the best method of producing the gas since large volumes are given by a small plant in a short time. The one difficulty is the water required, but it may be noted that almost any water will do, so long as it is *water* and not liquid mud, which quickly blocks up the pores of the coke. So that when drawing the water from, say, a dirty pond, the end of the hose should be floated on a raft of wood and only allowed to dip just below the surface, as by this means the smallest amount of solid matter is drawn in with the water. A portable compressor is too delicate a machine to use in the field, since the rough roads and large amount of handling would very soon cause it to get out of order.

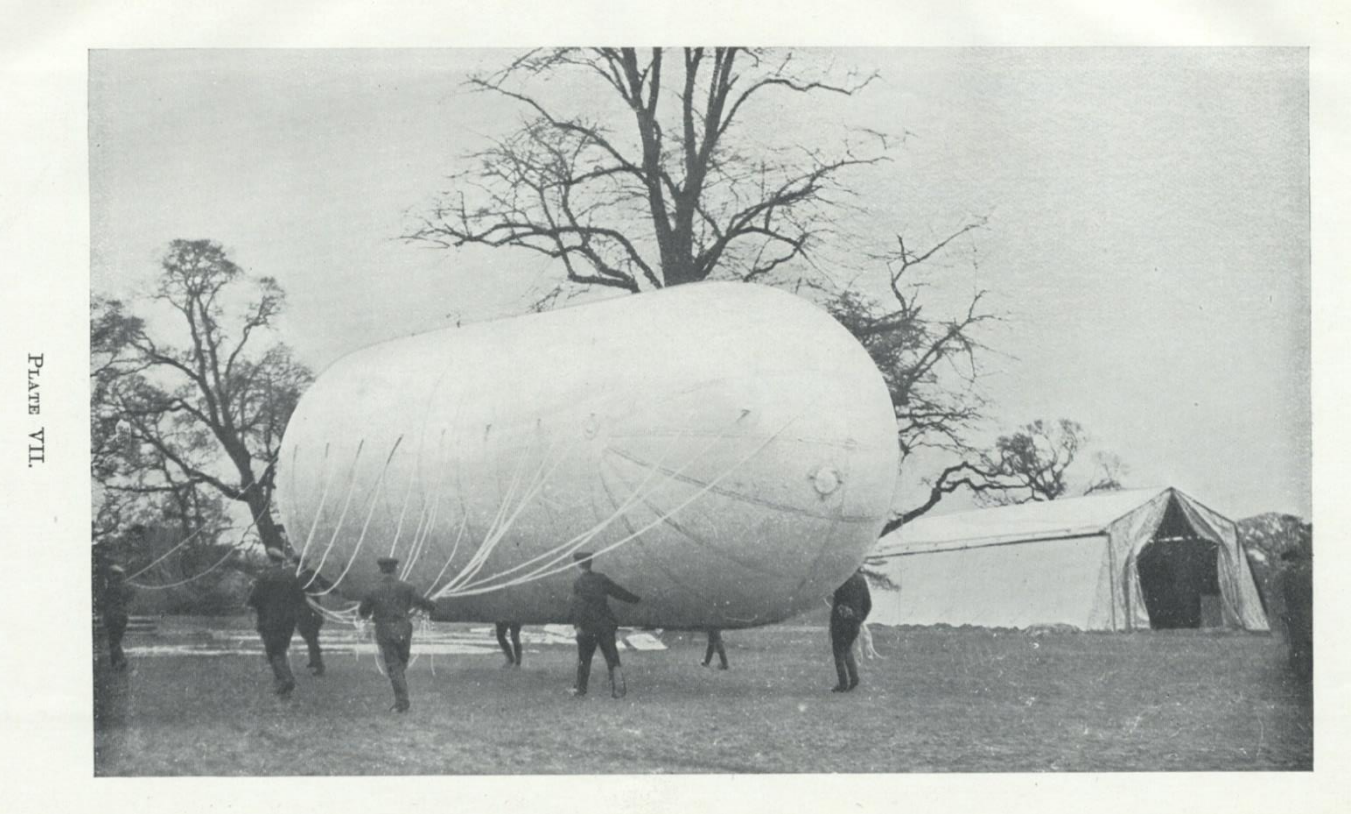
Sections working from the Shore.—Occasions may arise when it is desirable to work a kite balloon from, say, a barge which is capable of manœuvring in very shallow water.

In this case it may be necessary for the gas supply to be worked from the shore, and this can be done in two ways:—

(1) The balloon must be transferred from the barge to the shore, which at times is not easy, and treated as with land sections.

(2) A better method is to establish nurse balloons in a building or sheltered place on shore with total capacity enough to hold the contents of the kite balloon. A Type A silicol plant or bottles giving the actual supply of gas.

These nurse balloons are all joined together with one outlet, which is connected to a gas-tight fan, capable of delivering about 2,000 cubic feet per minute.



All one needs is about 20% air mixed with the Hydrogen then –

BANG!!

Annual General Meeting – Saturday 16th July 2:00pm

The AGM will be held on TEAMs for those who pre register for the meeting. As with last year, an email link will be sent out to those members wishing to join prior to the event.

A 30 minute talk on the ***Design and Construction of the R-100*** will follow the formal meeting agenda. We look forward to seeing you all online again! If you are unable to attend, but still wish to participate please submit your proxy voting form to me before the meeting.

Exciting times for us all, so do 'Stay safe' everyone,

Roger.

AGM DOCUMENTS.

AIRSHIP HERITAGE TRUST

Patron: The Rt Hon Baroness Smith of Basildon

Reply Address: The Membership Secretary, Airship Heritage Trust, 1 Orchard Close, Radcliffe-on-Trent, NOTTINGHAM, NG12 2BN (membership@airshipsonline.com)

Annual General Meeting

Date: Saturday, 16th July 2022 at 2:00 pm

Venue: Following the success of the last year's virtual AGM, the Trustees have decided to hold this year's AGM online, as a virtual meeting, through the medium of MS Teams. Those members wishing to participate in this virtual meeting should register their intent with the Membership Secretary (membership@airshipsonline.com), as soon as possible. This will be a closed meeting, those who register their intention to participate will be emailed a formal invitation, bearing the Teams meeting reference and entry code, before the event.

Those not wishing to or unable to participate are invited to return the Proxy Form, below.

Proxies: Any member entitled to attend and vote may appoint a proxy to vote in their stead, by completing the attached proxy form and returning it to the Membership Secretary. Correctly completed forms must arrive no later than **2:00 pm on Thursday, 14th July 2022**. The Trustees reserve the right to reject proxy forms arriving after this time and any incorrectly completed forms.

Agenda

1. Receive apologies for absence
2. Approve the Minutes of the 2020 Annual General Meeting (available online at www.airshipsonline.com)
3. Receive the Chairman's Report
4. Receive the Report and Accounts of the Trustees for the year to 31st December 2021
5. Election of Trustees in accordance with Articles 69 to 77
6. Appoint Collett Hulance, Chartered Certified Accountants of 40 Kimbolton Road, Bedford, MK40 2NR as the Independent Examiner for the coming year
7. Transact any other business as advised in writing to the Membership Secretary by **Thursday, 14th July 202**
8. Close the meeting

Form of Proxy

I/We …… of …… in the County of ……, being a paid up member of the Airship Heritage Trust do hereby appoint …… of ……or failing him/her the Chairman of the Trustees as my/our proxy to vote for me/us on my/our behalf at the Annual General Meeting of the Airship Heritage Trust on Saturday, 16th July 2022 and at any adjournment thereof. Unless otherwise instructed the proxy will vote as he thinks fit.

Signed: …… Date: ……

***Return to**: The Membership Secretary, Airship Heritage Trust, 1 Orchard Close, Radcliffe-on-Trent, NOTTINGHAM, NG12 2BN (membership@airshipsonline.com)*

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Charity Registration No: 296398