

2016 PDF edition

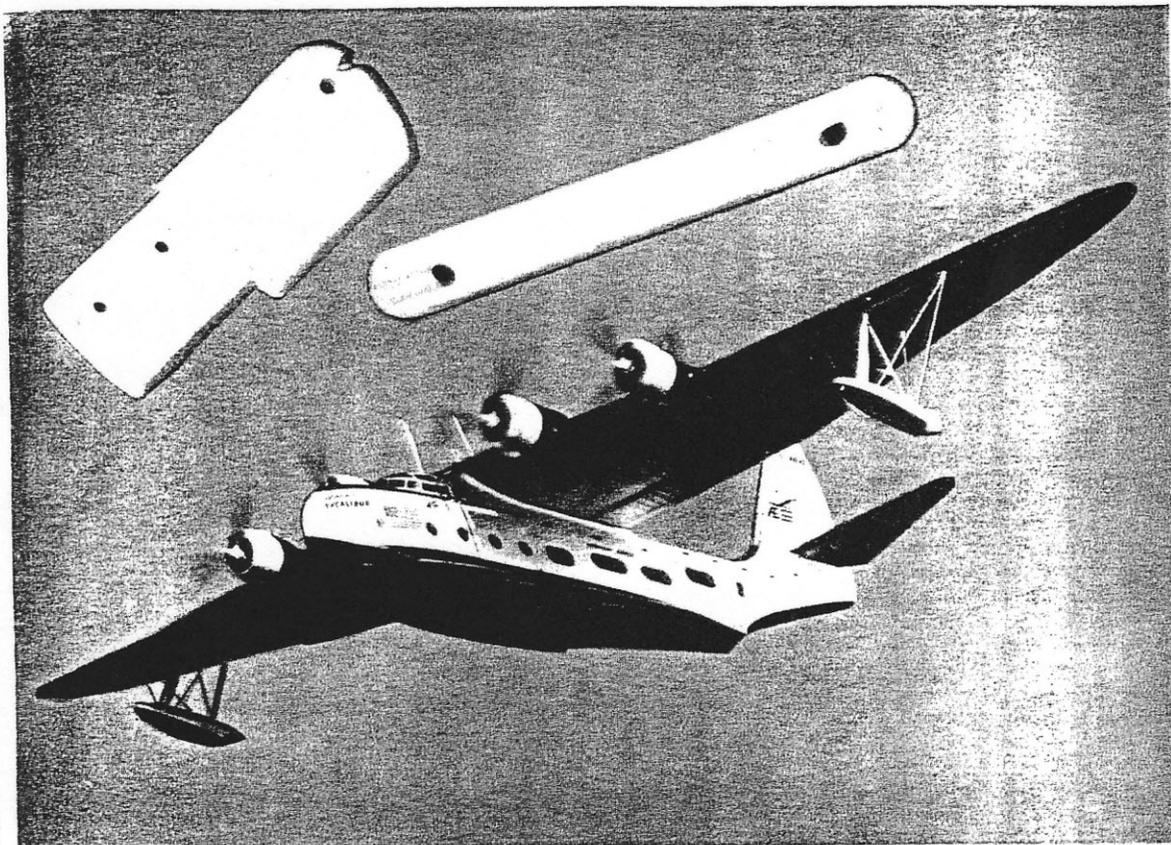
Old Familiar Strains

a newsletter for collectors of radio strain insulators and related items

Volume 5 No. 6

December 1998

A GIANT FLYING BOAT TAKES TO THE SKIES ...AND ISOLANTITE INSULATION HELPS MAINTAIN VITAL COMMUNICATIONS LINKS



A NEW CHAPTER in aviation history was written with the launching of the EXCALIBUR, first of the Flying Aces built for American Export Airlines, Inc., by the Vought-Sikorsky Aircraft Division of United Aircraft Corporation.

Longest-range commercial aircraft ever built, the EXCALIBUR and its sister ships will soon be spanning the ocean in a new service, linking New York and Eire in non-stop flight.

Since highest efficiency and complete dependability of communications equipment are vitally important in the operation of these giant flying boats, Isolantite* insulation was selected for a number of essential applications. Isolantite's unique combina-

tion of properties—high strength, dimensional accuracy, electrical efficiency, non-absorption of moisture—has established this unusual ceramic as the choice of leading manufacturers of sets and component parts, for aircraft applications and for every other branch of the communications industry.

ISOLANTITE

CERAMIC INSULATORS

ISOLANTITE INC., BELLEVILLE, NEW JERSEY

*Registered trade-name for the products of Isolantite Inc.

Editorial

This issue features a couple of articles on aircraft antenna insulators. You'll also find additional information on rubber insulators (pg. 7), Pyrex insulators (pg. 14), military insulators (pg. 14), and Jacobs insulators (pg. 16). Seems like a good way to end the year.

First class postage is scheduled to increase to 33 cents on January 10, 1999. But we are holding the line on prices at *OFS*. It is still a bargain at only \$10.00 a year. Please check the date on your mailing label. If you haven't sent in a donation for 1999, please do so.

The February issue will feature another company profile. This time a special article is planned on the Isolantite Company.

I received a letter from **Gene Condon** a few weeks ago. Though health problems kept him away from the NIA National, Gene says that he's feeling better. You have our continued wishes and prayers for a complete and speedy recovery, Gene.

With this issue we complete **5 years** in print!
Happy Holidays!

Lapp Airplane Radio Insulators

RAPID advances in the art of radio transmission combined with equally spectacular improvements in the ships themselves have created a situation in which there is little material that can be considered standard and catalogued as such. Many of the engineers responsible for the design and maintenance of airplane radio equipment are engaged in the development of new antenna systems believing that present methods are subject to considerable improvement.

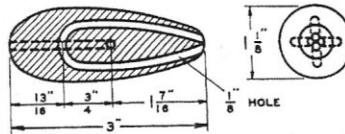
The Lapp Insulator Company is ready at any time to aid in such development work having available a wealth of experience in the design and production of all types of radio insulators, a proved material with which to work and testing facilities to check the correctness of the designs.

It seems worth while, therefore, to present here only a few designs, at the same time extending our offer of full cooperation in new developments:

Antenna Insulators



No. 8979



No. 9025



No. 7189

Airplane Antenna Insulators

by Dan Howard

If you remember the days of propeller-driven aircraft, or even if you just built models of them as a kid (like I did), then you probably recall that airplanes once used wire antennas. This article will look at the types of wire antennas that were used on airplanes and the insulators that made them work.

The earliest radio tests conducted from airplanes took place between 1910 and 1912. (Authors differ about which was the first "official" test).

According to *Electronics in the West*, tests were conducted informally at Tanforan race track (near San Francisco) in the spring of 1910. According to the author's description, the plane's antenna was a hank of wire that the pilot simply trailed out behind. (1:33)

On August 4, 1910, wireless pioneer Elmo Pickerill conducted two-way communications from a Wright biplane over Long Island. (1:36)

Later that month, on the 27th, J.A. McCurdy sent a message to Maj. Harry Mack Horton from a plane in a demonstration at Sheepshead Bay racetrack in New York. (1:36)

Getting the Message Through mentions a successful test from a U.S. Army Signal Corps biplane in 1911. Unfortunately no details are provided. (2:139)

The Navy's first attempt at installing a radio in an aircraft also took place in 1911. The equipment consisted of a Wireless Specialty Apparatus IP-76 receiver and a small spark transmitter. A trailing wire antenna was used. Attempts to communicate using this set up were unsuccessful. (3:190)

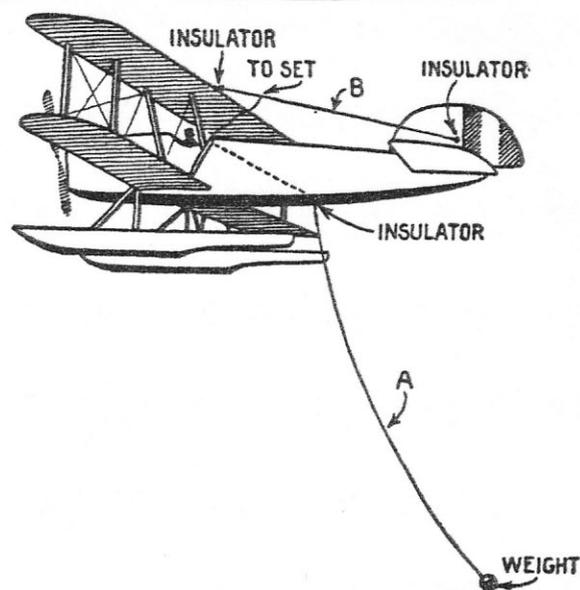
On July 26, 1912, Ens. Charles H. Maddox USN, sent a message which was received by the U.S.S. Stringham 3 miles away. (3:190).

Another successful air-to-ground test took place at Ft. Riley Kansas on November 2, 1912. Lieutenant Follett Bradley (radio operator) and Lieutenant Henry H. Arnold flew in a pusher-styled biplane while conducting the tests. (4:34) The type of antenna used is not mentioned.

From these early beginnings until the coming of the jet age, wire antennas were commonly utilized on airplanes of all sizes.

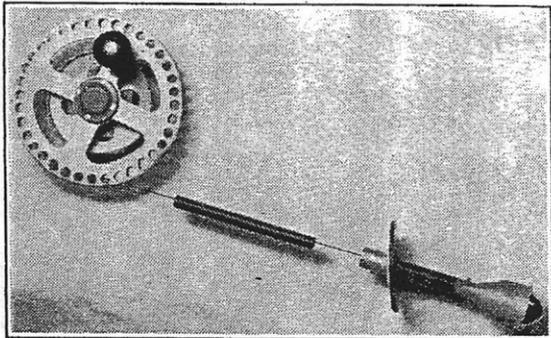
Trailing Antennas

According to these accounts, early experimenters seemed to have favored **trailing wire** style antennas. When the radio was to be used, a wire was trailed out behind the airplane.

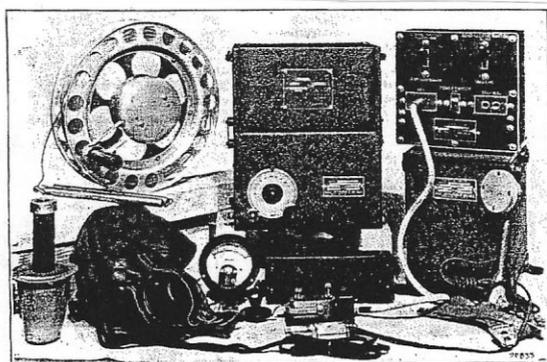


Of course, the antenna wire had to be taken up prior to landing so that it did not become

entangled with the control surfaces or the propeller. Soon, insulated reels were developed so that the wire could simply be rolled up like a fishing line. L.S. Brach (*OFS* 10/95) contracted to make **antenna reels** during World War I.



I've heard stories about radio operators having to go back to the sometimes unpressurized tail section of bombers to reel up the antenna prior to landing - probably not the most endearing part of the job. Eventually motorized reels were developed.



The complete transmitting and receiving apparatus for airplane communication. At left the fairlead, helmet with headset, flame-proof key, and at right, the microphone.

Signal Corps Airplane Radio ca. 1929

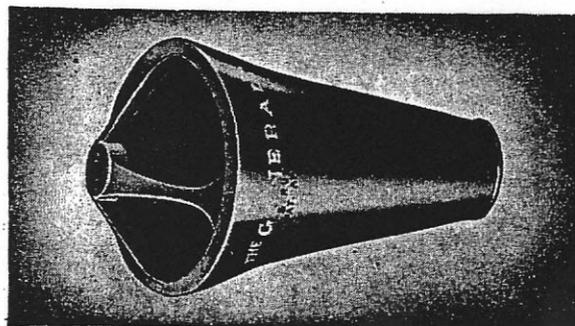
Although they were obviously inconvenient, trailing antennas could be "cut" for nearly any frequency. In the twenties, aircraft were assigned what by today's standards would be considered low frequencies¹. This necessitated

¹ The International Radio Convention established two ranges of frequencies for communicating with aircraft - 2750 to 2250 KC (109 to 133 meters) and

fairly long antennas for efficient operation.

The loose end of the trailing wires were kept taut through the use of antenna weights or small **wind cones**. The Signal Corps nomenclature for airplane antenna weights was WT-#. According to manuals, trailing antennas came with a set of 10 weights. One was placed in service at a time; the rest were spares.

ANTENNA WINDCONE



Provides proper drag to antenna for slow flying aircraft. Shortening length of cone gives correct drag for faster planes. Spider flexes to assure straight steady drag. Will not spin, twist or whip. Length 6½"; diameter 4½" at drag spider.

•NO. B-665 RUBBER ANTENNA WINDCONE \$7.10

Howeth relates the following story about the development of antenna weights:

A trailing-wire antenna system had been designed and patented by Maj. Harry Mack Horton, Army of the United States, prior to his entry into the service. The Laboratory at Pensacola had adapted this to flying boats by improving the braking, the dielectric quality of the reel, and by adopting a type of antenna wire sufficiently brittle to snap on entanglement with buildings, masts, or other objects before

533 - 316 KC (850 to 950 meters). The international distress frequencies were 500 KC (600 meters). and 333 KC (900 meters) (5:46)

interfering with the stability of the plane. The latter was a necessary improvement but it often resulted in the streamlined weight at the trailing end of the wire snapping off and falling to earth. Once one plummeted through three floors of a house and imbedded itself in the concrete floor in the basement. Another time one barely missed a policeman and flattened itself on the pavement at his feet.

Lt. C.B. Mirick, USNR, devised a hollow shell weighted with fine shot. If this became detached from the antenna, the shell would open, spilling the shot which would fall with less chance of causing serious damage or loss of life.

Horton was later granted \$75,000 for the infringement of his basic patent by the government. (3:269)

Radio Pamphlet No. 20 (1919) describes single-wire trailing antennas up to 290' long, and two-wire trailing antennas 130' long. Unlike single-wire antennas which typically hang from the fuselage, two-wire antennas trail from the wing tips. (6:25)

Dipole Antennas

Dipoles in various configurations, loop antennas, and mast antennas were all commonly used on planes. The diagram at the

bottom of the page shows a typical **dipole antenna** installation. On larger airplanes, dipoles were also run between points under the fuselage.

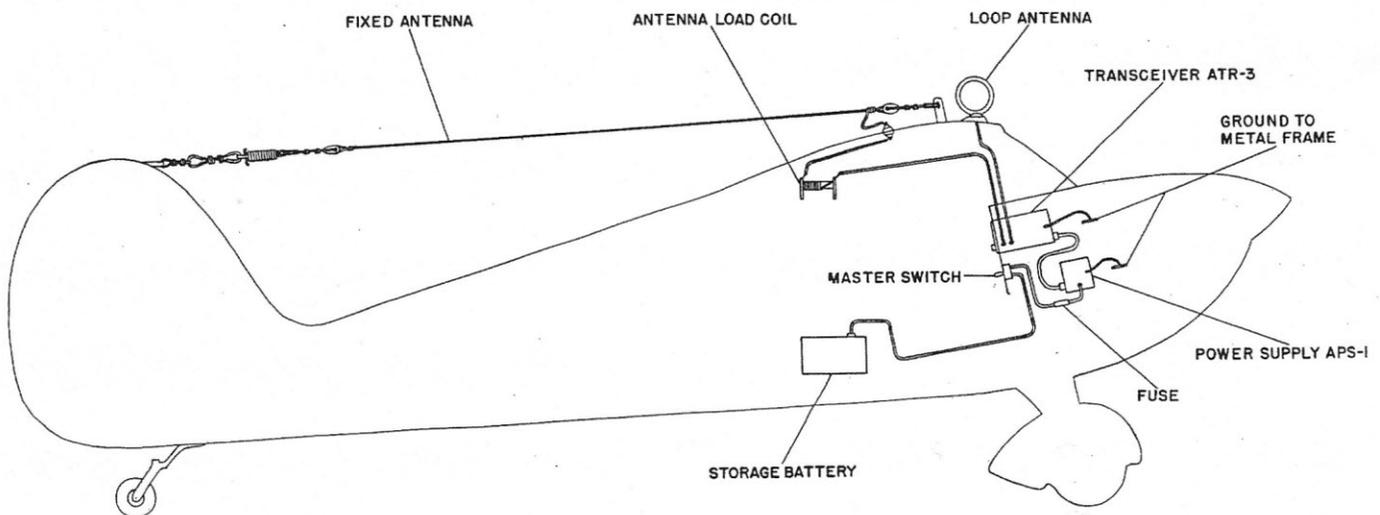
Airplanes experience wide swings in external temperature during flight. Throughout, the antenna wires must remain fairly tight. To this end, many dipoles incorporate **antenna springs**. Birnbach (*OFS 10/97*) was one supplier.

NAF1086-4
ANTENNA TENSION SPRING



Made of commercial steel. Length: 2 7/8". Spring deflection under a load of 22 pounds is 3/4" \$.45

Some insulators had a built-in springs. The military's IL-5/U insulator has metal ends with a ceramic center for insulation. One of the ends has an internal spring of considerable strength.



The MX-275 streamlined antenna spring closely resembles the IL-5/U. However, the MX-275 is just a spring, not an insulator.



IL-5/U

Rubber insulators were also used as tensioning devices. Rubber insulators were mentioned twice previously in *OFS*². The ad below attests to the purpose of these odd insulators.

RUBBER TENSION UNIT



Made of specially compounded rubber; equipped with a metal eye at each end. Supply insulation and tension for fixed antenna.

- A-841-A Rubber Tension Unit (length 10'') \$5.00
- A-841-B Rubber Tension Unit (length 7'') \$5.80
- A-841-C Rubber Tension Unit (length 4'') \$5.50

Airplane Antenna Insulators

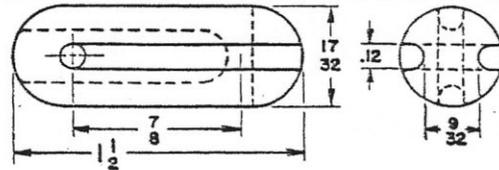
The earliest airplane strain insulators were most likely made from wood, hard rubber, or electrose.

Certainly glass was used too. On page 6 of the February issue (*OFS* Vol. 5 No.1), a Pyrex "broadcast reception" insulator that was used on Admiral Byrd's airborne expedition is shown.

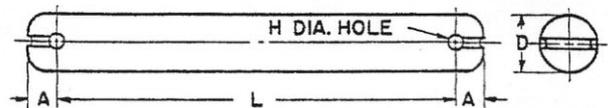
Ads and illustrations that I have seen from the 1930's and 1940's show porcelain insulators only. Throughout this period, companies advertised various styles of small egg insulators as "airplane insulators."

² For more information on rubber insulators please see *OFS* 12/96 pg. 15 and *OFS* 6/97 pg. 14.

During World War II, two types of porcelain insulators were widely used on planes - the small **IN-78 compression insulator**, and the **IN-88 rod**. The IN-88's were used on B-17 and B-24 bombers, DC-3's/C-47's and P-47's among others. I've seen the IN-78's on Corsair F4U-4's and other smaller aircraft.

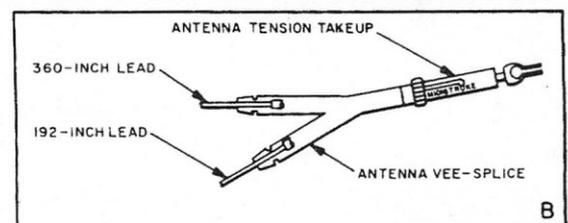
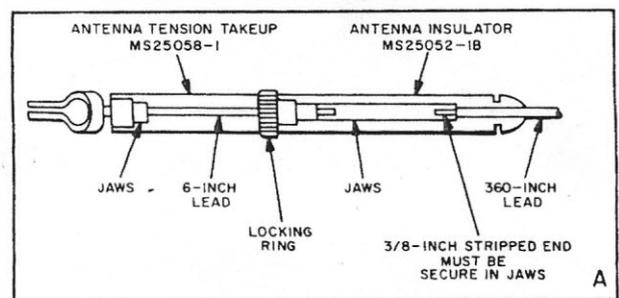
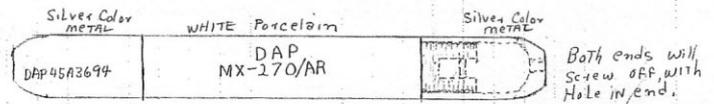


IN-78



IN-88

The military's MX-270/AR and MX-273/AR insulators were also used on airplanes. **Charlie Crews** shared this illustration of his MX-270. The MX-273 is just like it, only the ceramic portion is 2" long instead of 3". A similar insulator, MS-25052, is also shown below.



Although dipoles are still used on some airplanes, they seem to have been generally phased out with the coming of the jet age. The higher speeds and focus on streamlining, make wire antennas impractical for performance aircraft. And the shift to higher frequencies means that smaller mast-style antennas can now be used without sacrificing efficiency.

End Notes

1. Morgan, Jane. *Electronics in the West: The First Fifty Years*. Palo Alto: National Press Books, 1967.
2. Raines, Rebecca Robbins. *Getting the Message Through: A Branch History of the U.S. Army Signal Corps*. Washington: Center of Military History United States Army, 1996.
3. Howeth, Capt. L.S., USN (Retired). *History of Communications-Electronics in the United States Navy*. Washington: Unites States Government Printing Office, 1963.
4. *Communications* 12/42, pg. 34
5. Pickerill, E.N. "A Modern Radio Aircraft Installation." *Radio Engineering*, February, 1929, pp. 46-48.
6. *Radio Pamphlet No. 20: Airplane Radio Telephone Sets*. U.S. Army, 1919.

Photo Credits

- Front Cover: *Communications* 7/42, pg. 1 (used by permission).
- Pg. 3: Lapp Bulletin No. 110, pg. 11 (courtesy of Bob Stahr).
- pg. 4: *S. Gernsback's Radio Encyclopedia 1927*, pg. 10.
- Pg. 5: "antenna reel." "Aircraft Radio." *Radio Engineering*, January, 1930, pg. 49.
 "Signal Corps Airplane Radio - 1929." "A Modern Radio Aircraft Installation." *Radio Engineering* February, 1929, pg. 46.
 "wind cone." Van Dusen Aircraft Supplies. *1966 catalog*, pg. 31.
- Pg. 6: "antenna installation." Harvey Wells
 "Aircraft Transceivers," pg. 11.
 "antenna spring." Van Dusen Aircraft Supplies *1966 catalog*, pg. 32.
- Pg. 7: "rubber insulator." Van Dusen Aircraft Supplies. *1966 catalog*, pg. 32.
 IN-78, IN-88 *OFS* 10/98
 "MX-270." - drawing by Charlie Crews.
 "MS25052." *MS25052 1976*.

Pg. 8: Knox Porcelain Catalog 1953 (courtesy of Elton Gish).

Pg. 9: *Communications* 9/37, pg. 43.

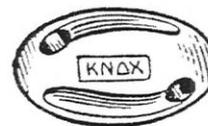
Pg. 15: *QST* 9/43, pg. 107.

Sources

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- Howeth, Capt. L.S., USN (Retired). *History of Communications-Electronics in the United States Navy*. Washington: Unites States Government Printing Office, 1963.
- Morgan, Jane. *Electronics in the West: The First Fifty Years*. Palo Alto: National Press Books, 1967.
- Leuteritz, H.C. "Radio Communications on the International Airlines." *Radio Engineering*, February, 1932, pp. 25-29.
- MS25052 1976*. Washington: U.S. Government Printing Office, 1976.
- Peters, Ralph G. "Navigation Aids in Aircraft Communications." *Communications*. June, 1942, pp. 50-87.
- Pickerill, E.N. "A Modern Radio Aircraft Installation." *Radio Engineering*, February, 1929, pp. 46-48.
- Raines, Rebecca Robbins. *Getting the Message Through: A Branch History of the U.S. Army Signal Corps*. Washington: Center of Military History United States Army, 1996.
- Thomas, C.W. "Aircraft Radio." *Radio Engineering*, January, 1930, pp. 49-52.

Thanks to Janice Baker, Resource Center Specialist, Museum of Flight, Seattle, WA.

PORCELAIN INSULATOR AIRPLANE TYPE

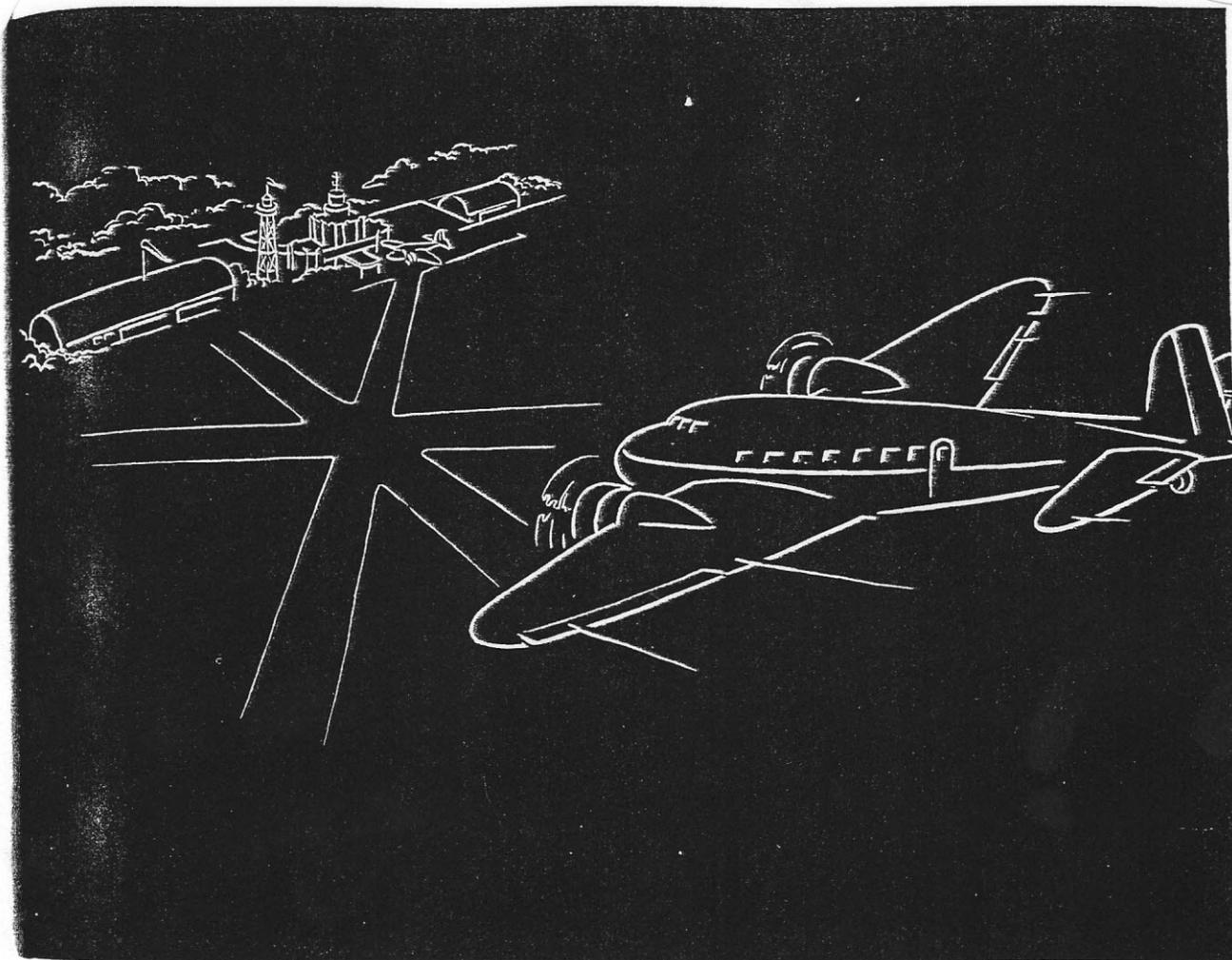


No. 472

Glazed White All Over

Length	1 3/4 in.
Hole	1/4 in.
Diameter	7/8 in.
Weight	10-lbs. per 100

SAFELY ACROSS THE SKY



AS the great commercial planes wing their way across the sky, the radio beacon keeps them safely on their course through rain, fog, or starless night. Guided to landing fields by invisible radio waves, the planes glide gently down the track to deposit their cargo of human lives in safety at their destination. Perfect functioning of radio equipment is essential to that safety — and Isolantite ceramic insulators contribute their share in assuring the highest efficiency of operation...In transmitting and receiving equipment at the field, in every radio circuit aboard the plane, Isolantite insulators minimize di-

electric losses and insure dependability of the entire system.

Long experience in the problems of ceramic insulator design enables Isolantite to place at the service of its customers its specialized knowledge of radio requirements. In all questions of insulator design or selection, Isolantite engineers will give their full cooperation.

ISOLANTITE INC

CERAMIC INSULATORS

Factory: Belleville, N. J. • Sales Office: 233 Broadway, New York, N. Y.

Bendix Insulators

by Dan Howard

Historical information in this article came from Where Ideas Unlock the Future: The Story of the Bendix Corporation by A.P. Fontaine. The book is based upon a speech delivered at the December 8, 1966, meeting of The Newcomen Society.

Bendix ads courtesy of the Museum of Flight, Seattle, WA.

The discussion of airplane insulators would not be complete without reference to the Bendix Company. The Bendix MT-48C is one of the most popular and most identifiable styles of airplane insulators.

Vincent Bendix founded his company in 1914 when he licensed his starter motor transmission to the Eclipse Machine Company. It provided an alternative to the dangerous job of crank-starting automobiles. By 1919, nearly every car produced in the United States incorporated a Bendix starter.

In the late 1920's, the company was exploring the growing aviation industry. Accordingly, the company's name was changed to the Bendix Aviation Corporation.

During World War II Bendix made a number of products for the war effort, ie., the familiar "Gibson Girl" automatic transmitters for downed pilots. The "Flightweight" line also included aircraft instruments, radios, antenna insulators, and antennas.

The following ads show some Bendix products, including the familiar MT-48C. Its unusual metal ends and carved ribs make it a real attention getter, even for non-collectors.

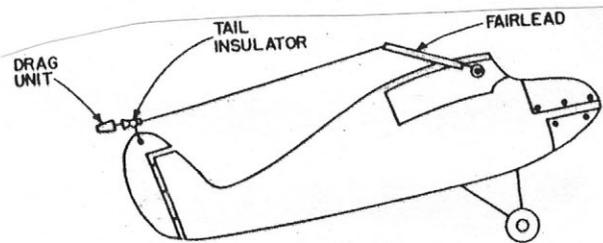


Bendix MT-48C

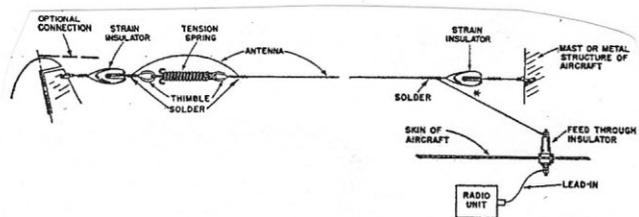
The MT-48A strain insulator is also listed in my 1946 price list. Without a picture but based on its price and weight, I assume that it is larger than the MT-48C. If you have a picture to share, I would be much obliged.

equipment prices 10/46

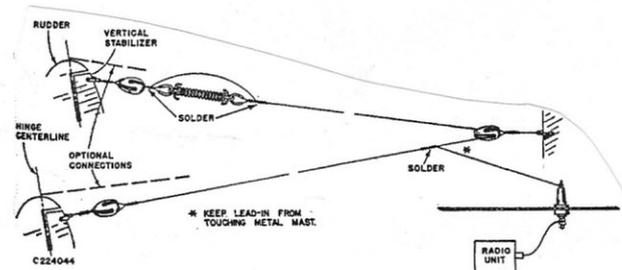
- MT-5E Antenna Reel \$120
- MT-48A Antenna Strain Insulator \$10.00
- MT-48C Antenna Strain Insulator \$2.14
- MT-65A Antenna Reel \$150
- MT-87A Antenna Weight \$5.05



Installation of Type PMT-1A Trailing Antenna Assembly



single tail aircraft



twin tail aircraft

Typical Aircraft Installation of Type PMT-3A Fixed Antenna

Operation, Installation and Maintenance

Flightweight

BENDIX RADIO

REG. U.S. PAT. OFF.

TYPE PMT-1A

TRAILING ANTENNA

TYPE PMT-1A TRAILING ANTENNA ASSEMBLY

Type PMT-1A Trailing Antenna Assembly is designed for use with Bendix Type PAT-40 Transmitter. (When Bendix Type PAR-70 Receiver is installed with this transmitter, the same antenna may be used for the receiver.)

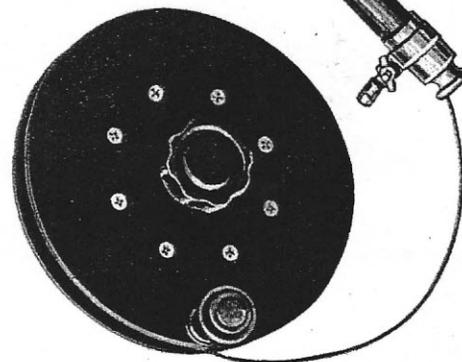
OPERATION

1. REEL OUT ANTENNA WHEN PLANE IS IN FLIGHT. Upon completion of the installation, the radio technician should flight check the equipment and indicate the correct length of antenna to reel out for optimum transmitter operation.

2. TURN LOCKING KNOB CLOCKWISE TO LOCK REEL, AND COUNTERCLOCKWISE TO UNLOCK REEL.

Important Warning

Make sure that the antenna is reeled in before landing or take off; or for low flying. Some pilots like to keep a red clothespin on the antenna reel and move the clothespin to the throttle when they reel out the antenna. The clothespin is to remind them to reel in the antenna before they land.



B E N D I X R A D I O
DIVISION OF BENDIX AVIATION CORPORATION
BALTIMORE 4, MARYLAND, U. S. A.

Show Report London, OH, November 7-8, 1998

By Rick Soller

The London, OH, insulator show is one of the best in the nation with a long history and usually over 100 sales tables. As such, it is a great place to find radio strains. And the November 7-8 show was no exception.

Most memorable for me were three insulators I picked up early in the show. One was a green glass, no name piece with one eye hole filled with a thin film of glass, indicating that it had never been used. The second one was a beautiful, blue glass piece.

Finally, I bought a milky opalescent piece. I showed this to **Lois Blair** and she mentioned that she has one in her collection; and I know of one other, so these are out there. These three made my show, but I also saw and sometimes was able to buy or trade for some other interesting pieces. The best trade I has was for a rounded cone-shaped Pyrex piece which had a metal rod running inside, an arcing plate on top and the metal hardware to bolt it onto the side of a building.

Gene Condon had a fascinating, tan-colored porcelain piece with spiral ribs. I took several pictures, but I don't know how well they'll come out yet. This would be a nice companion piece to the glass spiral ribbed pieces that are much more common. Perhaps someday, some collector will put together a display of glass and porcelain look-alike radio strains.

Dennis Stewart and his father, **R. Lee Stewart**, brought some of the Voice of America porcelain insulators with metal ends to the show (see *OFS* 9/98, pg. 4-7). They had a nice variety of these with white and brown glazes, some marked and others not.

Alan Hohnhorst picked up a nice green porcelain strain in a darker color than I've seen before. Alan also had several duplicates on his table for sale, many of which found new homes.

I also saw at the show a brown porcelain IN-86 with metal wires serving as eyelets (see *OFS* 10/98, pg. 17, for an illustration), a Lapp standoff in the original box, a long Electrose composition piece with metal screw-in eyes, and some round Electrose balls with metal screw-in eyes.

Overall, the show had a lot of variety and there were several radio strain collectors who had the opportunity to talk about their collections.

Choices

by Dan Howard

For ten years our radio collector's club has put a display in the annual car show (which I coordinate). It gives us some great publicity. And we get into the large swap meet ahead of everyone else. The first hours of the swap have been consistently fruitful for finding insulators and other collectibles.

Then I learned that there would be an estate sale on the same day as the car show. The gentleman who passed on, a friend of my father's, had been in radio since the 1930's. Years ago, he told me about some "ball bat" sized Pyrex strains that he had for me. I knew that there would likely be other good insulators in the sale, too. But choosing to go would mean missing the first few hours of the swap.

Well, Dad and I decided on the estate sale. We arrived early and found ourselves near the front of the line. The radio gear was stored in several small garage-like storage units. Dad and I split up and began literally digging through the stuff. Two of the three garages were stacked chest-high with boxes.

When I asked about insulators, I was sent to one of the full garages. Four of us unloaded the garage bucket-brigade style - passing out radio cabinets, coils of wire and boxes of parts. When the piles were knee deep, it became apparent that whatever insulators had been there were long-gone.

Some friends did turn up insulators for me from various piles. I was very pleased to add a Pyrex 7-1/2" amateur transmitting insulator with U.S. Navy markings to my collection. I also got an unusual EF Johnson center insulator. Both of these were found by friends.

In several areas stacks of large boxes full of

smaller boxes awaited exploration. Imagine lifting down a box and finding it stacked four-deep with cigar boxes. It was at the bottom of one such stack where I found a box with half-a-dozen apple green glass strains.

We stuck around for nearly three hours in hopes of finding a few more. Then Dad and I scrambled back to the car show to give the swap meet a go. Who knows what I missed at the car show that Saturday morning but I guess that I made the right choice.

And now, the rest of the story. We were sitting around the car show Sunday morning relating the estate sale story to other collectors. Dad kept saying that there could still be a lot of good stuff at the sale that had been unburied Saturday afternoon.

I couldn't help myself. My buddy and I hopped in the truck and drove the twenty miles back out there. But, we had picked it clean on Saturday - not an insulator to be seen.

Then, one of the sales people reminded us not to forget "the other garage over there." What?!?! "You know, the garage on the next aisle over. Oh, I thought that we told you about it yesterday...." Brian and I followed the lady to the next aisle.

There, in the door of the garage was an 8-gallon pail of insulators, all shapes and sizes!

It took two of us to carry it. No huge Pyrex strains were found. But some nifty porcelain strains (up to 26" long), and some smaller glass strains ended up going home with me. Now, I *know* that I made the right choice.

Thanks

Bill Meyer just sent me copies of the newly-updated *Old Familiar Strains* web pages. Bill scanned in several new color pictures of insulators and lightning arresters. You'll also find a listing of back issues. Our page is now at www.insulators.com/strains Thanks Bill!

Military Insulator Update

My bucket from the estate sale yielded two new types of Navy insulators for our list. The smaller is a style 71 (1-1/4" rod with metal ends - *OFS* 10/98 pg. 24) about 9" long. It is marked "61479." The larger, also a style 71, is about 26" long. It is marked with the Navy stock number "61493."

I suppose we should mention the military aircraft insulators that were profiled in this issue. IL-5/U was on the list last month. But we are adding MX-270/AR, MX-273/AR and MS25052. For more information on the meaning of these codes, please see *OFS* 10/98, pp. 27-29.

Pyrex update

Charlie Crews writes that his Pyrex 7-1/2" insulator is marked 61014. We had previously reported a Navy version that was marked "61014A." Yet another variant. Thanks for the report!

New Term

In the June, 1995 issue, I recapped several terms for strain insulator "ribs." The other day I learned a new one. Isolantite calls them "convolutions" in the current catalog.

Readers Write

Regarding the last issue...

I really enjoyed your October issue - both Helen and I are WWII Navy, so the military insulators hit home. **George Hanson**

Very timely that I (resubscribed) now and received the military issue. Had just found a dozen military insulators and started research. **Glenn Sievert**

That last issue was well researched and obviously required a lot of time to put together. I enjoyed it very much. **Jim Singleton**

I was impressed with your research and hard work on the October issue of *OFS*; even though I don't collect military insulators, I still found this issue to be interesting reading. **Phillip Drexler**

I really enjoyed with World War II feature. **Jimmy Burns**

About the NIA National Convention....

Found a 12" Lapp Porcelain, a 12" Pyrex, and others. **Neil Eidson.**

Being the first person into the National Insulator show in Williamsburg didn't guarantee me any great finds. There were a few strains, of which I did get a nice purple. **Peggy Johnston.**

Correction

In the last issue, I incorrectly identified **John Lewis's** show as the "North Alabama Bottle, Insulator and Collectibles Show." Although John attended the North AL show, he was reporting on the results of the 12th Semi-annual Gulf Coast Insulator Sale and Swap Meet held in Pensacola, FL this year.

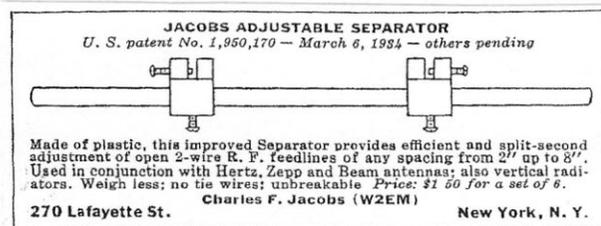
Jacobs Update

by Dan Howard

An article in the February, 1996, issue described the Jacobs adjustable insulator. Prior to coaxial cable, open wire feed lines for antennas were quite common. Charles Jacobs patented a feed line spacer which was adjustable in length.

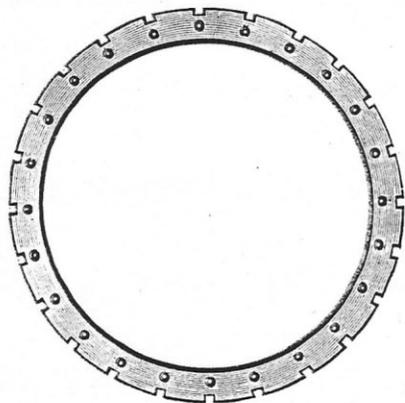
The previous article pictured three versions of the insulator. The ad below pictures a fourth. After trying metal bodies, porcelain, and then glass, Mr. Jacobs was selling insulators made from plastic when this ad appeared in 1941. Another new feature was the use of set screws to hold the conductors in place (ad from *QST*).

I also wanted to share this 1931 announcement for a Jacobs cage antenna spreader (from *Radio Engineering* 8/31 pg. 52).



ANTENNA SPREADER

Charles F. Jacobs, 270 Lafayette Street, New York, has on the market the Jacobs Antenna Spreader here illustrated. It may be used by transmitting stations of small



power and for receiving purposes. It lends itself to cage antenna and counterpoise construction.

Awning Insulators

by Dan Howard

I've seen them in the collections of **Shirley Patocka** and **Tim Wood**. I have them in several colors (clear, green, purple). But, when you ask what they are...no one seems comfortable giving an answer.

I'm talking about those 1-1/2" to 2" glass donuts. They often come with a sheet metal strap that may or may not include a screw eye. I enjoy asking dealers what they are. Some tell me they are "rare old mine insulators." Others say they are forestry insulators. At least one friend thought that they might be part of a window awning.

Well...I think that I might have an answer. They are *radio strains*. Well, sort of. Quoting an article from page 23 of the March, 1925, *QST*:

9BJB says that glass awning rings make nice antenna insulators. We should say, judging from the size of them, that they ought to be FB for use on single wire receiving antennas, at least.

A local awning company confirms that these gadgets did start out as part of a window awning. They were fastened to the sides of houses and guided the pull ropes on awnings. But according to the hams they make "FB" (fine business) antenna insulators, too. Makes sense to me.

