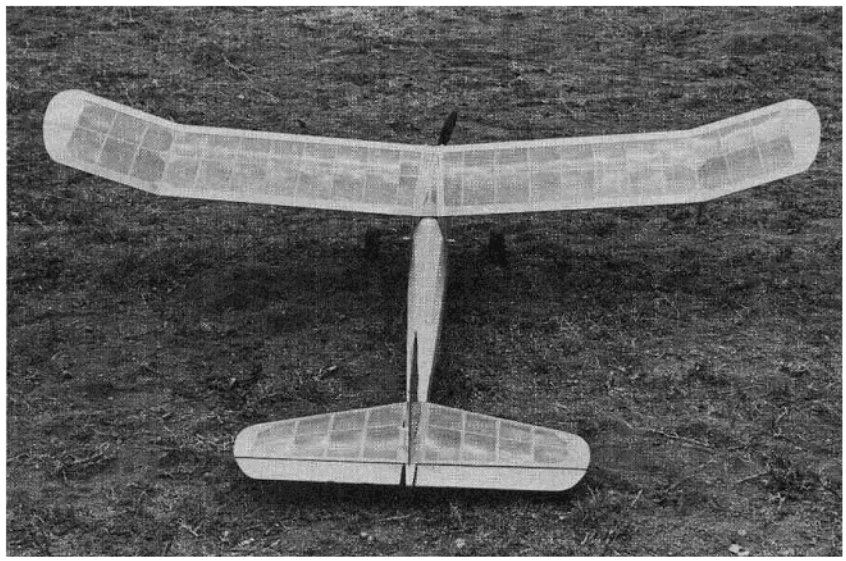
BUZZARD BOMBSHELL

Born in the 1930's, a two-time Nationals winner by 1940, the Bombshell was a legend in it's own time. By Robert Harrah.



The Buzzard Bombshell is one of the most famous aircraft in modeling history and was once the most dreaded contender in free flight circles. This article deals with the conversion of the Buzzard to an R/C aircraft for the Old Timer's Event or for pure sport flying. The RCM prototype, shown in some of the black and white photographs and in the color lead transparencies, was built for use by our chief test pilot, Bill O'Brien, for exhibition work and demonstration purposes. If you follow the few modifications listed at the end of the article, as were incorporated on our prototype, you will have a model that will truly be the hit of the show at any club air show. Having used both a .35 engine and, currently, a Super Tigre .46, the Bombshell can be "stooged" around the sky by any pure beginner and the transmitter can, in fact, be set on the ground once the Bombshell is trimmed for a circling flight path. This should only be attempted at 1/3 throttle or less on the bigger engines since full power will give you a tail standing climb!

The Buzzard Bombshell, however, comes into its own in the hands of a proficient pilot for low and slow flying. Bill flies his aircraft very similar to a Ukie at low throttle and in a pylon configuration around himself, doing touch-and-go's on the tail wheel, one main wheel, or snagging objects from the ground with one wing tip. Due to its light wing loading and high power loading, the Bombshell is ideal for demonstrations of this nature and is a real crowd pleaser. The technique is to use approximately 1/3rd throttle while applying enough down elevator to hold the aircraft at the desired low level altitude. When you go into a turn the elevator is neutralized which allows the nose to stay up in the turn, followed once again by application of down elevator. On take-off, the Bombshell will come off the ground in about 10 or 15 feet while landings are slow enough that you can walk alongside it.

Try the Buzzard Bombshell for a nostalgic change of pace and an aircraft which can do some of the most unusual flying we have seen.

More and more old timers are starting to reappear in the magazines, in the field and on the contest level. The "Buzzard Bombshell" could be one of the reasons, since this model has records, history, and legend that fascinates the most avid aero modeler, and no matter how wild some seem, most are true. The circumstances that brought about the birth of the "Buzzards" are as true today as they were then.

The "Buzzards," as a club, were born in the thirties. They were modelers much like most of us today, with a desire to build and find adventure with the newest developments being applied to the old. This group was formed by strays or mavericks from other clubs and organizations with one single goal: Fly every Sunday, regardless of prevailing conditions. Legend says, "they had their best flights in two feet of snow!" This type of dedication gave them the experience necessary to produce the 1938 and 1940 Nationals winner. Maybe we should call them vultures, because of the way they picked apart their prey. This new found talent started them on a relentless attack on the contest trail and they did make many a score.

With this expertise, they combined their knowledge and built their Bombshell. This new design was to explode at every meet and blast all competitors, and that it did! It was like an "A" Bomb during their first club outing at the Nationals in Chicago. Legend tells how the first plane of destiny was lost north of Madison, Wisconsin, after winning the Milwaukee State Contest. Then a few days later the sacred cow of modelers mooed at this strange creature in the tree and the lost Bombshell was spotted and returned to the Buzzards in time for the Nationals in Chicago.

Arriving at the Nationals en masse, (legend says they built them by the dozen), and taking a few trim flights, they started their first entry down the runway. This first flight stayed in the air for a new national record of over 49 minutes and landed within the bounds of the field. The next two flights were made with throttle down (to keep from loss) giving the Bombshell a total of over 58 minutes and first place. The other Bombshells came in third and fifth. This was only the beginning of a winning record that may not have ended even now, over thirty years later.

Today, I hear of many ten, fifteen, twenty and some thirty minute flights, but no 49 minute in-sight flights. Sure, we put on dethermalizers in the free flight world and we fly until the gas tank or batteries run out in the R/C circles, but I wonder how many can keep a free flight R/C up for 49 minutes? Sure, we can slope soar at Torrey Pines with sailplanes, but how about just air currents and thermals over flat land?

Since I am basically a sport flyer who enjoys all types of modeling, it is hard to say which is Number One in this big field. However, I can say, "I think one of the most satisfying challenges I have had is to try and top the above with the aid of R/C so I do not lose my ship."

For the past few years I have flown two Carl Goldberg Clippers, a Sal Taibi Brooklyn Dodger, a Miss America, and three Buzzard Bombshells. I have used single channel, Galloping Ghost, three channel and four channel proportional. I have used both ignition type and glow type engines, all of which have had hundreds of flights except the newest Buzzard Bombshell.

With each of these, many one and two minute motor runs were used to get the plane in the air high enough to try and catch a thermal and see how long they could be held in range or sight, then bring them back for another thermal, or land the plane at the flying site. The average flight would last for one thermal ride, six or seven minutes, and about every fourth or fifth flight would run twenty or twenty-five minutes. This requires very little wind and three to five thermal rides. Then, if I was in good air, and my batteries were up, about one out of twenty times I could achieve the forty to forty-five minute flight.

Now that you have been kind enough to read this far, you are probably trying to figure out what I

1972 R/C version of the Buzzard Bombshell built by the author.

Bob Harrah checking out controls. Free-flight ignition version on right came out 9 oz. lighter than R/C prototypes. Both are good floaters and max hungry. Flying site shown is part of Miramar NAS and is shared by San Diego Bushwackers and San Diego Orbiters.

am leading up to. It is simple; what about an old time fun fly like the Buzzards desired, but using the modern equipment of our time? After much thought and many hours of debate with fellow modelers, the following has been considered as a start:

How about a two minute motor run with a fifteen minute max for glow and a three minute motor run with a fifteen minute max for ignition? All time over the prescribed motor run to be doubled, and the flight penalized. *Example:* Glow engine run is 3½ minutes, meaning 1½ minutes over so the max is now 18 minutes instead of 15. If the flight is only 11 minutes, the time would be 11 minus 3, or credit for 8 minutes.

"Old timers" models must be prior to January 1, 1942, with only deviations allowed for motor mounting, hardware, covering and necessary modifications for adaption to R/C.

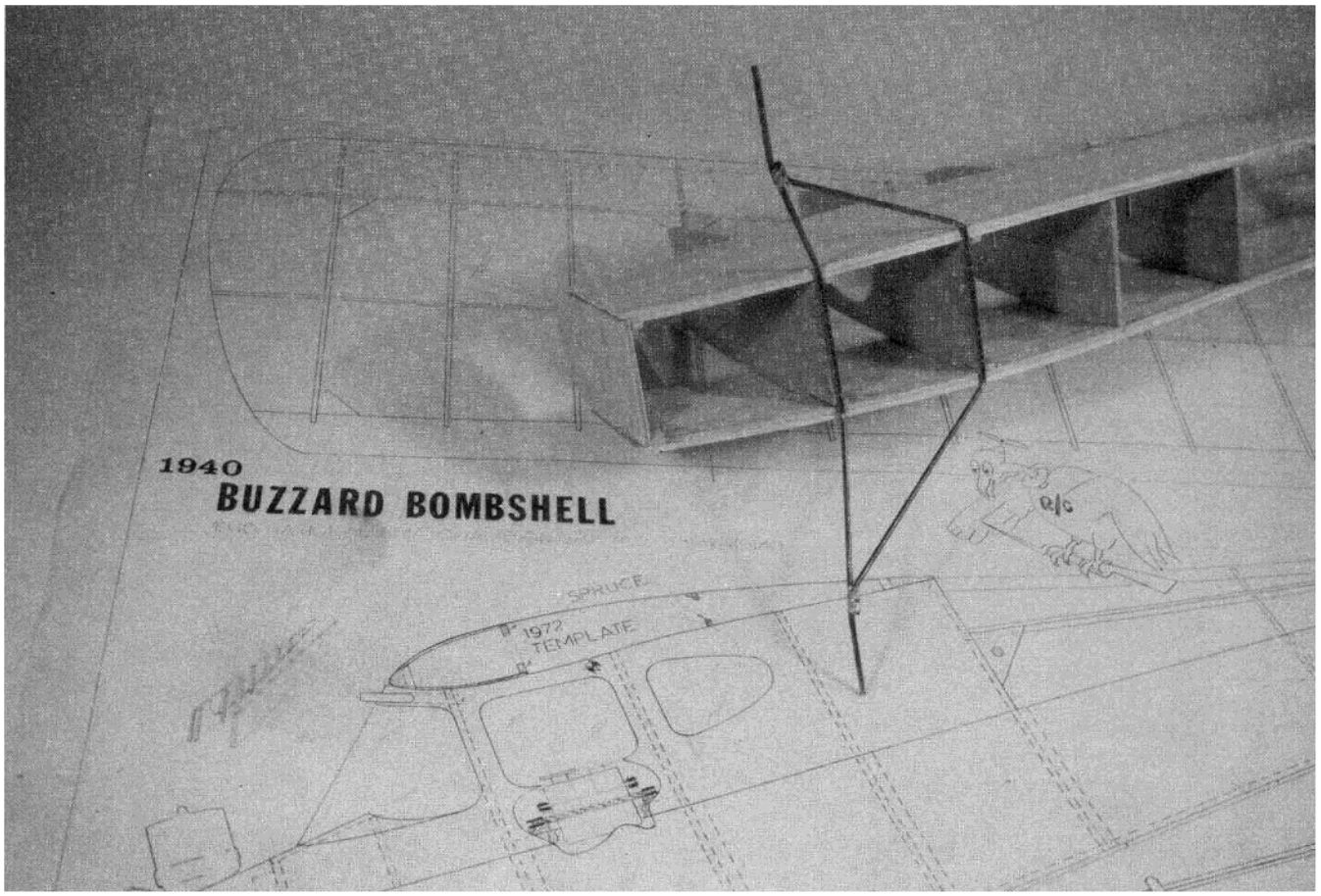
Many other rules, such as spot landings, duration records, ROG, etc., can still keep it in the sport fun-fly. No trophies, ribbons or prizes, perhaps a card showing time, place and score, but nothing more.

Many of you will question the possibility of this, and many will say it is too easy; I can only answer that this depends on your talent and if the plane will fly without the motor running. As some say, "controlled free flight."

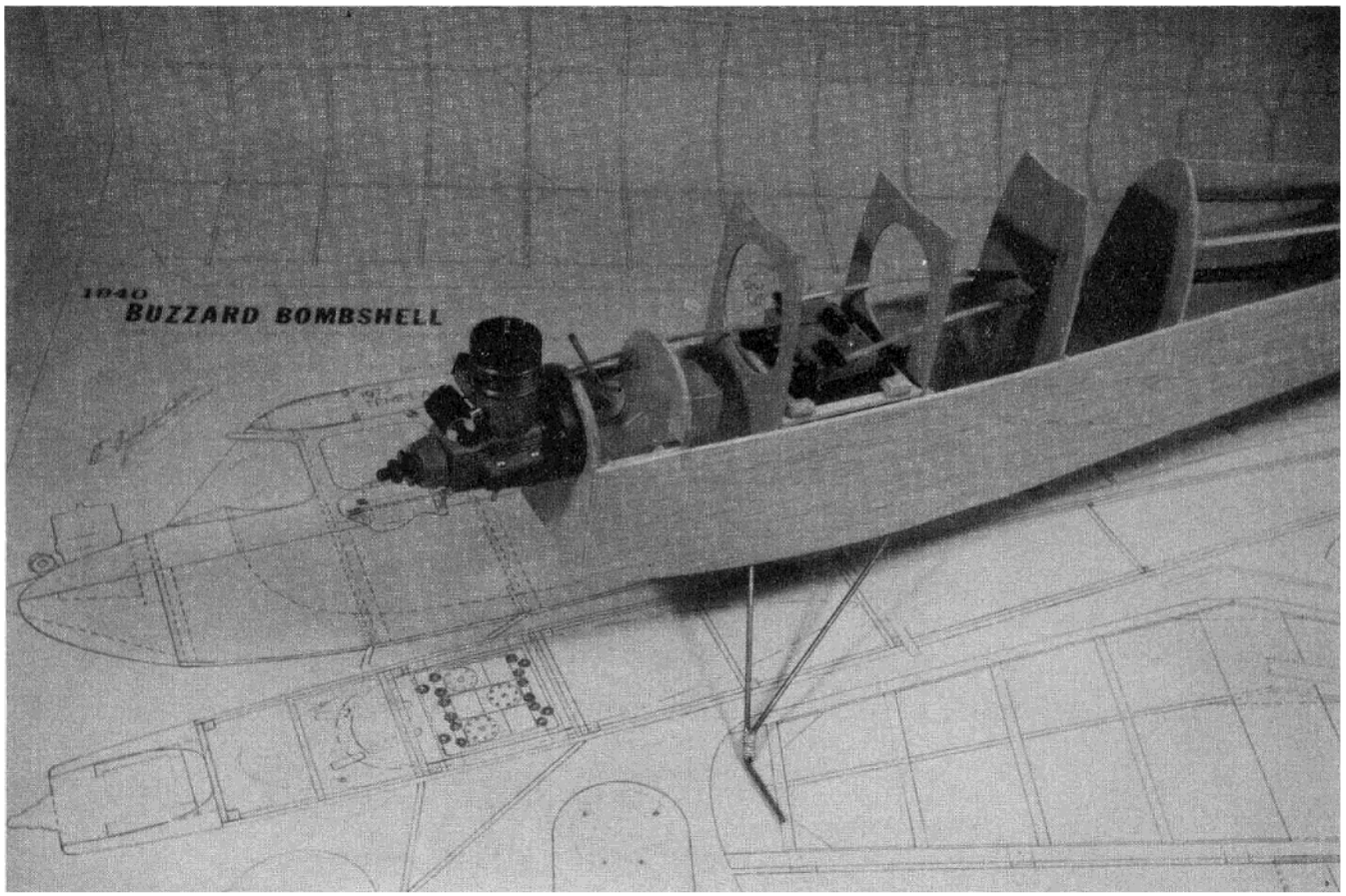
The Buzzard Bombshell, like many others, makes it quite possible. For instance, the ignition system (engine, coil, condenser, timer, and batteries) had a total weight of about 530 grams. The Kraft system I used came out a little over 515 grams with a .29 McCoy Series 21. So, at least in the beginning design stage, all things appeared to be about equal. The old time Bombshells were considered good if they weighed 3 lbs., 8 oz. or less. I was lucky and came out 3 lbs., 5 oz. on the ignition free flight version, but my R/C version came out more than desired – 3 lbs., 14 oz. This can be attributed to the addition of the muffler (should be required in rules), control rods and parts, steerable tail wheel, hinges, spruce in the wing spars and sheet balsa control surfaces (a little extra dope, too). However, this additional 6 oz. over the original is still close enough to make it capable of having the same good flying thermal catching potential.

Any group, contest, club, spectator, or demonstration with this type of plane, will be more than satisfied with the majestic flights, the understandable rules, and the excitement of watching a plane fly. With the new frequencies now available, it makes it possible to have many ships in the air at the same time. Of course the old smoke screens, banner towing, parachute drops, etc., can also help make for a real good, old-fashioned barnstorming type air show (this type of flying with short muffled motor runs just might be the answer to keeping close-in flying sights) and can be totally gratifying to all. It should be noted at this point, some of these old birds will do complete pattern flying and make excellent ROW (rise off water) planes.

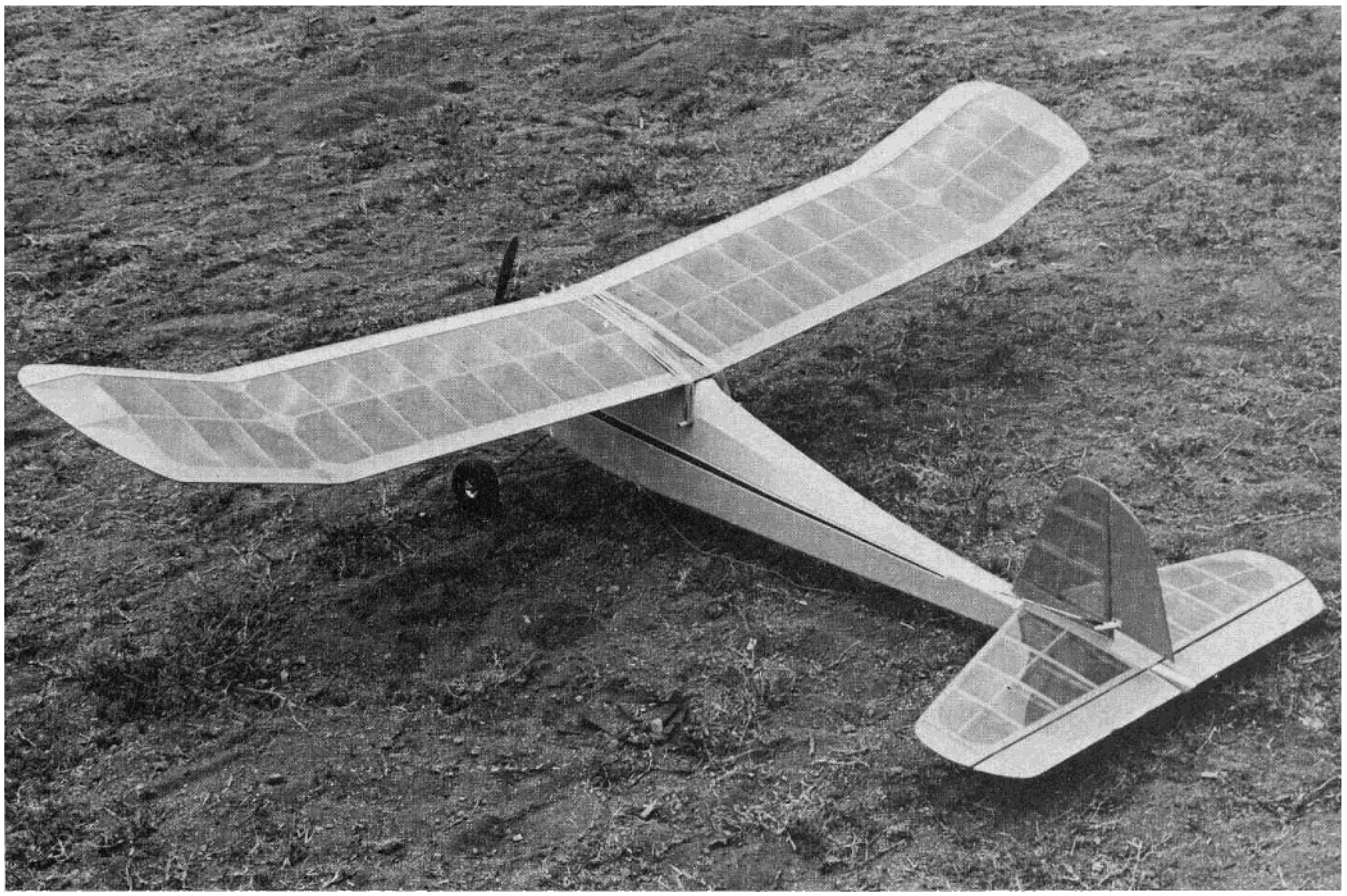
Credit for this story must in part go to the strays who formed the Buzzards, and especially those who designed the Bombshell. Then the union of the name "Buzzard Bomb-



ABOVE: Landing gear wrapped to plywood bulkheads. Standard slotted trunion blocks used on RCM prototype. BELOW: Kraft-Hayes motor mount. Note servo tray, fuel tank, and Gold 'N Rod locations.



ABOVE AND BELOW: RCM's prototype in transparent orange Super MonoKote, opaque yellow Solarfilm, black MonoKote trim with DJ's Multi-Stripe striping.



shell" was introduced in the 1940 Air Trails Magazine by Joe Konefes and Paul Plecan, along with the plans, history and flying instructions. Some of the ideas are contrary to what is recommended today. Quote: *("First of all, be sure there isn't any warp in any of the surfaces.")* Today, we have intentional warping only we call it wash-in and wash-out. Quote: *("Down thrust to the extent of three washers, three degrees left thrust was put in so that the rudder could be turned for a right circle in the glide.")* Now in free flights we use auto-stab, auto-rudder and tilt the stab for left circle during glide. We use polyhedral wings for wing tip stall correction, which they used to call tiphedral wings, then. But, then they only got fifty-eight minutes in three flights without a dethermalizer or R/C and still had the plane to fly the next week!

Construction of the Buzzard Bombshell is simple and straightforward. Check the picture captions for special details. Study the fuselage detail drawing of the side assembly and make every effort to keep the tail section light.

Covering is of such variety today, it is up to you. I used some old time colored silkspan that I had on hand. However, silk, MonoKote, or Solarfilm also work very well. The traditional Buzzard Bombshell colors are Red-Orange and Black.

Flying the bird is usually no problem. She comes right off the drawing board as long as there are no warps and the Center of Gravity is correct. My preference is to have the old timers ROG, with all controls in neutral, using the elevator control only if short run take-off's are necessary. This can usually be controlled with engine thrust adjustments.

Radios of the proportional type are not usually compatible with ignition type engines, nor the single channel pulse type. However, I have had great success with the Galloping Ghost type, especially the old Min-X. One of my more recent experiments has shown some promise, and that was to put the total ignitor package forward of the firewall which had been totally covered with a light lead foil. **But** it has been bench tested only, and in the air may be something else! Of course glow type engines work fine and give tremendous latitude on these old birds. For instance, the Buzzard Bombshells flew well on everything from .29 to .60 glow engines and purred with .60 ignition and will ROW (rise off water) beautifully with a set of old time "Bunch Floats."

If any of you try the above type fun fly meet, please let me know how it came out. Also, there appears to be increasing interest in old time ignition and R/C, so if you have found a successful way to ground the ignition system or isolate the radio, please pass it on.

In closing, please support the AMA, use mufflers and have fun-fly-in's. This has been a good old timer, hope you enjoy it as much as I have.

Happy Flying.

Editor's Note: On the RCM prototype Bombshell, we modified the structure slightly to increase strength in the horizontal stabilizer by adding a small length of 1/16" x 1/4" capstrip, glued vertically, between the over-and-under capstrips that form the stabilizer airfoil. Two of these short lengths of capstrips were glued in place in each "rib" section, one forward and one aft of the stab main spar. The second modification was to add a 1/8" sheet balsa doubler between the top of the cabin windows and the wing saddle to increase strength in this area. Our prototype was covered with transparent orange Super MonoKote and opaque yellow Solarfilm. DJ's Multi-Stripe was used for trim. The windshield and side windows were bonded directly to the Solarfilm using Weldwood's new clear Home Safe Contact Cement. Duco cement was used to adhere the base of the windshield to the cowl.

A Kraft Series Seventy radio with three KPS-12 servos and a standard 500 mah battery pack were used in our prototype. Power was a Series 21 Testors McCoy .35 with Top Flite 12-4 wooden prop and Power Max Muffler distributed by Sure Flite Products, 656 Nome Road, Valparaiso, Indiana 46383. All-up weight of our Bombshell was 4 lbs., 4 ounces, including 4 ounces of needed nose weight. Flight performance was excellent. Try the Bombshell. □

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