

A Simple Anti-Collision Aircraft Without

IN THE APRIL 1982 issue of SPORT AVIATION, EAA President Paul Poberezny challenged the mem-

bership to utilize its experience, imagination and inventiveness to come up with some sort of anti-collision device

for our light aircraft . . . a device that could be afforded by an aircraft owner. He requested that ideas be transmitted to Harry Zeisloft, our Flight Research Director, so that ultimately they could be printed here in SPORT AVIATION to serve as "seed" for additional thinking and, hopefully, some actual experimentation.

Replies were received and Harry has this to say about them:

"At that time, we suggested an interim device that should provide a warning light on the dash or some visual and/or oral signal that would alert the pilot in VFR conditions that within some defined range there is another aircraft. This would be particularly useful for personal aircraft operating in uncontrolled airspace around busy private airports.

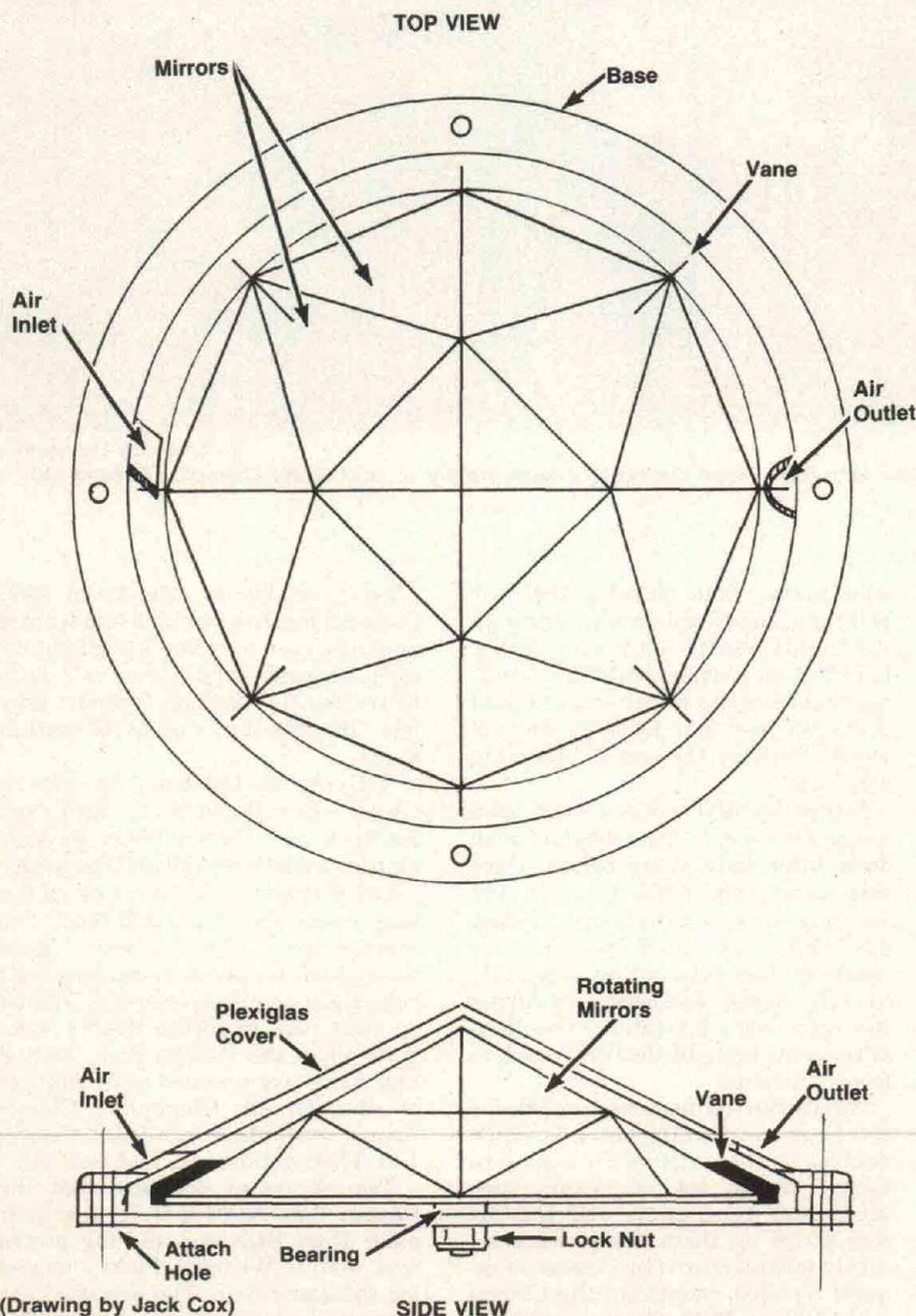
"Among the many responses received the most promising were those relating to recognition of strobe lights by a device which would give an indication of the approximate location of the aircraft within range. Mr. Floyd Myers of Ogden, UT suggested circuitry and a concept. Another proposal was forwarded describing a system that provided a display with a three dimensional effect based upon detection of a Xenon flash. This was submitted by Mr. Gary Steinbaugh, a professional engineer and EAA life member of St. Louisville, OH.

"Another infrared sensing project has been developed by Mr. Russ Runnels of Martinsville, OH. He has been working on a prototype system and expects to be able to demonstrate its performance in the near future.

"One of the more original and intriguing suggestions came from Bob Scott of Torrance, CA. It consists of the creative use of mirrors to reflect light or sunlight in such a manner as to provide quick visual recognition. It would be particularly useful for low cost homebuilt aircraft that do not have electrical systems.

"Many EAA members are devoting their time and energies to resolving this problem of recognition of aircraft

FIGURE 1



(Drawing by Jack Cox)

Collision Device For Electrical Systems

that may pose a collision threat and you, too, are invited to forward your ideas. Somewhere in our membership we will find a practical and inexpensive aid for the sport aviation pilot."

This month we feature the simplest of the devices suggested - Bob Scott's "Bright Spot" or rotating reflector. It was originally conceived as a small rotating cone festooned with triangular shaped mirrors to reflect sunlight in a strobe-like fashion. An example of that version is illustrated here (Figure 1). A friend of Bob's, Carey Anderson, suggested a simpler version using instead of mirrors the type of adhesive backed foil used to trim custom cars - the kind that reflects different colors when you view it from different angles. A "Bright Spot" with this foil as the reflector is also illustrated here (Figure 2).

Bob had this to say about his idea: "I believe the flashing mirrors would be a real eye-catching device, very inexpensive to manufacture, lightweight and quite reliable. Although I am suggesting a cone, the shape of the flashing mirror base could be that of a disc, a wedding cake tier, etc., depending on how much drag could be afforded.

"Functionally, ram air would enter a measured port (metered to result in a 50-200 rpm speed at the normal cruise of the aircraft type) and turn the mirrored surface by means of air pressure on the vanes. The air would exit through an exhaust port. Such devices could be placed (attached) where inspection plates now exist - or any other location deemed appropriate."

EAAers should be aware that Bob Scott's "Bright Spot" is currently an idea only - no working models have been built and tried out on an aircraft to determine their effectiveness as an anti-collision device. The drawings shown here likewise are intended only as food for thought - they do not represent proven models. If any of you construct and test a similar device, please send photos and a report to:

Harry Zeisloft, Director, Flight Research, EAA, Wittman Airfield, Oshkosh, WI 54903-2591.

In future issues we will highlight some of the electronic anti-collision devices suggested by EAAers.

FIGURE 2

