

BI NEWS



VOLUME 1, NO. 3

'Stealing the Show' at Reading

BD NEWS

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ON THE COVER. . .

The BD Jet Demonstration Team lines up for take off at the Reading Air Show... The first public appearance for the Team proved highly exciting for all.

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BD Jet Demonstration Team

Left to Right: Mahler, Fornof, Bishop

Edward H. "Ed" Mahler, Team Manager and Solo Performer, is the "big man" on the BD Jet Demonstration Team (Ed is 6 feet 2 inches tall). He has been flying in air shows since 1961, having first soloed at the age of 19. Born in Brooklyn, New York, Ed's talents won him the 1968 National EAA Unlimited Aerobatic Contest. He then retired from competition to concentrate on Public entertainment — air shows. Ed's PJ-295 aerobatic bi-plane has been seen all over the country and Canada, and he has been featured several times on News interviews.

Ed, as a mechanical designer, built two planes of his own, and helped many others improve performance on their own planes. Bede Aircraft is also proud to have Ed Mahler as one of its dealers.

J.W. "Corkey" Fornof, Jr., Flight Team Leader is the youngest of the Team (at 27), but is one of the most experienced high performance aerobatic pilots around. He thrilled thousands in his P-51 Mustang in 1968 and 1969. Then, in 1969 Corkey and his famous father formed the first high performance civil flight demonstration team. With the help of his father, Bill Fornof, and North America's well known Bob Hoover, Corkey perfected the aerobatic skills we see today. He can be found on his "off time" flying the flashy Grumman Bearcat, which he started working with in 1969.

Robert G. Bishop, better known as "Bobby" Bishop, flying wing position, has one of the most varied and complete backgrounds in the industry . . . from an instructor of aerobatics to aeronautical draftsman and tool designer; to aviation corporation president, to Bellanca Aircraft Aerobatic Demonstration Pilot and Sales Representative; and finally to Jeppesen Western U. S. Sales Manager. With all of this experience, you have to call Bobby one of the youngest, yet most experienced aviation executives.

He is best known for his great performances in 1965 and 1966 in the National aerobatic Championships as a teenager, and more recently for his air show performances in the Bellanca Super Viking 300, which he flew in 1971 and 1972, touring the United States and Canada.

Robert "Bob" R. Schneider is the BD Narrator and Public Affairs Director for the Jet Team. Prior to taking over this slot, he was Bede Aircraft's Dealer Program Manager. Since 1962, he has accumulated over 1720 hours in 24 different types of aircraft, ranging from a Piper Vagabond and Mooney Mite, to DC-3, B-26 and Convair 880. He maintains a commercial pilots license, with multi-engine rating.

TRIPLETS!

BD-5J Babies Steal The Show

Not many of the Reading Air Show visitors were around when N11W — the silver-polished BD DC-3 — gave birth to 3 minuscule, propellerless airplanes. But it didn't take long for a curious crowd to form soon after the triplets, three BD-5 fuselages, were hoisted out of the belly, through the cargo doors and onto the grassy spot near the southwest ramp area. BD-1, BD-2, and BD-3 had arrived.

While the crew began to slip on wings, stabilators, ailerons and trim tabs, people began to drift down toward the big, ever-present Goodyear blimp to eye the curious new arrivals on Tuesday morning, June 4. Within an hour or so, the three sporty looking BD-s were fully assembled, noses flared towards the huge blimp (the weight of the TRS-18 turbojet engine will hold the 5J noseup until the pilot's own weight is added).

Although not completely unexpected, the BD Jet Demonstration Team was to put on four unforgettable aerobatic shows that week, fly to Teterboro, New York for a network television interview, and prove to any disbelievers that the BD-5 does perform with outstanding maneuverability and stability. That same maneuverability and stability is inherent in the BD-5 as well. Essentially they are the same aircraft, with few exceptions such as the wing length (in between the long wing version and optional short wing homebuilt, aerobatic version) and, of course the TRS-18, 200 lb., continuous thrust engine. In fact, in some areas, such as take off and landing distances, the BD-5 will actually out perform the BD-5J: by 510 feet and 270 feet, respectively when comparing the jet to the 720cc engine BD-5. But both planes are performing with the same proven BD-5 airframe.

Nonetheless, there is a surge of growing excitement that runs through people as each of the three BD Jet pilots reach for the ignition switches, pull the canopies over head and the compact little Sermel turbos begin to whine; gradually at first, to a screaming pitch—somewhat less noisily than larger jets, yet more than one would expect from such small babies.

The weather at Reading's Municipal Airport (Spaatz Field) was balmy and smoggy, and perhaps not quite as warm as previous shows one remembers there. Tuesday's near record afternoon crowd began to drift down toward grassy areas along side runway 31 in anticipation of fly-by demonstrations and with great anticipation of seeing the BD Jets do "their thing," whatever it might be. The FAA had cleared the team with no restrictions the week before at the Newton facilities. There they watched Bobby Bishop, Ed Mahler and "Corkey" Fornof perform the "usual stuff: rolls, loops, you name it," as Bishop put it.

"Usual stuff" or not, there was nothing usual as far as the Reading spectators were concerned to be seen at any of the Team's afternoon demonstrations. Their act resembled a ping pong match on a large, speeded up scale. Bishop (Wing position) and Fornof (Team Leader) flew a two-man act and their performance was countered by Mahler, handling a solo routine. From one end of the runway the crowd was thrilled by precision maneuvers with BD's #1 and #2 screaming past. "The aircraft is incredibly responsive — everything I could want in

an aerobatic aircraft," says Bishop, smallest member of the team, weighing in at about 150 lbs and standing 5 feet 5 inches.

So responsive, in fact, that from the other end of the runway, the hugh Reading crowds say "big Ed" Mahler (tipping the scales at 230 lbs. and towering over his #3 Jet at six feet two) put his 5J through amazing sets of snap rolls and other exciting maneuvers with ease. His show was climaxed by a tail slide as all three jets met in a flaring star display. Trailing smoke behind them allowed people below to follow all three 5J's at speeds in excess of 300 MPH. Not bad for a first public appearance, as evidenced by the number of people who considered the show "over" after the threesome finished signing autographs.

"What about the Blue Angels?" One spectator remarked to another, as they left the field for the parking lot, "Aren't they flying this afternoon?" "Who cares, after that." came the reply.

And so it went each of the four Reading afternoons. During the time prior to the BD Jet demonstrations, people were able to get a close look at the planes in a roped off ramp area. Pictures were taken and multitudes of questions asked. Besides the Team, there was Jim Bede, himself, to answer along with Les Berven, Chief Test Pilot and Director of Flight Test, and other company representatives.

On Friday evening they left as they came — not in the style and fury of the Navy Blue Angels, but packed neatly back on board N11W, like three nice neat little peas in a pod . . . only to be born again in great excitement at the many air shows they will attend throughout the coming months.

PLAN TO SEE THE BD-5 JET DEMONSTRATION TEAM AT ONE OF THE FOLLOWING SHOWS:

July 31 — Aug. 6	Oshkosh, Wisconsin (Wittman Field)
Aug. 10-11	Chicago Lake Front (Meigs Field)
17-18	Winnipeg, Canada
24	Lake Charles, Louisiana
25	Grand Island, Nebraska
31	Cleveland, Ohio
Sept. 1- 2	Cleveland, Ohio
7- 8	S. Weymouth, Massachusetts (Boston)
14-15	Reno, Nevada
21-22	New Iberia, Louisiana
28-29	Sherman, Texas — 1974 Aerobatic National Championship
Oct. 4	El Centro, California (NAS)
5- 6	NAS, Mi ramer
12-13	Las Vegas International Airport
19-20	Pt. McGoo (NAS)
26-27	Harlingen, Texas (Confederate Air Force)
Nov. 2- 3	NAS New Orleans
9	Key West, Florida
10	Gainsville, Florida
16-17	Jacksonville, Florida
23-24	Pennsacola, Florida (NAS)

Photos -
8, 9 & 10

James R. Bede



EDITORIAL

Recently we sent out a questionnaire to our BD-5 homebuilt customers which provided some remarkable information. We sent this questionnaire to every BD-5 homebuilt customer who had paid in full for his airplane. Basically, we asked if they would like all the materials to complete the building of their aircraft immediately or whether they would rather wait until all of the testing is completed. Then they would receive materials for the finalized design which would include the instruction manual and the drawings.

If they elected to receive all the materials right away, we would only be able to send them blueprint drawings with no instructions. And we would send them materials that would be a combination of features in the three prototype aircraft we have been flying. The materials and the blueprint drawings would be the same that our shop used to build the prototypes. On the other hand, those who wanted to wait — and we did not say for how long — would receive materials that represented every design improvement our testing had revealed. The drawings would be thoroughly checked and fabricating instructions included.

We sent this questionnaire out because we thought we were doing the right thing by thoroughly testing this airplane even as a homebuilt, and by ordering special extrusions instead of requiring the customer to form parts out of a solid block as our prototype shop did. When it comes to the drawings, we decided that photographs and instructions should be included with the engineering dimensions. But all of this has taken a great deal of time, and we did start to receive criticism from a lot of our customers. We began to think that maybe we were wrong. Perhaps, our customers did not care if we were perfectionists. Maybe all they wanted were materials and a few blueprint drawings and we should let it go at that. We also thought that maybe those who were complaining represented a large number of our customers, and perhaps that by sending our customers a questionnaire this would give us this answer to our question. It did.

We discovered that out of the 3,000 questionnaires we mailed, 1315 were returned. Of these, 25 customers wanted all of their materials delivered immediately. The remainder indicated they preferred the way we were doing it and that they were willing to wait, at least for a reasonable amount of time, for everything to be completed until we, ourselves, were satisfied with the final results.

What did we learn from this? Firstly, just about two percent of those who answered the inquiries wanted their materials right away. They did not believe our approach was the right one. However, **ninety-eight per-cent** thought we were doing everything just right. If we compare these numbers with the total number of inquiries, we find that **less than one per-cent** felt we were doing things wrong. Now that indicates some kind of ratification. Obviously it isn't simply the majority that agree with us. It is, in fact, **two per-cent of the people you can never please who disagree!**

I It is tremendously frustrating on my part to set certain goals and standards that are very difficult to reach, but ones that we honestly believe are the very best. It makes for a lot of work and it costs a lot of money to reach these goals. Then when you have a few people who write nasty letters, complain to everyone, and keep telling you you are doing everything wrong, you start to wonder whether it is all worth it. Yet, when you get the kind of response to a questionnaire that we had, you realize that you are right and that practically everybody agrees with you.

Several years ago we experienced problems making delivery of materials to our BD-4 customers. There were fewer customers at that time and the BD-4 required much less testing. But we were growing and it took us a while to discover the best sources for obtaining materials. When we started on the BD-5 homebuilt project, I was bound and determined we would not have problems with delivery of materials and thought I had allocated an adequate amount of time for development and testing. However, I was wrong. The job was a far greater one than I ever expected. But we did not take the easy way out by lowering our standards and accepting a lower quality aircraft.

As it turns out, we have completed **all** testing on the BD-5. We have ordered **all** materials required to complete the aircraft in a manner that we think is right. We have released the production of the 720 cc engine. The first production run of 1,000 engines will be shipped July 15. A second 1,000 will be following shortly after that. All the testing and all the checking is over with. All we have to do now is wait for this material to arrive, inspect it, package it, and ship it to all customers. With regards to the drawings, we must complete the very tedious job of checking all of the last systems. We then take these thoroughly checked drawings, prepare the instructions and photographs to be included, and get them to our printers. As they are received, we immediately pass them on to our customers.

What we did not say in our questionnaire is that for those customers who are willing to wait, they will not have to wait any longer than it takes us to get into production on the BD-5D, because all homebuilt customers that have paid in full for their aircraft will receive all materials before we begin production on the certified aircraft. The only problem now, therefore, is waiting for the materials to arrive. Normally this is not much of a delay, but during these times there is a genuine material shortage. There are some items that just require time to get, and there is nothing we can do about it. But at least we know now that all is in the final phase — of strictly waiting for the suppliers to deliver the materials.

We do not have to wait for any more testing or delays due to problems discovered in testing. These material delays obviously are affecting our production aircraft also, but maybe by resolving the availability of the materials for our homebuilt customers a smoother production line will result.

As I look at the total picture, I find that, as frustrating as it is for the delay in delivering materials (and for the irate customer who never thinks about any of the good things but simply wants to think antagonistically about the problems), the frustrations cannot in any way take away from the fantastic major breakthrough the BD-5 represents, both in design and in cost. When I realize what a significant affect this is going to have on general aviation, and how everyone at Bede Aircraft and all of you, our customers — BD-4, BD-5 and

BD Oshkosh Plans Being Finalized

Plans are being finalized for BD Aircraft's attendance at the 22nd Annual International EAA Sport Aviation Convention and Exhibition July 31 through August 6 at Oshkosh, Wisconsin.

Presently, there are plans to have representation from each of our line of products, including the BD-5B (homebuilt), the BD-6, the new revolutionary BD Wing, and of course the BD Jet Demonstration Team. In addition, we expect to have on display a line of small digital calculators to be featured in the new BD Optional Equipment and Accessories Catalog. These miniature electronic calculators are a great addition to our fine line of BD Products.

This year Bede Aircraft will be located at booth numbers 7, 8, 9, 10 and 11, plus a large outside area at the northeast side of the building. We look forward to seeing each and everyone of you at Oshkosh!

BD Makes First Appearance at Premium Show



Harry Smith, Bede Representative, explains the features of the BD Trainer at the New York Premium Show, where Bede Aircraft made its first appearance in May.

BD representatives made their first appearance at a premium show last May 6 through 9, when a BD display booth was set up at the New York Coliseum for the 36th Annual New York Premium Show.

Due to the many requests that the Company has received to attend this type of show and the many television representatives who approached Bede Aircraft, Inc. for possible "give-a-ways" on TV quiz and game shows, a booth was set up for the duration of the week. Although there are no current plans to attend any other similar shows or offer our products as premium television game show prizes, the response to our presence in New York was quite overwhelming.

We were happy to see so many of our own customers and friends and make many new acquaintances.

BD-5D accomplished what people for years have called impossible, I feel that a major milestone has been reached. We are now finding that prices are sky-rocketing for everything in aviation, and at the same time with the tremendous interest in the BD-5, we are actually able to reduce cost significantly by quantity buying. So, in spite of how bad everything looks for the little guy in aviation, I actually believe that we are going to turn things around and make flying darn well affordable to everyone.

To all of you who are critics, and to all who are complainers - GOOD LUCK ! (But look out for the revolution in general aviation that is coming).

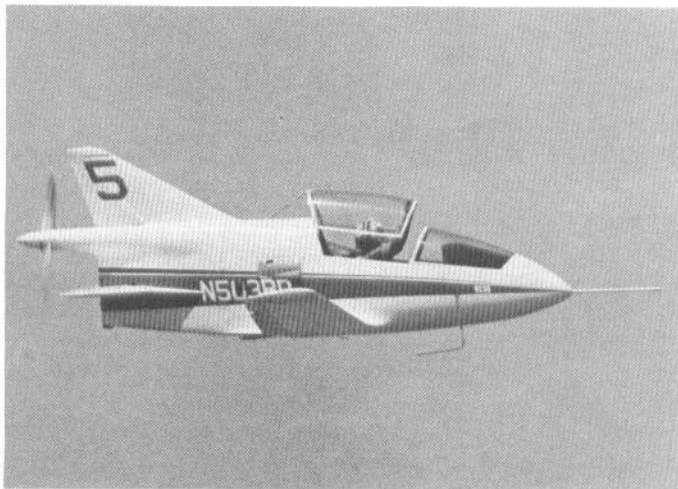
BD Trainer Flies at Reading, (Too)



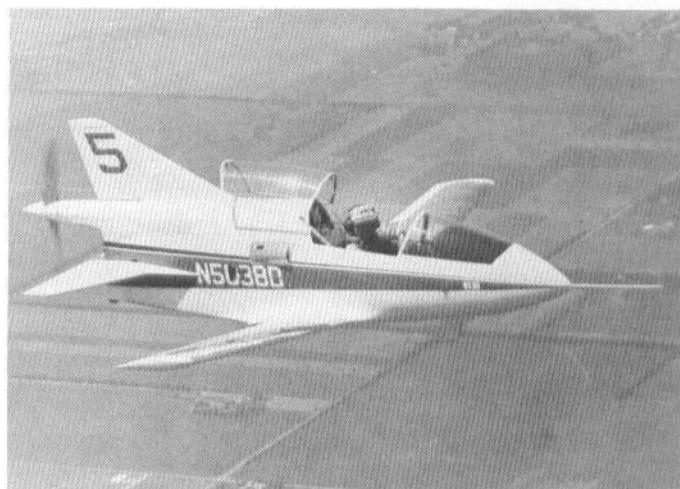
The BD Trainer, the BD-5 that flies in front of a pickup truck, was hardly noticed at first when it arrived at the Reading Air Show the week of June 4 through 7. The crowds were much too excited over the performances of the BD Jet Demonstration Team. But the Trainer was there, and Thursday and Friday many got to see it in action.

Because of the large number of people who requested "check outs" in the simulator, it was only fair that company representatives stick to a plan of simply demonstrating the truck and aircraft. Otherwise, many would have been disappointed, since there was not enough time for everyone to fly. Shortly, however, customers and friends should be able to get a first hand look and check out at one of our dealer locations, as we complete construction of the Trainer for dealer use. For those who will be at Oshkosh for the National EAA Convention July 31 through August 6 there will be another opportunity to see this truly unique means to teach pilots to fly the BD-5.

The student can fly the airplane up to an altitude of ten feet, bank to within 10° either side, or yaw the aircraft 10°. Any effort to maneuver beyond these limits is restricted simply by the structural beam. Communications is carried on by means of an intercom system between the student and driver-instructor. Practice landings and take offs under all operating conditions can teach a student to be highly proficient in the BD-5, even in gusty or crosswind conditions. Thus, the Trainer is proving to be both fun and valuable.



Chief Test Pilot, Les Berven, raises the canopy on 503BD with ease.



Canopy on 503BD floats easily at 90 mph above and behind Berven.



A friendly wave from Berven, BD's Chief Test Pilot at 90 mph shows the ease with which it handles with the canopy open. At 90 mph the BD-5 feels only a slight draft from behind and his baseball cap stays in place.

Flying 'Topless' in BD503



Berven prepares to spin test the BD-5. The test proved that recovery is amazingly easy.

Sporting a new pair of polished aluminum wings, 503BD (with Chief Test Pilot and Director of Flight Test, Les Berven in the cockpit) lifted off Newton Municipal quickly, but gracefully below our almost antique Cessna 170. Berven said he had something we ought to see, but we had to hold our airspeed to about 90 mph. Such being the case, the 170 suited the purpose well, and we made circles in the hot, clear Kansas sky over Newton. We waited for what seemed an hour, but actually was only ten or twelve minutes in our slowpoke Cessna, while somewhere out of our sight 503BD went through some warm up maneuvers.

Finally, we heard Berven calling us to hold airspeed constant, caught a quick starlike reflection off in the distance and then like a hummingbird, 503 appeared right off our left side, pilot grinning. Well, so what, I thought . . . Sure the wings look sharp up here, but our Chief Test Pilot didn't have to get us up in this pokey plane to prove that.

Still, every time a "5" suddenly appears along side in formation, you can't help but feel a little tinge of excitement begin to swell. We circled for a few minutes in order to trim airspeed to 90 mph exactly, with 503 just a few yards away. Then Berven reached up in front of the canopy and the next thing we knew 503's polished plexiglass was floating over and behind the pilot's head! And there he sat off our wing with his often worn baseball cap covering his typically short hair, a big grin covering his face, and his elbow resting over the left side of the fuselage — casual as you please. Not only did the canopy fail to fly off, but the baseball cap remained in tact without so much as a quiver.

Checking the airspeed once again, and it was still steady at 90 mph, I grabbed both cameras we carried along. Photographing a BD-5 has to be one of the most simple and pleasant

things a photographer can do. The stability of the plane allows you to tell the pilot exactly where you want him and in a second he's there. It's not often that a photographer can let his subject do all the moving, while he sits and pushes shutter releases.

At 90 mph the pilot can fly his BD-5 comfortably with the canopy off and feel nothing more than a draft on the back of his neck. Test flights have been made with the canopy off to 100 mph indicated airspeed with no adverse effects, however, 90 mph is the recommended maximum. Between 75 and 90 mph tests have shown that you need not more than ten pounds to pull the canopy closed, and at 75 mph indicated speed, it takes about the same amount of effort to close as it does before take-off.

Using full flaps with gear down (Landing configuration) and with the canopy open, tests have shown that a pilot can perform a safe go-around without pulling the canopy closed. Thus, the BD-5B can perform a safe go-around with ease when the canopy is open, in case of an aborted landing, without injury to plane or pilot. The sparkling polished wings were just an added attraction this flight.

Spin Recovery Proves Easy for BD-5

The BD Flight Test Center has given The BD News some very favorable information regarding results from their recent spin tests on the BD-5 (reported at length in our previous issue). According to our Chief Test Pilot, Les Berven, recovery from one or two turn spins in the BD-5 can be made by simply releasing controls . . . recovery then occurs immediately. After two turns it is necessary to use anti-spin recovery controls, which are full opposite rudder and stick slightly forward of neutral.

After recovery controls are applied, it takes one-quarter to one-half turn to stop up to a six turn spin. After six turns, the recovery will take from three-quarters to one full turn. A ten turn spin and recovery to level flight takes 4,000 feet.

The long wing BD-5 will not stall or spin inverted, and a tailslide is gentle and easily recovered from. There is no flat spin mode — the aircraft is cleared for any number of spin turns, and snap rolls are approved up to 140 MPH indicated airspeed.

Latest Optional Equipment Catalogue Available

The new "expanded" BD Optional Equipment and Accessories Catalogue is being printed and made available to all interested pilots, as well as non-pilots, alike.

The all new catalogue has many new outstanding items, guaranteed to please young and old alike. New items found in the 1974 catalog includes such things as avionics, stylish apparel, flight computers, books, novelties, and many more BD crafted or BD approved items.

You do not have to be a BD customer to receive the benefits of this fine new listing of outstanding aviation related items. Contact Bede Aircraft, Inc., Newton Municipal Airport, Newton, Kansas, 67114: Attention Optional Equipment Manager. The price for this latest BD Catalog is only one dollar. Be sure to get your copy soon.



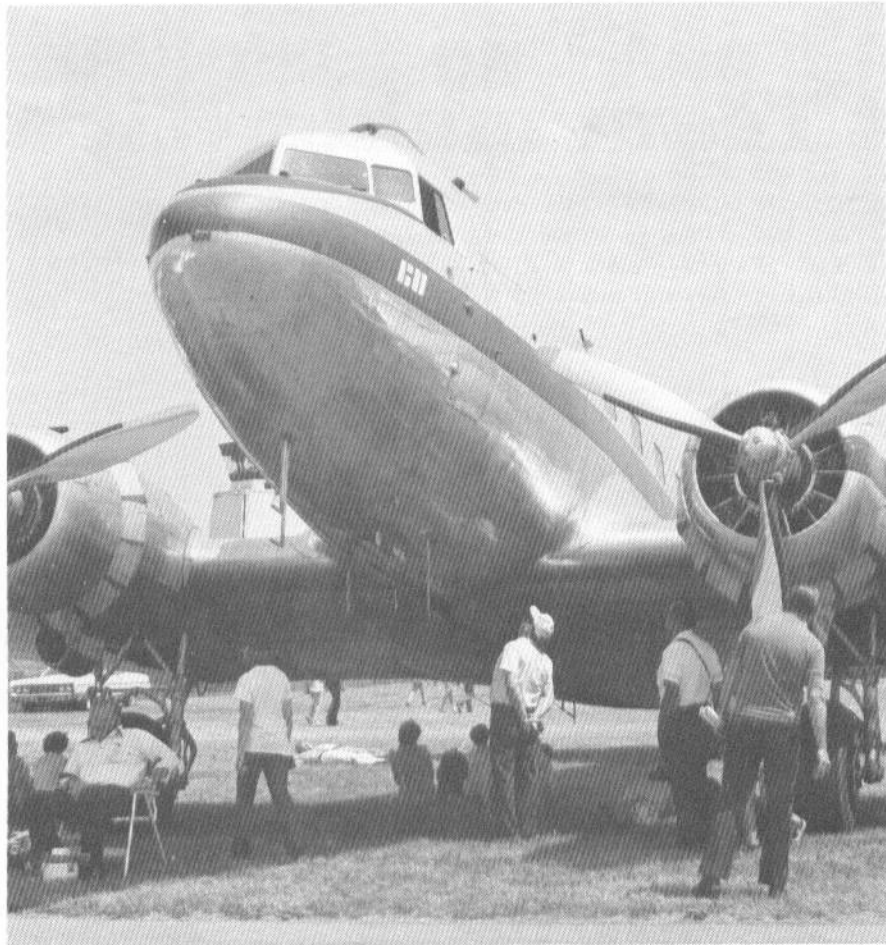
Stealing the Show at Rec



Left, one of Ed Mahler's fans gets a special autograph after his performance.

Above, early Tuesday morning, the BD-5J's were hoisted from the BD DC-3 and wings, stabilizers and trim tabs were put on for the first public show for the BD Jet Team.

ding



Above, the silver polished BD DC-3, which carries the BD Jet Demonstration Team attracted some attention of its own at Reading, Pa. Below, two of the Navy's Blue Angels look over Corkey Fornof's BD Jet No.1 . . . Perhaps with a little envy?



Jet Team makes Hit at RAS

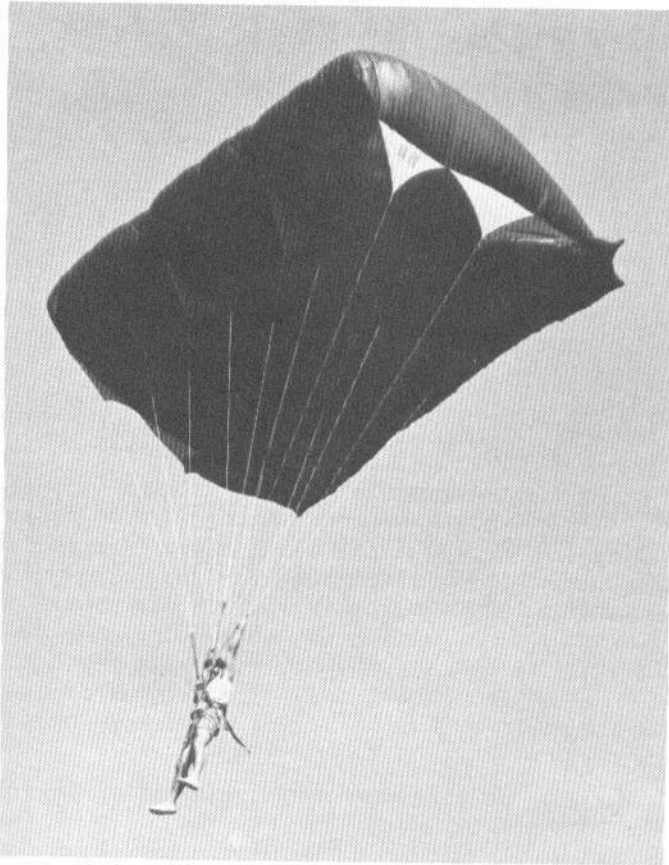
Bob Bishop (foreground) and Ed Mahler push their BD-5 Jets into position in front of the Blue Angels. Left, they sign autographs.



Below, BD-5 Jets pose before the Reading Air Show Crowd.



"BD Wing" Improves on Hang Gliders



The Helium filled BD-Wing has made its first successful flights at Bede Aircraft. It offers several outstanding improvements over conventional hang gliders.

A new and revolutionary hang glider has made its first successful flights at the Newton BD facilities. The new design offers several outstanding improvements over more conventionally-designed hang gliders. The "Bede Wing" features a large airfoil wing section made from high quality lightweight ripstop fabric.

The Bede Wing is inflated to an airfoil shape by the use of helium. Just enough of the gas is used to inflate the wing to the proper shape and provide between 25 and 50 pounds of buoyancy. Thus, there is not sufficient helium used to lift a person off the ground, such as with a man-carrying balloon. Additional lift can be obtained by gaining a forward speed of 12 miles-an-hour or more.

The pilot can stand at the top of a hill with the Bede Wing, fully inflated, floating directly above him and reduce his body-weight by the buoyancy of the helium-filled Wing. By running down the hill enough forward speed will be produced to provide adequate aerodynamic lift, thereby enabling a person to glide freely.

The inflated wing section is approximately 18 feet above the person, which results in extremely stable flight. In addition to the tremendous inherent stability of the Bede Wing, the flying weight of the flyer is actually reduced by the Wing. Such is not the case with more conventional hang gliders where the wing must not only lift the full weight of the flyer, but also the weight of the glider itself. This results in much slower flying speeds with the Bede Wing, as well as considerably lower rate of sink.

Another advantage is that when a person does land and comes to a stop, he does not have to carry the weight of the glider and awkwardly attempt to maneuver it on the ground. With the Bede Wing, the helium keeps the entire wing section floating above the person at all times. When a person wants to return to the top of the hill for another flight, he is helped up the hill by the lift of helium — another advantage of the new design.

Piloting existing hang gliders requires the operation to carry the glider back to his starting point — sometimes a two-man operation.

Due to the great success of these first flights with the Bede Wing, Jim Bede is formulating plans to go into production of this leisure-time product. With a patent-pending on this new hang glider concept, he believes that it will greatly advance the enjoyment and safety of this rapidly growing sport.



The BD Wing is made of tough, light weight ripstop fabric and can be easily folded up for storage.

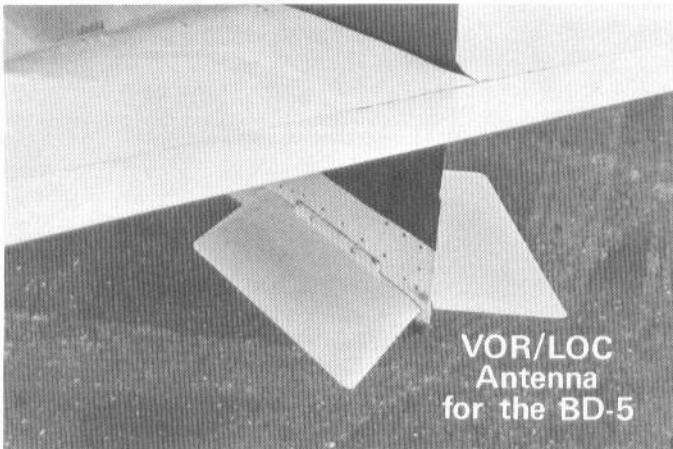
Anyone will be able to fly with the Bede Wing, both young and old. No special training or instruction will be needed. The inherent stability of the Bede Wing will allow anyone to successfully participate in hang gliding from his very first flight.

For further information contact:

Bede Wing Department
BEDE AIRCRAFT, INC.
Newton Municipal Airport
Newton, Kansas 67114
Telephone: (316) 722-6937

Space Age Antenna BD-5

Specially designed for the
VOR/LOC B VOR/LOC Antenna for the BD-5



Maintaining satisfactory VHF Broadband communications under all flight conditions, such as attitude, altitude, and range, proves an almost impossible task on any VHF antenna. Consider the problems involved in providing simultaneous coverage both above and below the aircraft to allow for communications with ground stations or other aircraft as required. Complicating this is the signal blockage incurred by the associated airframe, for instance, the tail section, landing gears, wings, and other antennas. These effects are easily recognized by the sudden loss or reduction in reception when banking or changing altitude. Previous solutions to these problems consisted of installing two antennas, one above and one below the airframe with switching between them to select the best signal level. From the standpoint of aesthetics, installations and replacement costs, this is not a very practical solution.

A second alternative is to locate the VHF antenna on the uppermost portion of the vertical stabilizer; this is an excellent installation in terms of signal coverage, but because the vertical stabilizer represents a very rugged environment, undue stresses are placed on the antenna. An antenna, to maintain reliability in this environment (with minimum replacement) would have to be ruggedly designed, which would normally mean a high price and a relatively unattractive appearance.

With this information as background, one can readily see the difficulty of the task ahead when Dorne & Margolin, Inc. of New York was asked by the Bede Aircraft Company to provide a VHF antenna installation with the following guidelines:

1. Flush Installation (NO DRAG)
2. Easily Installed
3. Maximum Signal Coverage (118 to 1336 MHz BROADBAND operation)
4. Minimum Weight
5. Low Cost

D&M accepted and planned to make the maximum use of its technology obtained in its twenty-five years experience in the Military and Commercial Aircraft antenna business. Design began immediately upon receipt of a set of aircraft drawings and a full-scale section of the BD-5 aircraft.

Many designs were considered, and numerous tests were performed on one of D&M's outdoor antenna ranges to verify the best approach. The most promising concept was to use

the VERTICAL STABILIZER as the antenna. A section of transmission line would be provided along the leading edge of the stabilizer, and a microwave transition feed network to convert the vertical stabilizer into a highly efficient antenna. The entire transition would be enclosed in a radome attached to the leading edge with rivets. The antenna when installed and painted, cannot be distinguished as a separate component of the stabilizer.

Radiation pattern measurements performed on the full-scale section of the aircraft proved the design concept. This antenna met or exceeded all the coverage requirements imposed as design goals. A prototype model was constructed and installed on the BD-5 aircraft for evaluation. Flight test results verified D&M's data that they had in fact developed the optimum VHF antenna for the BD-5 aircraft.

For a very moderate price you can take advantage of the technology that was available but never used before on General Aviation Aircraft. Your BD-5 can now have a flush, easily-installed VHF Communication antenna with no drag and no problems such as vandalism, accidental and ice breakage, and unreliable performance. Your antenna, with minimum maintenance, will last the life of your aircraft.

The BD-5 VHF Broadband Antenna is supplied complete with formed fiberglass leading edge section and 140 inches of cable. Illustrated installation instructions are included with every antenna.

BD-5 VHF Broadband Antenna \$110.00

A VOR/Localizer antenna incorporating design features not presently available for general aviation aircraft.

The same navigation antenna as installed on Bede Aircraft's BD-5 Jet (N5BD), it has log-drag blades that encase the radiating elements in high strength fiberglass boots filled with a solid foam that will not support moisture. Surface finish is ice-resistant. Weight: Less than 2 lbs.

BD-5 VOR/LOC Blade Antenna \$170.00

NOTE: Same antenna available incorporating Glide Slope antenna. Write or call for special quotation.

Several New Dealers Join BD

The list of BD Authorized Dealers continues to grow, as more and more dealers are added to the program. In this issue of the **BD News** we are happy to welcome the following:

Mr. Clifford O. Fauber
Mallard Aviation, Inc.
411 West 11th
Stuttgart, Ark. 72160

Mr. Frank Murphy
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If these dealers are in your area, please stop by or drop them a note . . . and welcome aboard, New Bede Aircraft Dealers!

New "4's" Take to the Air

New BD-4 builders who have taken to the air in their homebuilts include Roy Carstens, Kansas City; Tom Hauck, Wichita Falls, Texas; Dr. Ken Mitchell, Isle of Guam, South Pacific; Lt. Col. Tai Chun, Lebanon, Ill. and Quinton Smith, Orlando, Fla. By press time, there may be more new BD-4s flying and we hope to see them all at Oshkosh this year.

Sales on BD-4's continue at a steady pace, so that more and more customers are getting very close to that first magical flight. We hope we will be hearing directly from these builders about their first experiences flying their BD-4's!

BD-4 Price Review in Progress

Currently, due to the cost increase in labor and materials affecting Bede Aircraft suppliers, a price review is underway in our BD-4 department. Therefore, since prices generally tend to increase, we suggest that orders for BD-4 materials be placed soon, in order to beat any price increases that may occur. Already, Avco Lycoming has increased the price of their engines, and though this is regrettable, it is unavoidable that the cost eventually must increase for BD-4 customers. This could be the case soon with many other BD-4 materials, as well.

Editors Note: The following letter came earlier this year from South Africa, where Mr. S.H. Stewart had comments on his first encounter with the BD-4. We thought we should share his comments with our readers.

As I mentioned earlier we holidayed in Cape Town at the end of last year. It was my hope that during the fortnight I could meet up with Dr. Bergamasco and have a good look at his BD-4. As it happened, Tommy van der Woude asked me to take the materials and wheel for a new nose-gear down with me as we were driving to Cape Town at much the same time as he was trying to deliver it. This was done and I duly met up with Dr. Bergamasco.

An appointment was made to see his aircraft and the prospect of a quick flight around the area was included. One should mention that very few (if any) light planes were flying at that time as fuel conservation measures and the absence of avgas had put a stop to almost all flying including commercial operations. However, the doctor had filled his wings pretty thoroughly and was keeping the plane active by flying her twice a week for a quarter of an hour or so.

We drove out to D.F. Malan (the international airport of Cape Town) and opened a hangar containing several private planes. The BD-4 was readily found, not only because it was the smallest but because it looked better than the other expensive machinery. Because she was parked in at the back of the hangar we had to heave some of the heavier 'light' planes out of the way before we could glide her out. I then took a good look at her and was most impressed. Though very angular one is not aware of it. Though I expected her to be chunky it was quite the opposite, in fact she looked very sleek perched up on the tall gear.

The engine was fired up, pre-flight checks completed, and we taxied out to the main runway. As mentioned before, D.F. Malan is an international airport receiving 747's and the landing strip is built to 747 scale. We could have taken off breadthwise, or so it seemed; even the white line down the middle looked broad enough for our needs. However, to provide amusement for the pilots the runway is positioned 90 degrees to the prevailing winds and all of a sudden the strip looked narrower. In any event the lift off was very quickly accomplished and we gained altitude rapidly. The rate of climb indicator oscillated between 800 and 1100 fpm. (The doctor quotes climb at 1000 fpm and I will take his word for it, as whatever the figure, we got up there in a hurry).

The wind was pretty rough but, although we were being severely buffeted, the plane felt very stable. After leveling off at 140 indicated the doctor demonstrated what he considered to be the highpoints in a stable craft such as (a) very tight turns while gaining speed and altitude (b) stalling straight ahead and recovering rapidly and (c) simulating an abortive landing below 70 and climbing at more than 600 fpm even though the speed had hardly moved, etc. The only grumble I heard concerned the inability to lose altitude rapidly by sideslipping, and I am quite happy to take his word for it.

We returned to the field and came in at what I thought was quite a dizzy angle in the strong cross wind. The nose wheel complained bitterly about the situation and I hope that the replacement materials will remove all traces of excess shimmy. Thus, we put her away after a tremendously exciting flight of less than half an hour.

A few days later we were up again; this time accompanied by my wife. The weather was perfect (no wind) and the plane behaved like a six seater. The view was glorious, and we eased along on very conservative fuel settings at almost 140, most impressive. The landing was without shimmy. In fact, the flight was a bit of an anti-climax as it was too uneventful. Before we left the field we watched the doctor and Kevin Powell depart on another flight. The take-off was as impressive from the ground as from within the plane, and they can feel justifiably proud of their work. It is obvious that they built meticulously and with an alert eye to all the details. The interior furnishings are most attractive the paint job is excellent, and I cannot see me giving them much competition in this department. The plane handles beautifully and if I can match them here I shall be more than happy. Their product will certainly convince anyone interested in building a BD-4 that the effort is well worth while, and of course, to someone at my semi-complete stage, their plane spurs one on to more rapid completion.

They look set for many hours of very happy flying and have my best wishes in this regard. The above creates the impression that it was only the plane that made the flight enjoyable, though not in a position to comment authoritatively I do feel, and so does my wife, that Dr. Bergamasco brings out the best from a project on which he and Kevin Powell have devoted many hours of intense and rewarding labor.

Yours faithfully,



S. H. STEWART



"The only modifications other than Bede designed were the installation of a six cylinder Franklin engine with oil cooler and constant speed propeller, which necessitated a longer cowl," says Bob Pomerleau about his BD-4.

All in All He's Pleased with the Whole Venture

"My BD-4 No.148 has been licensed on 11 March, 1974 and it has taken to the air", says Major Bob Pomerleau of the Canadian Air Force.

"The aircraft handles well, as advertised. The performances so far are similar to the one from Australia, illustrated in one of your recent newsletters."

"The only modifications other than Bede designed were: the installation of a six cylinder Franklin engine with oil cooler and constant speed propeller, which necessitated a longer cowl; the redesign of the exhaust and cowl flaps systems in order to embody the ensemble within the cowl without any protrusion" "The aircraft was constructed as per plans to the best of my ability and fitted with optional larger nose-wheel and larger rudder fin." The photograph of Maj. Pomerleau's plane certainly indicates that "the best of his ability" is nothing but great!

"All in all, I am extremely pleased with the whole venture", says Bob, I did not have any technical background when I started this project, I almost gave up a few times, but your Newsletter enthusiasm kept me going. This is to prove that your saying 'Anyone can do it', is a reality." What more can we say, but thanks for the letter and photograph, Bob, and HAPPY FLYING!

Edo Aire Announces Price Increase

Price increases of \$100 per system are scheduled by Edo Aire August 15 on their Nav/Com Transceiver 553, Com Transceiver 551 and Com Transceiver 661.

Orders placed before August 15, 1974 will be acknowledged at the current price. Now is the time to place your order for these systems before a price increase goes into effect.

The new price increase will be reflected in the new BD Optional Equipment and Accessories Catalogue.

Lycoming Engine Prices to Increase

For some time Bede Aircraft has absorbed several price increases on engines from Avco Lycoming. Finally, we must now raise the prices on engines to our BD-4 customers. As of July 1, 1974 the following prices on Lycoming engines became effective, as indicated in a letter mailed to customers dated July 3, 1974:

10-E-155	115 hp	0-235-C2C	\$3592.00
10-E-156	150 hp	0-320-A2B	\$4008.00
10-E-157	160 hp	0-320-B3B	\$4380.00
10-E-158	180 hp	0-360-A1A	\$4744.00
10-E-159	200 hp	IO-360-A1A	\$6064.00

The 108 hp engine has been eliminated from the Avco Lycoming line and replaced with a 115 hp rated engine.

IN MEMORIAM:	ROY B. LAMONT (Deceased)
	Minneapolis, Minn.
	BD-4 Builder #393

RESPONSE to the letter recently sent to all customers (referred to in Jim Bede's Editorial on Page 4) has been very encouraging and indicative of the enthusiasm and support the majority of our customers are giving to the BD-5 Program. Here are a few samples of the comments received (customer Priority Numbers are shown):

1917 - "I am confident that every effort is being made to expedite all BD-5 deliveries. Hang in there!"

702 -

Go to it!

Thanks much

2229 - "I am very happy to wait! I am extremely satisfied with the work you are doing and I'm confident that when it's done the BD-5 will be the finest homebuilt aircraft available. Thanks!"

2446 - "Take all the time you need. Others may get in the air sooner, but I want to stay longer!"

3323 - "It's easy to criticize! To date I think your organization has done a great job."

1949 - I am well pleased with your progress and performance to date -
Keep up the good work -
Jack -

4563 - "I think you and your guys are doing a helluva job in getting us a good airplane with much better components than you originally contracted for. I'm very satisfied with the program. Keep up the good work!"

4732 - "Keep up the good work - it will still be 15 years ahead of its time!!"

1039 - "I am very pleased with everything I have received. Be assured the majority of us are firmly behind you and the BD-5 idea!"

3045 -

KEEP MAKING IT BETTER!

3295 - "I have never doubted your sincerity and your desire to deliver your best, so I am willing to wait."

1554 - "Do not give in to excessive pressure. May I encourage you to stick to your guns and objectively achieve your basic goals without unnecessarily deluting the results of the end product. Though it takes some time, you're doing great!"

572 - "It is a great airplane and I am having a ball building it and getting the education along with it. Thanks."

1583 - "Keep up the good work. All good things take time."

306 - "I have supported Mr. Bede for over three years and will continue to do so in the future! I do appreciate your continued efforts on this project - I believe in it or wouldn't have bought in long ago!"

1153 - "Here's my vote of confidence. I knew two years ago when I put my money down that the plane would be a long time coming - just do a good job - follow your dreams and I'll follow you."

3359 -

LET ME ADD THAT I ADMIRE YOUR DESIRE TO PROVIDE A FULLY TESTED, OPTIMALLY DESIGNED AIRCRAFT, AND FEEL THAT YOUR APPROACH IS BY FAR THE BEST FOR ALL CONCERNED.

1273 - "I would like you to know that my family of three sons and even my wife and I have the utmost faith that you are doing everything possible to give us the best available in materials. When all is finalized the characters that go around trying to demoralize the BD-5, will eat their words and envy the BD-5 owner or builder."

4996 - "Take your time. Some of us are in the engineering field and understand. I might add that I am more than pleased with the materials package that I have received. Much more has been done than I expected. You have a great thing going - don't let a few people pressure you too fast. Thanks a lot for keeping us informed."

4396 - "You are doing a beautiful job, the quality and workmanship are far more than I had hoped for. I'm behind your original program 100%, stick to it!"

1740 -

Dear Jim:
Take all the time you need to do the job. I appreciate the privilege of being a part of this fine project, and thank you for it.

4503 - "Do it right or not at all!"

2375 - "First let me assure that I am a satisfied customer. The materials and plans I have received are first class, and in the rare instances of shortage or damage I have only had good relations with your outfit. As long as your pace of development and testing continues as in the past, I am certainly willing to wait for plans and materials."

4987 -

P.S.
Keep up the
Good work
You have been on track
the since day one
Don't rush now

1580 - "I wholeheartedly agree with your program and philosophy and approach; therefore I am content. Thank you."

Why No Low-Cost Aircraft?



I think we have all been wondering over the years why there has never been a low-cost aircraft. We at Bede Aircraft felt that this was primarily due to no one coming up with a clever enough design to break the various economical barriers to simply get the cost down. We find, however, that maybe there is another reason why we have never had a low-cost airplane, and that is a very simple one. It seems like there are some people in the general aviation field who simply do not want to have a low-cost airplane, because they do not want just anybody to be able to fly. It seems that the right to fly should be restricted to a select few.

We come to this conclusion after reading an article about Jim Bede and Bede Aircraft in the August 1974 issue of TRUE magazine. On page 38 of that issue they quote FLYING magazine and we will quote the entire paragraph:

'FLYING magazine, the biggest in the field, is as good a spokesman for the establishment as anyone. Said Managing Editor Stephan Wilkinson: "Bede customers? We have little contact with them and no interest in them. They don't buy Bendix radars or Gates' Learjets. As far as we're concerned, the whole Bede phenomenon is an exercise in unreality. 'The Everyman Plane?' It's a myth that this business even began for Everyman.'

An automatic pilot costs \$5000 (not installed) — the price of two BD-5s.'

It is shocking to realize that some people believe that flying should not be for 'Everyman'. It is also very disturbing that this attitude would come from a publication that is supposed to be the leader in the aviation field. It would be bad enough if an executive of one of the large aircraft manufacturing companies had this attitude, but when a member of the aviation press, which we have come to expect is doing everything possible to promote general aviation, makes comments such as this, we feel that it is truly a sad situation, and maybe the real cause for the little guy being squeezed out of the air.

A further shocking thought that we learned from the above statement from Stephan Wilkinson of FLYING magazine, is that they (at FLYING) have no interest in Bede customers.

They say they are only interested in those who buy Bendix radars or Gates' Learjets. I wonder, therefore, how they justify the fact that there are only 23,001 multi-engine aircraft, yet 425,000 issues of their magazine are sold each month. If every pilot and co-pilot of those twins, or even every pilot who is flying an actively registered aircraft, bought a copy, the total number would not be much over 130,000. Then who in the heck is buying FLYING magazine each month if it isn't the little guy in aviation? Also, why did FLYING magazine break all circulation records when the BD-5 was featured on the cover?

I think, then, that we can conclude the following:

1. There are some people, both in this industry and (definitely) at FLYING magazine, who really believe that flying should be restricted to the select few who can afford to pay the enormous cost it involves.
2. They believe that flying should **not** be for everybody, either through their lack of knowledge, or possibly they are simply interested in keeping everybody out of aviation, except for the select few they feel qualify.

I guess we must face the very tragic thought that there are those in aviation today who really want to keep the little guy out of it, and kill off grass roots flying altogether. We must also realize that all of us haven't been just fighting the economic barriers. Jim Bede has demonstrated his extreme intent on making aviation affordable for everyone. Bede Aircraft customers have proven their support for his efforts. It looks as if we are going to need the support of all of our customers, and everyone else interested, in truly promoting aviation. We believe that those in responsible positions at FLYING magazine would also share this viewpoint if they realized how many of you felt the same way.

Let's pull together and not try to fight each other. We are, therefore, recommending that all of our BD customers write a nice letter to FLYING magazine, telling everyone there that you too would like to fly, and that although you cannot buy the big expensive equipment, there are still an awful lot of things you would like to own as soon as you can afford them.

Let's all write to them **TODAY**, telling them the way we really feel, and I am sure they will respond favorably and fully back the little man in aviation.