



*Edward M. Flesh, '29 (right), holding model of McDonnell jet fighter-bomber that set world speed record; he is senior project engineer. At left is John Meyer, '38, who is now Chief of Structures at McDonnell.*

## **Flesh and the Voodoo**

The team of engineers that designed the McDonnell Voodoo jet fighter-bomber—new world speed record holder for manned flight—is headed by a University alumnus, Edward M. (Bud) Flesh, '29. As a student in the College of Engineering, Bud studied mechanical engineering with an emphasis on aeronautical designing.

As senior project engineer, Bud Flesh has been receiving accolades as the designer of the F-101A which last December streaked 1207.6 miles an hour in a test at Edwards Air Force Base in California. While he is thrilled over being associated with development of the plane that recaptured the world speed record from Britain, Bud Flesh is just as concerned that all who had a hand in the project receive full credit. He insists that he is only one of a large group of people who worked on "the world's finest airplane," and in fact he takes great pains to point out that the twin jet Voodoo is the product of team effort.

In a piece he wrote for a publication of the McDonnell Aircraft Corporation of St. Louis, Bud Flesh concluded by saying, "I am sincerely grateful to everyone who contributed in any way to the design of the Voodoo. I know they are as proud as I am to be connected with the world's finest airplane." What preceded that concluding paragraph was a recital of names of persons past and present who worked on the project in the six years of its existence, punctuated by the admission: "I should never have started naming names because I don't know where to stop."

Despite his determination that the entire team share the credit, Bud Flesh is regarded as the key man in the Voodoo project which consumed some three million man hours.

From the Missouri campus Flesh went to Curtiss-Wright in St. Louis as a design engineer. In 1946 he joined McDonnell, and five years later he was at work on the beginning stages of the Voodoo.

A few nights after the record-breaking performance, Flesh was in Washington, D.C. to attend the Wright Brothers Memorial Dinner given by the Aero Club, at which Major Adrian Drew was presented the Thompson Trophy for his record speed run. Bud's thoughts went back to a hot humid day in the summer of 1951:

"A team consisting of John Aldridge, George Graff, and myself were due to present a reincarnated, redesigned F-88 proposal to the Air Force that very morning. Some last minute information on a change in requirements necessitated a change in our proposal. While Aldridge changed the text, I changed the drawings and refigured the weight and balance, and Graff refigured the performance. Our proposal apparently met with approval and after a few more months of negotiation a letter of intent signified the Air Force's desire to buy the airplane and rename it F-101A. Early in 1952 our design organization started to build up. We used as a nucleus the people who had worked on the proposal."

Since that beginning with a handful of men, some 500 engineers have worked on the fighter-bomber, including a number of other University of Missouri alumni. One of these is John Meyer, '38, who is now Chief of Structures with McDonnell. In his position, he supervises all the people concerned with the strength of the airplane, the basic loads on the airplane, the weight and balance, and the structural

*(Continued on page 24)*

dynamics (flutter and vibration).

The plane flown by Major Drew is in use by the Tactical Air Command and was designed principally to fly long distances rather than achieve high speeds. It is one of three F-101 models manufactured by McDonnell whose design has been supervised by Bud Flesh as senior project engineer since inception of the project. The other two are a photo-reconnaissance plane and an interceptor fighter. New speed records for west-to-east coast and transcontinental flights were set by the photo-reconnaissance model in November. Existing records toppled as four Air Force pilots flew Voodoos from Los Angeles to New York, all in a little more than three hours, the best mark being 3 hours, 5 minutes and 39.2 seconds. Two made the round trip, one in 6 hours, 42 minutes, 6.7 seconds.

As a Central High School student in St. Louis in the late 20s, Bud was building airplane models. On Sundays he sold tickets for rides with Dale Jackson and Forest O'Brine, two pioneer aviators who set a record for endurance flight. Bud later took flying lessons and held a private pilot's license.

"Top speed of the planes I flew then was about 75 miles an hour, or maybe 80 on a good day," he said.

When contacted by the *Alumnus*, Bud's first questions were about Dean Heckel and Jesse Wrench. He lives at 8330 Stanford, University City, Mo., with his wife and two daughters, Barbara, 21; and Susan, 16.

## sports

### Track schedule well timed

If scheduling can win a championship, the Tiger track team should go into Kansas City March 1 with their best chance in years to end the Jayhawk dynasty. That may be a little like counting on Vanguard to get off the ground, but the Tigers do have a fine balance of tough meets and timing in the following schedule:

Feb. 1—Notre Dame at South Bend.

Feb. 6—Wichita at Columbia.

Feb. 8—Michigan State Relays at East Lansing.

Feb. 14—Kentucky at Columbia.

Feb. 22—Kansas at Lawrence.

Feb. 28-Mar. 1—Big Eight meet at Kansas City.

You'll notice that the almost-traditional date for the Kansas dual meet has been changed. The past two years the Missouri team has been high for this one the week before the conference meet and have taken the man-for-man measure of the champs, but each year they've slumped to sub-par outings at Kansas City and have eaten sawdust from flying Kansas spikes.

This year Coach Botts wanted a change of pace.

How well it works will depend on a few other factors, such as:

- A. A bad night for Kansas after a seemingly endless stretch of good nights reaching back to Missouri dominance of this meet in the late forties.
- B. Help from talented European distance runners representing Oklahoma and Nebraska to offset Tiger team weakness and typical Jayhawk strength in the half-mile, mile and two-mile.
- C. Enough inspirational scoring help from a Missouri team short on depth but long on individual stars like co-captain Henry Wiebe, undefeated over the last two years in the 60-yard dash; co-captain Bob Davis, a pre-meet favorite in the pole vault; miler Jim Sanders, who gave the best early season performance of his career with a 4:18.1 winning mile against Notre Dame in the opener; Bob Rumping, a young shot putter, who has hit 51' 2¼", and should be over 50 feet in Kansas City; and Jim Green, 6 ft. 5 in. high jumper in early trials.
- D. Lack of key injuries to a Missouri team that's been plagued with them during recent winters.

A lot to ask for?

Why not? It will take a lot.

### Long way home for cagers

It was a slow month on the boards. The Tiger basketball team played only one home and two road contests since that exciting opening conference win over Nebraska reported in the January *Alumnus*.

Two tough ones on the road, a squeaker at Ames January 11 (I.S.C. 62, M.U. 55) and another at Norman February 1 (Okla. 59, M.U. 56) combined with a superlative performance by superman Wilt Chamberlain and his Kansas friends in Columbia January 18 (K.U. 68, M.U. 54) have made it slow death for the high hopes of the early season.

The pace picks up with eight games on the schedule for the last month of the season. It's anything but downhill, though, and the toughest grade will be the eleven day span that starts with a blue Monday, February 17, against Kansas University's "Big Dipper," Wilt Chamberlain, in his own backyard bucket at Lawrence. Then come back-to-work Saturdays, February 24 and March 1, at home and abroad against the top-ranked K-State Wildcats, who can field a team with an average height that tops our tallest man.

It will be a long way home, but what is it they say about dark and dawn—adversity and success? Sparky loses only two regulars, Egelhoff and Stephens, and reserve Jon Paden from this year's squad. He keeps the big scoring punch of Siebert and Abrams, and he can look forward to lots of help from Coach Stewart's solidly-drilled and unusually-talented freshman team.

I'd settle for next season right now, but this team will fight 'em till the robins come; and don't bet against their bettering their current sixth place position at the expense of the big boys.

JEAN MADDEN