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***Support For The MU-2  
Is An Unwavering Objective***

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AFFILIATED AIRCRAFT OPERATOR GROUPS



# The MU-2

## When An Airplane Is Also A Symbol

### Support For The MU-2 Is An Unwavering Objective

M. C. Neuda

Just as every person has a unique tale to tell, every airplane manufactured has a story of its own. This is the story of the Mitsubishi MU-2: a symbol of design excellence, unusually long life, and exceptional manufacturer commitment.

**T**he Mitsubishi MU-2 comes out of a rich history that began with the founding of Mitsubishi itself as a shipping company in Japan in the early 1870s. In 1908, Mitsubishi Heavy Industries (MHI) built Japan's first large-turbine passenger steamship. This early background in turbine power became extended into its aircraft design applications. Mitsubishi also was no newcomer to the airframe business when it started exploring the potential market for executive aircraft in the 1950s. (See Sidebar, Page 53: *Reactivating the Company*.)

#### *The MU-2 Design Concept*

By the end of the 1950s, Mitsubishi had begun design work on an executive aircraft culminating in the MU-2A. Its first flight was made in September of 1963, powered by Turbomeca Astazou IIk engines. The wing was one piece, employing full-span, double-slotted flaps, with spoilers instead of ailerons for lateral control. Because

of the large flaps and the airplane's compact size, the engines needed to be hung below the high wing on pylons.

The aircraft was visionary, conceived from the start as a turboprop, and destined for the United States as the number one market. As such, it was designed to meet U.S. Federal Aviation Agency requirements, under CAR 3. Mitsubishi went on the hunt for an American partner who:

- Would not have a competitor to the MU-2 in its line;
- Would be interested in adding such a type airplane to its sales line; and,
- Would be a company with a good growth pattern.

Mooney Aircraft, Inc. in Kerrville, Texas, had made a name for itself with a line of single-engine aircraft designed for both business and personal use. Around 1963, Mitsubishi made overtures to Mooney for a joint venture, with MHI shouldering the development, engineering and test costs of its new aircraft and Mooney assembling,

selling, and servicing the airplane in the United States, Canada, and Mexico. To seal the agreement, Mitsubishi agreed for Mooney to act as its purchasing agent here for the American-made equipment and parts that would be installed in all production airplanes. Mitsubishi also agreed that the MU-2 would be marketed under Mooney's name. A third concession was that the airplane be fitted with AiResearch (Garrett) TPE-331 turboprop engines, so the companies would not be dependent on overseas supplies for their powerplants. The agreement was concluded on June 1, 1964.

To accommodate the AiResearch engines, the airframe needed to be modified. This included the redesign of the engine nacelles and the extension of wing span and spoilers, among other changes.

The Mooney MU-2B was introduced on tour in 1965. It was a seven-place, pressurized aircraft, with a maximum gross weight of 8700 pounds and 284 usable gallons of fuel providing a 1200-mile range

with a 30-minute reserve. Its basic cost was \$260,000.

Mooney's main competitors for the turboprop market were Beech and Aero Commander. Its speed of 315 mph at 10,000 feet made it faster than they were, but it was less quiet and somewhat smaller in exterior dimensions, although the cabin interior volume was roughly the same. But most important from the marketing standpoint, it was foreign-built – not a selling point at the time. What some potential buyers failed to realize was the extent of the American-made parts. In addition to the engines, the propellers, wheels, tires, brakes, air-conditioning and cabin pressurization systems, and a variety of instruments and avionics gear were all manufactured in the United States.

Still, it was an optimistic time, and Mooney fully expected to sell 900 of the MU-2 series over the next decade.

### *The Vagaries of the Market*

In 1966, a bear market and a tight credit situation began to cause major problems for Mooney, which it could not resolve. In 1969, it declared bankruptcy. American Electronic Laboratories, Inc. bought it out. Under the terms of the settlement, Mitsubishi Heavy Industries acquired the San Angelo factory and 27 acres of land there. Mooney was to continue assembling the MU-2s at the factory.

By 1970, the industry as a whole was battling a sliding economy, corporate aircraft sales were down by 33%, and MHI decided to take production of the MU-2 under its own wing. It established Mitsubishi Air-

craft International (MAI) with headquarters in Texas, and although sales declined from 47 in 1969 to 41 in 1970, MAI succeeded in increasing its market share from 19% to 25%. William Stinson, then Marketing Director, publicly stated that the parent company was fully committed, financially and otherwise, to the program's success.

This proved true in the ensuing years, when the effects of the slowing economy were compounded by the energy crisis of the 1970s and the fast-increasing labor and material costs. As the decade lengthened, however, production rates and sales increased, culminating in a boom in the late 1970s.

What was good for the industry was good for MAI. It began to concentrate on the market's high-end, producing the higher-performance Marquise and Solitaire. In 1978, MAI phased out production of the MU-2N and MU-2P, the last of the original series. In 1979, it introduced the Mitsubishi MU-300 Diamond I, a twin-turbofan-powered airplane. George Scragg, MAI's Vice President of Marketing, could note in that year that brand loyalty for Mitsubishi aircraft was high, with nine out of ten new aircraft bought by previous Mitsubishi owners.

Manufacturers were optimistic that economic good times would continue into the 1980s. But, as for Mooney a decade earlier, market forces gathered to deliver a resounding wallop to the entire industry's hopes and plans.

### *Keeping the Flame Burning*

Starting in the early 1980s, the industry began a long, long slide

caused by factors here and abroad. In 1985, MAI decided to sell the Diamond program to Beech, which took over assembling the jet at its Wichita, Kansas, headquarters, promptly renaming it the Beechjet. Beech agreed, as part of the deal, to provide support to the Diamond and the MU-2 series.

In April 1986, MAI closed the San Angelo factory doors. Dissolution of MAI was filed in 1987, and Raytheon Aircraft Corporation was designated the official provider of MU-2 product support.

In that same year, Tom Berscheidt, the former MAI Director of Product Support, founded Executive Enterprises to provide aviation counseling, a major client being MHI in its contract with Raytheon. Ten years later, Berscheidt joined with three other former MAI employees and the company name was changed to Turbine Aircraft Services (TAS).

In 1998, MHI took back the responsibility for MU-2 product support from Raytheon and created an Aircraft Product Support Division with headquarters in Dallas, Texas, headed up by Noel Takayama.

### *The Aircraft Product Support Division Today*

Takayama is General Manager of the division, with two groups reporting to him: technical support and customer support. Technical support programs include air safety, FAA coordination, type certificate maintenance, NTSB coordination, and technical field service.

Customer support is handled by TAS under a long-term contract. Its

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program responsibilities include parts and publications distribution, service center network development and liaison, programs coordination, customer and vendor relations, and general management service. TAS offices are in Dallas and San Angelo.

Mitsubishi's commitment to product support for the MU-2 has been an unwavering objective. One could justifiably say that the company's arrangement with Raytheon, aided by the entrepreneurial skills and technical know-how of its former employees residing at TAS, has, in fact, provided unbroken support to the MU-2 from the time it was originally conceived — a remarkable testament to the vision and commitment of a company to a great

product, one more long-lived than perhaps anticipated.

This commitment is reflected not only in attention to product support (one MU-2 owner interviewed for this article called back to stress its excellence, including parts availability) but in its support of customer training and safety — witness the new SimCom simulator which was built for the MU-2 in Orlando, Florida.

Manufacturer commitment is certainly an important factor in inspiring ardent brand loyalty. But what about the airplane itself? What attributes and selling points cause its owner/operators to prize it so highly?

#### *Design, Benefits, Long Life, Cost.*

Paul Poulicakos, a pilot for Keller Companies, describes the virtues of

the MU-2 from the design standpoint:

- The MU-2's power-weight ratio is higher than in comparable aircraft, making for better handling.
- The wing area, percentage-wise, is smaller, which makes the airplane more aerodynamic and, therefore, faster. In fact, he says, "It's the fastest aircraft of its size in the world," adding, "and very fuel-efficient."

Ike Eichstadt of Pamida Incorporated has a Marquise, purchased in 1984, the company's third MU-2. Eichstadt describes the aircraft from the standpoint of its benefits:

- It gets in and out of shorter runways with more payloads and at higher elevations.
- It's faster and has a larger cabin size than comparable aircraft.
- It's well-built, "like a tank".



- It can fly through rougher weather more smoothly.

- It has narrow landing gear and high propeller clearance: "That's really comforting when you fly into smaller airports that have snow ridges and drifts."

- It can also fit nicely into airports where the ramp size is small, because of its shorter wing span and length, but without compromised cabin size.

As for the MU-2's remarkably long life, Rick Wheldon, Vice President of Flight Operations for TAS, attributes it to the airplane's structural integrity, saying, "There are MU-2s out there flying for 18 - 20,000 hours." Poulicakos concurs. He says his boss's MU-2 has 22,000 hours on it, this in New Hampshire, "where the weather is terrible."

And, as far as the cost is concerned, Wheldon says, "A plane of comparable size goes slower at maybe twice the cost."

#### *How Does It Fly?*

Powerful arguments all for running right out and buying an MU-2 of your own. And yet, the MU-2 has been bad-mouthed. Words like "tricky to fly" and "accidents" come up, usually in the same breath—words that cause owners of the aircraft to bristle. According to Eichstadt, these things are "said by people who don't know anything about airplanes. It's a high-performance plane but very docile, very forgiving." (See Sidebar Page 53: *The Initial Pilot Report*.) For a non-owner, what does this mean exactly? Simply, that the aircraft has its particular traits, according to three people who should know.

Tom Berscheidt, President of TAS, "It incorporates an advanced design; it flies more like a jet. The handling is different." He adds, "It's a very safe, reliable aircraft, but, like any other high performance aircraft, it needs to be flown by a qualified pilot."

Poulicakos: "It's not difficult to fly once you understand its special characteristics. It's like a sports car." Wheldon: "It feels like a bigger airplane, but it's very predictable once you've been trained on it and know exactly the feel of it." And, finally, Noel Takayama: "You will get 100% performance from this aircraft if you fly it according to its guidelines."

All of this indicates the great importance of solid training on the airplane. As Wheldon says, "You have

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fun! Every time I get in it, I grin." Try to imagine the glee in his voice, as he speaks of landing the airplane, "You come screaming in, and you stop so quick."

### *Staying Power*

Quite obviously, the MU-2 is not for the casual flyer. It's for those who appreciate its advanced design, years ahead of its time when it was first introduced. It's for those who are committed to putting in the time and effort to learn how to fly it right. It's for those who appreciate customer support that has been in place from the beginning and has lasted, through good times and bad, for twenty-five years after production ended.

Things that have quality last, and quality attracts supporters. Which is why the MU-2, this trim little aircraft with a profile no one can mistake, that's built like a tank, flies like a jet, and inspires the kind of brand loyalty every manufacturer longs for, is still here and flying high.

Mits



## **Reactivating The Company**

Interestingly, it was the Korean conflict which revived Japan's aircraft industry after World War II. In 1952, the United States signed a peace treaty with Japan, and then called upon that country for overhaul support for its aircraft engaged in the Korean War. The need for such facilities, and the realization that troops drained from Japan for the Korean conflict, left the former country under-defended (with both the Soviet Union and China as hostile neighbors) caused the U.S. to actively encourage the revival of Japan's aviation industry.

In 1956, Mitsubishi was the prime contractor when Japan signed a license agreement with North American Rockwell to build 300 F-86F Sabrejet fighters for Japan's Air Self-Defense Force. In 1962, the company was again prime contractor in a licensed-production agreement for the Lockheed F-104 Mach 2 fighter. Fulfilling this contract essentially closed the technological gap in airplane manufacturing between Japan and the United States.

## **The Initial Pilot Report**

Interestingly, the comments here and below echo those made almost 40 years ago in the November 25, 1965, issue of *Aviation Week & Space Technology*. David Brown, the author of that issue's "Aviation Week Pilot Report," had this to say: "The MU-2 is much more of a hot-rod aircraft than other turboprops of comparable size, but once its peculiar flight characteristics are understood, it is not a difficult airplane to fly." And he continued, "For an airplane with such high-performance characteristics, and with such a relatively high wing loading, the MU-2B has docile approach and landing flight characteristics."

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