



# RWR Pilot Training



## Malibu - Mirage - Meridian

*Insurance Approved Initial & Recurrent Training Programs  
Designed to Make Your Flying Safe and Enjoyable  
Provided When and Where You Choose*

### I'm Glad You Asked

### *Magic 1500 Autopilot Fuse Issue*

By Dick Rochfort, ATP, MCFI, CFII, MEI

QUESTION: I have experienced a frustrating chain of events and I am wondering if anyone else has had the same. I have a 2004 Meridian with the Magic 1500 autopilot and the Meggitt panel. I am about to replace the fifth electric pitch trim fuse in the autopilot box. It has blown four times under the same set of circumstances: instrument approach in visible precipitation, with the autopilot in approach mode and in a descending attitude. The variables are: flaps at 15 degrees or zero, gear up or down, non-precision or ILS, tracking on the approach inbound or heading mode with approach armed, smooth air or turbulence. Each time I have noticed the failure because the attitude of the airplane dips below the flight director command bars without recovering and without failing the autopilot. I will admit the first time this was a very confusing, and dangerous, situation. I canceled the autopilot and immediately tried to roll in trim to aid in correcting the descent only to find that it didn't work. Resetting the breaker had no affect. Muncie Aviation has gotten special permission from Meggitt to open the autopilot and replace the fuse. It works great when the weather is perfect. It only chooses to break when you are racing toward the ground in real instrument conditions. At least I know I can hand fly a raw data approach, but I would really rather have a functioning autopilot.

I get no failure notification. In fact, you can reset the autopilot in cruise and the airplane flies pretty well. You can see the display on the Magic asking for trim when required. Clearly the airplane and autopilot have no idea that there is any problem at all. I assume I am getting an over-voltage. Is it possible that the moisture is causing some kind of short? I am not an electrical whiz by any stretch.

I hope someone has had a similar experience and can point me in the right direction. Thanks.

ANSWER: I'm glad you asked ...

Sorry to hear about your trouble with the 1500 Auto Pilot which is arguably the best autopilot in the fleet. I have some experience with this issue in the training environment, but I have not heard of it happening during routine flight. In any case, I have talked with S Tec and Rick Peavely about it. The 3 amp fuse is designed to protect the trim servo motor. If this fuse blows the electric trim stops running. The autopilot continues to work as long as the pilot satisfies the AP request for trim by manually adjusting it using the wheel. You can do that by observing the trim arrow annunciator on the AP panel. This is not a happy set of circumstances, but it is certainly workable. If you use the autopilot with the blown fuse, be sure to satisfy the pitch command or you could overwork the pitch servo and potentially complicate your already interesting experience.

*Fly Safely - Train Often*

Phone 410-435-3333 - Toll Free 866-870-8196 - Fax 410-435-7311

[www.rwrpilottraining.com](http://www.rwrpilottraining.com) - [mail@rwrpilottraining.com](mailto:mail@rwrpilottraining.com)

Richard W. Rochfort, ATP, MCFI, CFII, MEI - 6031 Bellona Avenue - Baltimore, Maryland 21212-2923



# RWR Pilot Training



## Malibu - Mirage - Meridian

*Insurance Approved Initial & Recurrent Training Programs  
Designed to Make Your Flying Safe and Enjoyable  
Provided When and Where You Choose*

The failure has occurred on my watch twice; each time while conducting a trim stall in training using the electric trim with the AP engaged (I now conduct this scenario by simulating the electric trim). The fix is to have your avionics shop manager contact S Tec and get approval to replace the 3 amp fuse with a 4 amp fuse, if he has not done so already. Many of the experienced shops do not know about this fix because the failure is rare and very specific, but much to my chagrin, it is repeatable. The approval is necessary because the fuse is soldered in place and is not considered field repairable, but any trained technician should be able to handle it.

I would like to add - anytime the aircraft AP does not do what you have commanded (or think you have commanded),

1 – press and hold the red AP disconnect button on the left side of the yoke (under your index finger)

2 – trim manually to regain control and fly the clearance 3 – pull the red collared AP trim breaker (you DO have a red collar on that breaker right?), then you may let go of the red AP disconnect button. Remember – trust ... but verify.

If you have questions or want additional information feel free to contact me directly.

I hope this information is helpful.

Fly Safely – Train Often

Dick Rochfort, ATP, MCFI, CFII, MEI

410-435-3333

[mail@rwrpilottraining.com](mailto:mail@rwrpilottraining.com)

[www.rwrpilottraining.com](http://www.rwrpilottraining.com)

*“I’m Glad You Asked” is a regular column written by Master Flight Instructor Dick Rochfort. Dick answers questions which come up frequently while conducting training in the Malibu, Mirage and Meridian aircraft. If you have a question for Dick, you can send it to him at [mail@rwrpilottraining.com](mailto:mail@rwrpilottraining.com). He’ll be ... “glad you asked”.*

*Fly Safely – Train Often*

Phone 410-435-3333 - Toll Free 866-870-8196 - Fax 410-435-7311

[www.rwrpilottraining.com](http://www.rwrpilottraining.com) - [mail@rwrpilottraining.com](mailto:mail@rwrpilottraining.com)

Richard W. Rochfort, ATP, MCFI, CFII, MEI - 6031 Bellona Avenue - Baltimore, Maryland 21212-2923



# RWR Pilot Training

## Malibu - Mirage - Meridian

*Insurance Approved Initial & Recurrent Training Programs  
Designed to Make Your Flying Safe and Enjoyable  
Provided When and Where You Choose*



---

## Biography

### Richard W Rochfort



A former corporate pilot and primary flight instructor, Dick is a full-time Master Certified Flight Instructor providing insurance approved initial and recurrent pilot training in the Piper PA46 Malibu, Mirage, and Meridian aircraft. He is currently flying over 450 hours per year and trains 60-80 pilots every year exclusively in these aircraft.

He holds multi-engine ATP and Gold Seal Flight Instructor Certificates with CFII, MEI and CE-525S ratings. He has been actively involved in flight training since 1991 and has trained pilots all over the US, Canada and Europe.

Dick is an Aviation Safety Counselor for the FAA Baltimore FSDO, a National Industry Member of the FAA Safety Team (FAAST) and has conducted hundreds of programs for the pilot community. He is an instructor for the M/MOPA Safety and Training Foundation and The National Association of Flight Instructors has designated him Master CFI. Less than 1% of all flight instructors have earned this designation.

Dick served as a Staff Sergeant E6 in the US Army Special Forces from 1970 until 1976 as an A team radio operator, training indigenous personnel in field communications. He worked from 1976 until 1991 as an industrial engineer training manufacturing personnel for the production of communication and navigation equipment for US military.

His education includes undergraduate degrees in Clinical Psychology and Engineering and a Masters Degree in Business Administration. Dick lives in Baltimore, Maryland with his wife and two daughters. He is a PADI Certified Scuba Diving Instructor, First Aid Instructor and an Eagle Scout.

---

*Fly Safely – Train Often*

Phone 410-435-3333 - Toll Free 866-870-8196 - Fax 410-435-7311

[www.rwrpilottraining.com](http://www.rwrpilottraining.com) - [mail@rwrpilottraining.com](mailto:mail@rwrpilottraining.com)

Richard W. Rochfort, ATP, MCFI, CFII, MEI - 6031 Bellona Avenue - Baltimore, Maryland 21212-2923