



# RWR Pilot Training



## Malibu - Mirage - Meridian

*Insurance Approved, Type Specific Training Programs  
Designed to Make Your Flying Safe and Enjoyable  
Provided When and Where You Choose*

### I'm Glad You Asked

### *Turbine Engine Starting Parameters*

By Dick Rochfort, ATP, MCFI, CFII, MEI

QUESTION: Since I purchased my 02 Meridian last March I noticed that when starting it without the help of a GPU the ITT temp reaches as high as 770. When I got the aircraft I installed a new battery so that should not be the problem. I always have 24.7V or higher. I wait until 15-16Ng to move the condition switch. Should I move it sooner at 13Ng?

ANSWER: I'm glad you asked ...

Pratt Whitney says Mac is correct. They go on to say that internal heat is cumulative in terms of engine life; that a 28 volt GPU start will, all other things being equal, produce a cooler start; In fact, about 100 degrees cooler. I suggest that all turbine operators consider a 28 volt start unless there is a compelling reason to do otherwise.

Battery starts are safe as long as the battery (and everything else) is in good condition. You should monitor the voltage during engine start and the amperage required to recover the battery after the generator is brought online after the start. You should look at the numbers and the rate of change. A marginal battery will give itself away here. Consider turbine washes from time to time. There will be a noticeable difference in start temperature after a wash.

The idea of adding fuel at 13% NG is Pratt Whitney's and it is recommended because there is a delay between the time the condition lever is moved forward and the actual combustion. Moving the lever at 13% avoids the delay in engine spool-up that tends to result from waiting. It is a way, in effect, of anticipating the NG stabilization around 16-18%. If you use a 28V GPU you have to get moving at 13% because the engine spools up very quickly.

Pratt Whitney has a PT6 Pilot Familiarization Program at their maintenance facility near Montreal. I highly recommend it. The 2 day program is excellent and it will dispel a lot of old wives tales about turbine engine management. Information about that program is available at:

<http://www.rwrpilottraining.com/PT6.pdf>

There is also a great deal of misunderstanding about setting up for cruise, the meaning of a continuous temperature limit and the difference between running to temperature vs running to torque in cruise. Here is a 10 minute video I produced based on the information provided at the Pratt Whitney School:

[http://www.rwrpilottraining.com/Meridian-Turbine\\_Engine\\_Management.wmv](http://www.rwrpilottraining.com/Meridian-Turbine_Engine_Management.wmv)

*Fly Safely – Train Often*

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If you need further information or have any questions I can be reached at 410-435-3333

I hope this information is helpful.

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*“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”.*

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## 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.

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