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**Author** | **Topic: Falcon 4.0 Training Mission Report #16**

**BeachAV8R** posted 09-21-2003 20:05 “ ”

Member  
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3055

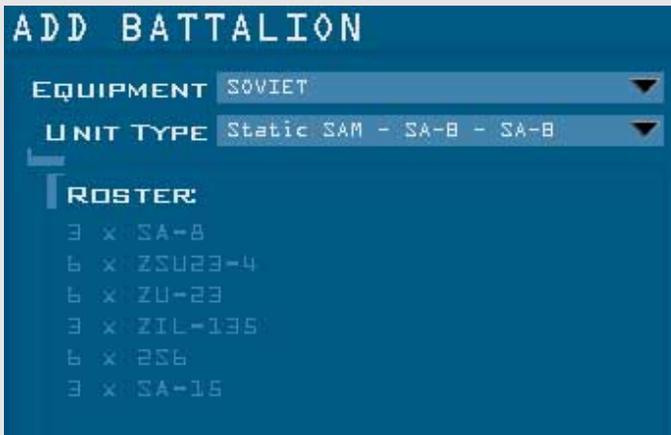
09/21/03  
Falcon 4.0/SP3 Training Mission Report #16

Objective:

- Suppression Enemy Air Defense (SEAD)
- ECM
- Missile evasion
- HARM

Planning/preflight:

Today we will explore the dangerous SEAD task. Our target for today will be a Soviet SA-8 site. As you can see, the static SA-8 site is also defended by numerous other anti-air assets:



For the strike we will be carrying the AGM-88 High Speed Anti-Radiation Missile (HARM) and MK-20D "Rockeye" anti-armor cluster bombs. In addition we'll be carrying the ALQ-184 Electronic Counter Measures (ECM) pod to counter enemy air targeting radars.

# Stingray1

T.O. - 09:01:00

Max Weight : 42300  
 Gross Weight : 32786  
 Clean Weight : 18917  
 Munitions : 6707  
 Fuel : 7162  
 Drag Factor : 57.0




Loadout	INV	QTY	9	8	7	6	5	4	3	2	1
AIM-9X	HGH	2	●	○	●				●	○	●
AGM-88	HGH	2			●	●		●	●		
ALQ-184	HGH	1					●				
Mk-20D	HGH	6			●●●	●●●		●●●	●●●		

SAVE AS
LOAD
RESTORE
CLEAR
CANCEL
OK



**Debrief:**

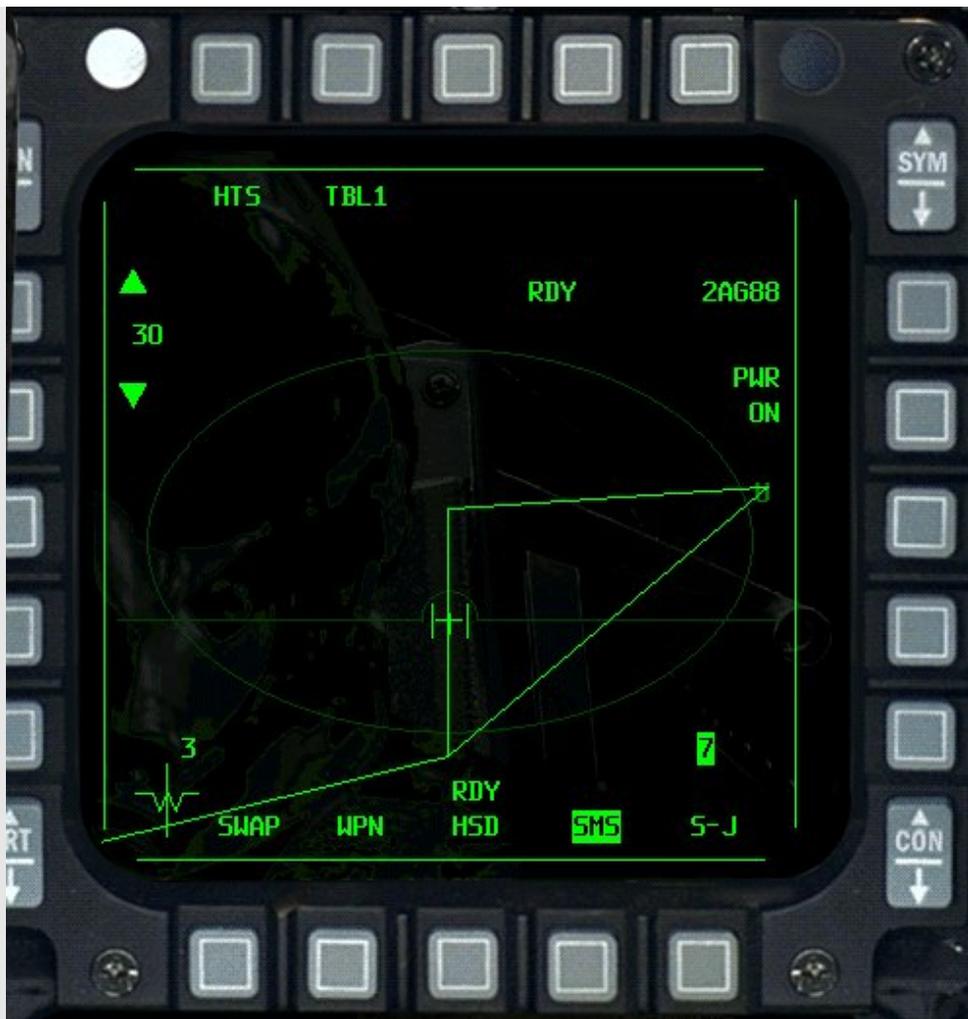
Bristling with weapons we take-off on one of the most formidable training missions yet. The SEAD mission is traditionally one of the most demanding roles attack aircraft can play. It can be cat and mouse game with deadly consequences for all parties involved:



Glancing down at the Threat Warning System panel I have punched the "SEARCH" button in order to show search radars on my TWS scope:



Pulling up the HARM page gives a unique composite MFD picture showing my flight path as well as any radiating threats. Designating can be done in a similar fashion as designating an air-to-air radar target: slew the target designator brackets over the selected emitter and designate:



Reaching the IP we turn inbound toward the threat area:



My TWS shows several radars in search mode ahead as well as my wingman's radar symbol behind my right wing:



Cont...

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**BeachAV8R**

☐ posted 09-21-2003 20:06



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For demonstration purposes only, we will leave the ECM pod off for this fly-by so that we can see what a tracking and firing radar will do. Notice the ECM light is not illuminated:



The HARM page appears pretty cluttered with emitter symbology. What does stand-out is the nearest SA-15 symbol which can easily engage us below 20,000 feet:



The TWS gives a bit more discrimination, showing the SA-15, the SA-8 and numerous search radars. I would hazard a guess that the search radars are the ZSU-23-4 AAA vehicles:



As we over-fly the site, we get a solid track and launch light. The TWS symbol turns into a circle and indicating a launch warning from the SA-8 site and the diamond indicates that it is the highest priority target. In addition the missile launch light has illuminated and a launch warning audible tone is heard. It is worth noting that the rings on the TWS display indicate whether an emitter is in the lethal range (inside ring) or not (outside ring). What this means is that even though a symbol may be inside the inner ring (within the lethal range) it does NOT mean that the emitter is physically CLOSER to you than a symbol located on the outer ring:



A glance through the HUD shows a AAA tracer round whizzing past the nose of the aircraft:



The SA-8 "Gecko" launches a missile at me:



As the missile arcs up toward me I pull into a defensive high-G turn hoping to out rate the missile. The turn evades the missile, but also puts me down lower in the effective range of the AAA guns:



Cont..

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**BeachAV8R**

📅 posted 09-21-2003 20:06 🏠 👤 📧 📎 “ ”

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The high-G turn is met with the sound of rending metal. My break turn was a bit too heavy and I actually ended up bending some parts of the airplane under the heavy G loading. My master caution illuminates and I start to assess the damage that \*I\* have done! The FLCS and DDU lights are illuminated on the right eyebrow panel indicating a flight control computer system problem:



Reaching over I punch the F-ACK (Fault Acknowledgement) button to display the specific faults in the Pilot Fault Display (PFD) window:



The FLCS DUAL FAIL indicator when cross referenced against the checklist implies that flight over Mach 1 will be unstable:



The ISA SNGL FAIL seems to indicate a failure of either the primary or secondary hydraulic system, again with the limitation of flight above Mach 1 would be unstable:



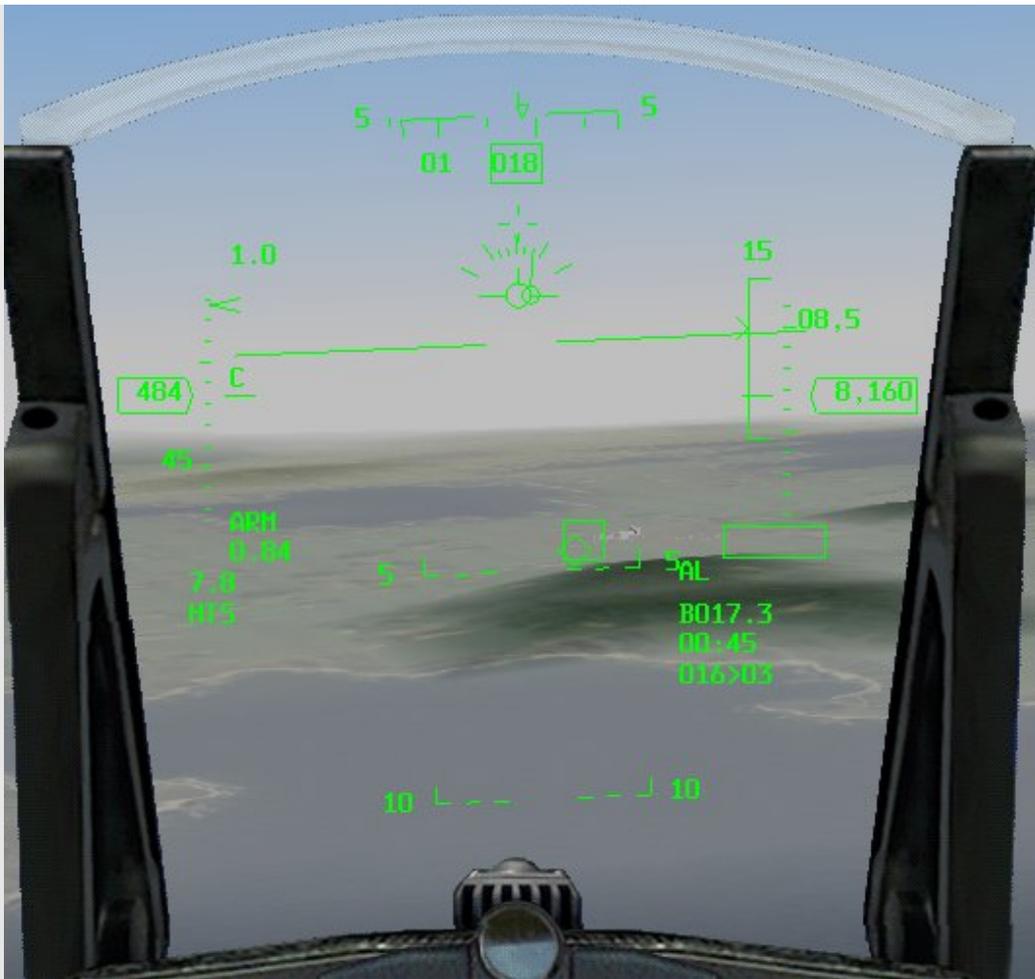
The last fault is a SMS STA4 FAIL indicating that stores station #4 weapons will probably not function correctly:



With all of that in mind and this being a training mission, I elect to come back around and continue the flight. I do a 180 and head back toward the "action" waypoint:



This time I slew the HARM cursor over the SA-8 symbol, lock it up and let fly with a HARM:



Cont..

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The HARM tracks the SA-8's emissions and flies down for a proximity kill:



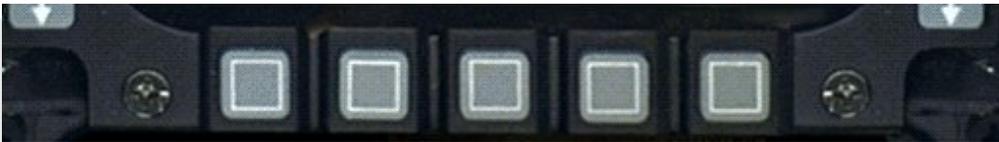


Selecting another emitter I launch my second HARM toward the target area but I don't know if I hit the target as things are getting a bit busier:



I now start programming my MK-20D "Rockeyes" for release on the stores management page (SMS). I select 4 release pulses which will drop a single bomb from each station spaced 200 feet apart, with an arming delay of 4 seconds and a burst altitude of 200 feet (should have been set higher!):





Additionally, since I've suffered a bit of damage I reach down to the left side panel and turn my ECM pod on to offer some self-protection:



Cont...

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Setting up for a CCIP delivery in the general target area I climb a bit, roll inverted and then pull down on the target area just west of the large building where I had seen AAA smoke coming from on the first pass over the target area:





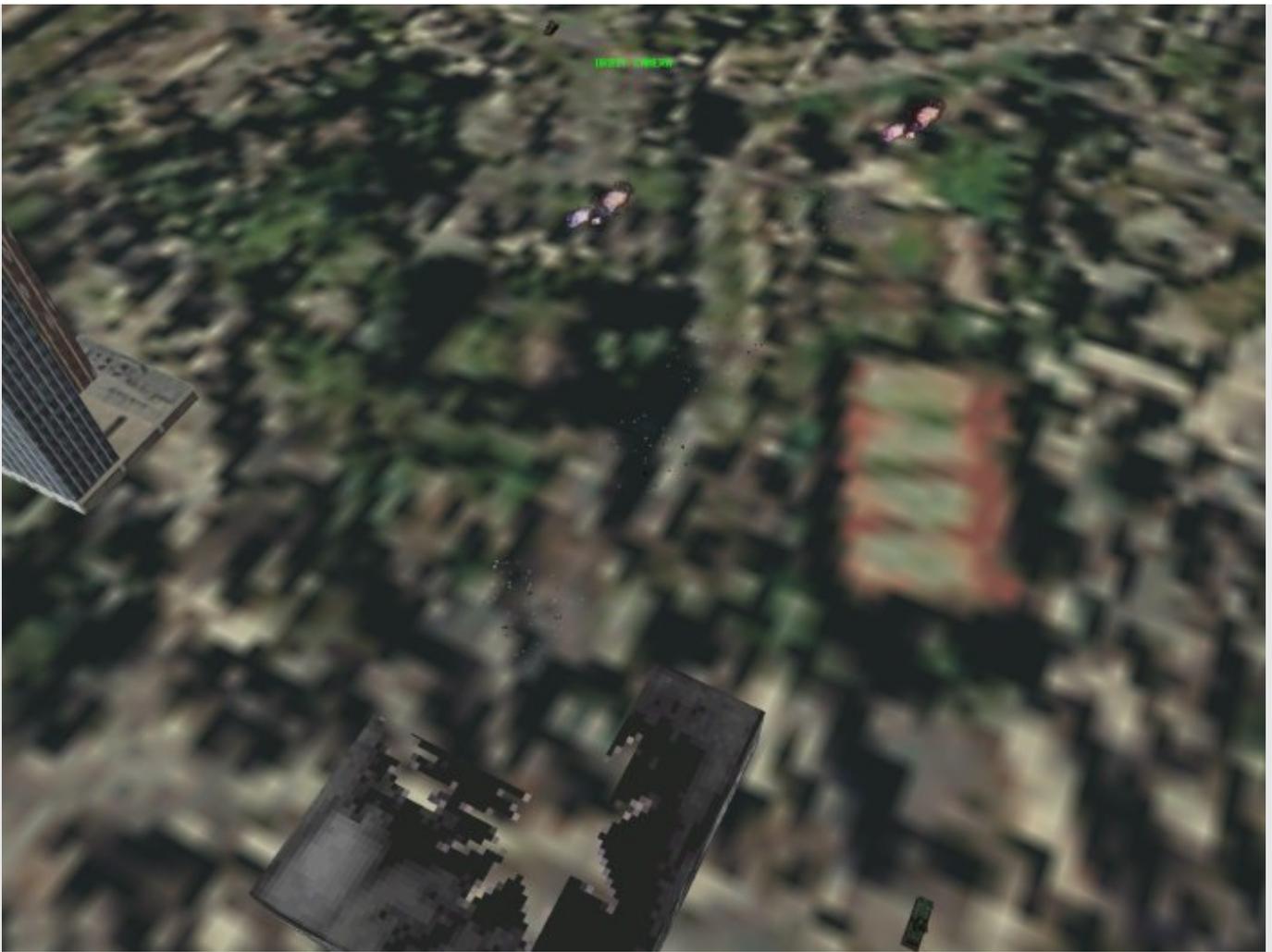
When the CCIP marker crosses my chosen target area I hit the pickle button and the stores management computer kicks the bombs off at my pre-set intervals and I enter a hard break turn away from the target:



Unfortunately as I complete my break turn I'm hit by a missile; I'm not sure whether it was an SA-8 or an SA-15 since there were a total of 6 SAM vehicles in the battalion I placed for the training mission:



My Rockeyes do score hits on 2 vehicles in the target area:



The price is heavy though as my F-16 spews fire and tumbles out of control toward the ground:



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I reach for the handles and eject as I pass through 8,000 feet:



Seconds later my aircraft explodes; good thing I didn't wait another few seconds!



Conclusions:

Well this is an easy conclusion to draw: stand-off weapons are your friend. Firing the HARM from outside of the engagement envelope of the enemy air defenses is the obvious first choice. Multiple attacks on the same site are also probably not sound campaign tactics, but for training and demonstration purposes I did it. A more liberal use of ECM, break maneuvers and chaff could have also made my attack more effective. And finally, medium to high altitude bombing is always a safer bet than medium to low altitude bombing. (Ask General Chuck Horner!)

All total, 1 HARM hit and 2 CBU kills:

FLIGHT STATISTICS:			
Callsign	Status	Ordnance Fired	Results
Stingray11	Destroyed	2 x AGM-88	1 miss, 1 hit (50%)
		4 x Mk-20D	2 misses, 2 hits (50%)
Stingray12	Functional	none	

BeachAV8R

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