

SOMETIMES “AH-HA” IS A
FOUR-LETTER WORD

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The theme of the workshop is

“Ah-hah moments in flight test: discovery and close calls - what we learned and the resulting tactics, techniques and procedures to test safely.”



SOMETIMES “AH-HA” IS A
FOUR-LETTER WORD



SOME TIMES IT'S GOOD:

SOME TIMES IT'S GOOD:

SIERRA HOTEL

SOME TIMES IT'S BAD:

SOME TIMES IT'S BAD:

\$#!+

SOME TIMES IT'S REAL:



SOME TIMES IT'S REAL:

TINS

AND SOME TIMES IT
AIN'T:



AND SOME TIMES IT
AIN'T:

RUSM?











SOMETIMES “AH-HA” IS A
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F-18A HIGH AOA TESTING



“Sooner or later, programs need an excuse to do the right thing...”

F-18 HIGH AOA TESTING



F/A-18E/F SPIN TESTING



Upright Spin, 120 deg/sec, Left

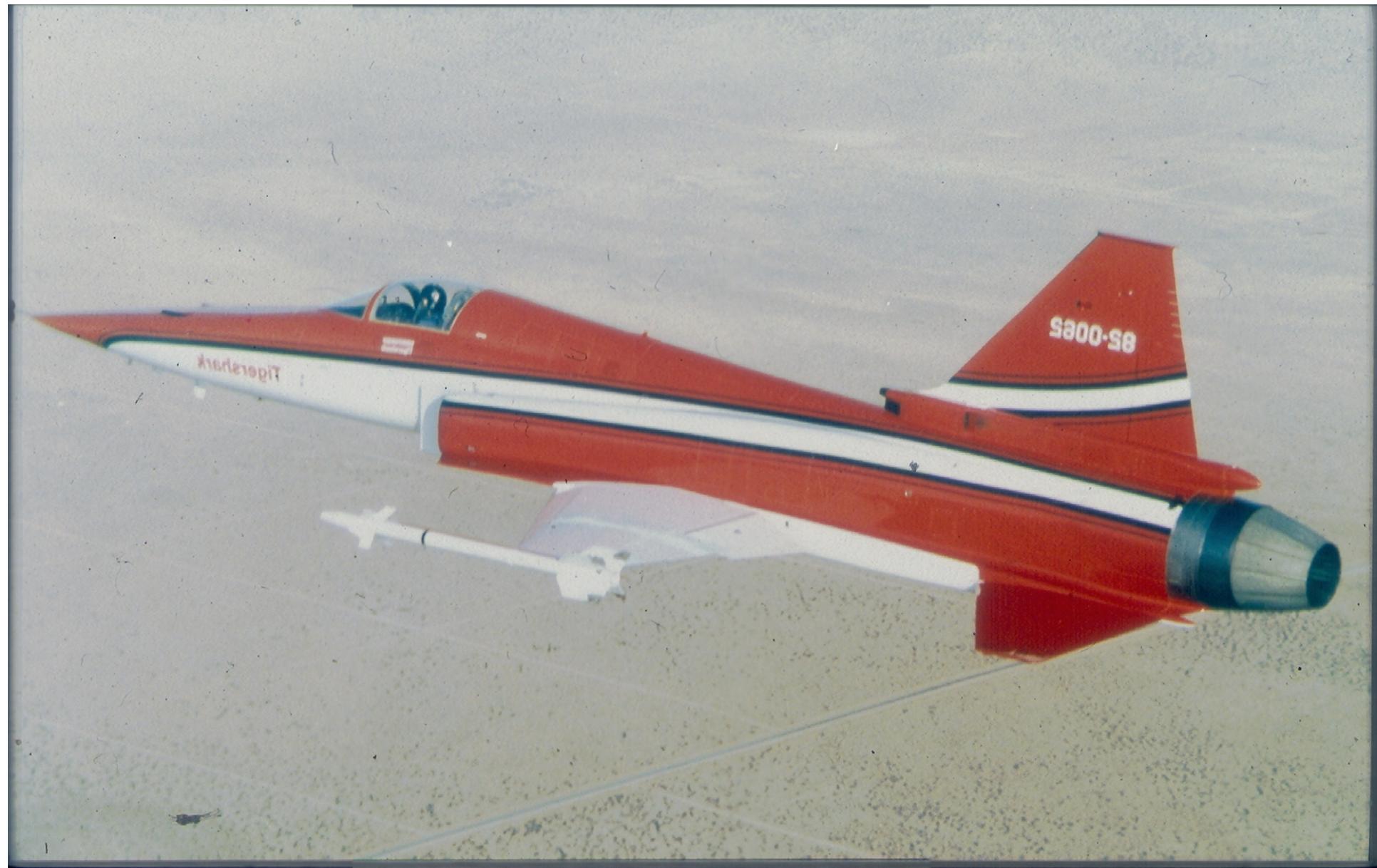
3 Tank Interdiction Loading

Flight 266, Run 28, 10 July 98

Pilot: CDR Niewoehner

AH-HAs

- Spin it first on purpose (F-18)





AH-HAs

- Airshows are **VERY DANGEROUS!** (F-20)





AH-HAs

- Test engines in multi-engine airplanes (YF-23)



YF-22

N22YF

YF-23

1900

YF-23

1901

U.S. AIR FORCE

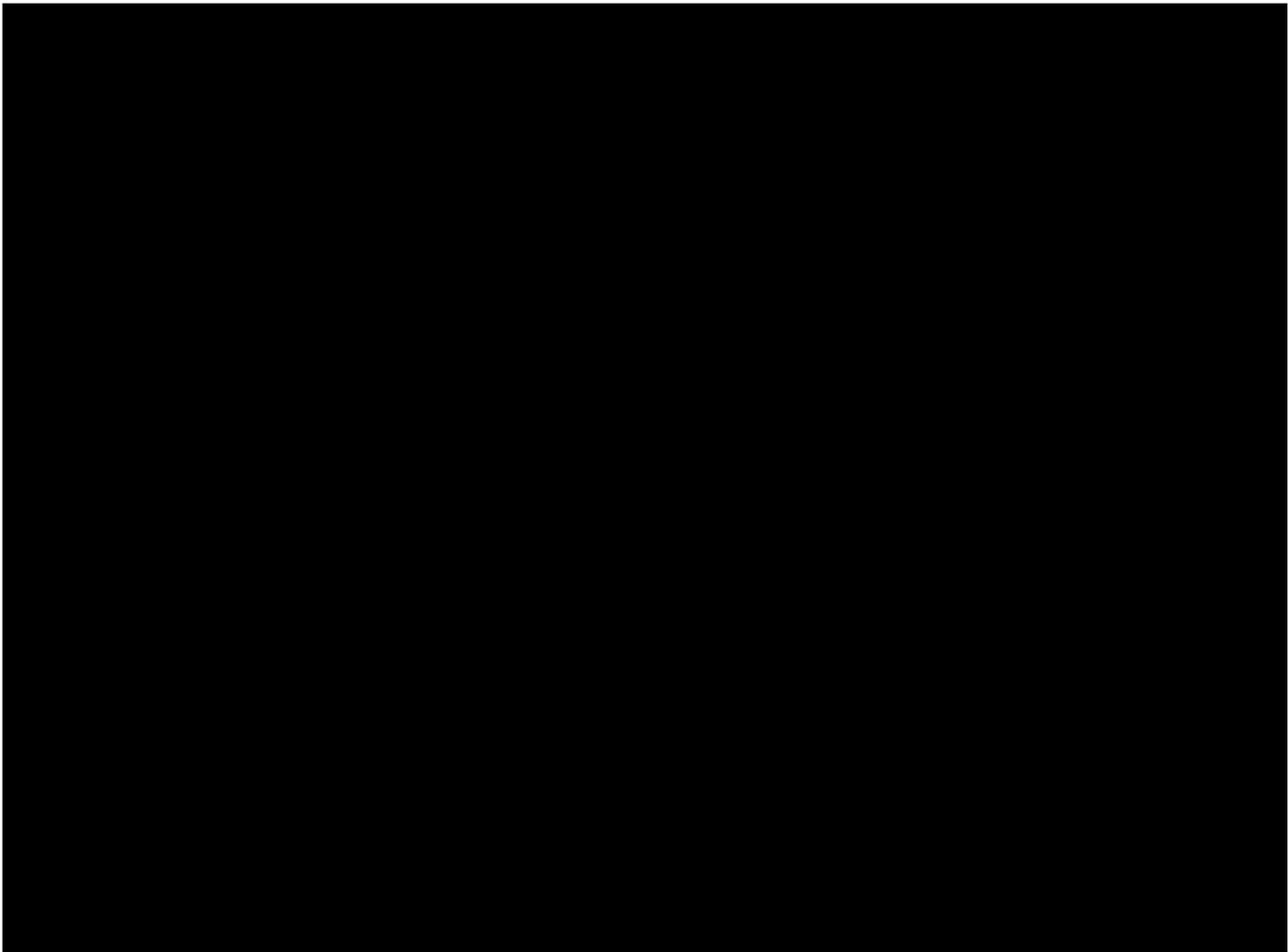
YF-22

1900



Scott
Northrop

Tom Vein
Northrop





B-2A crash 23 Feb 2008





AH-HAs

- FBW *should* be different (B-2)



F/A-18E/F VMCA

F-18E

Vmca Testing

F/A 18 E1

Simulating 14 AOA/

Max A/B Off Cat

4 Drops + Buddy Store



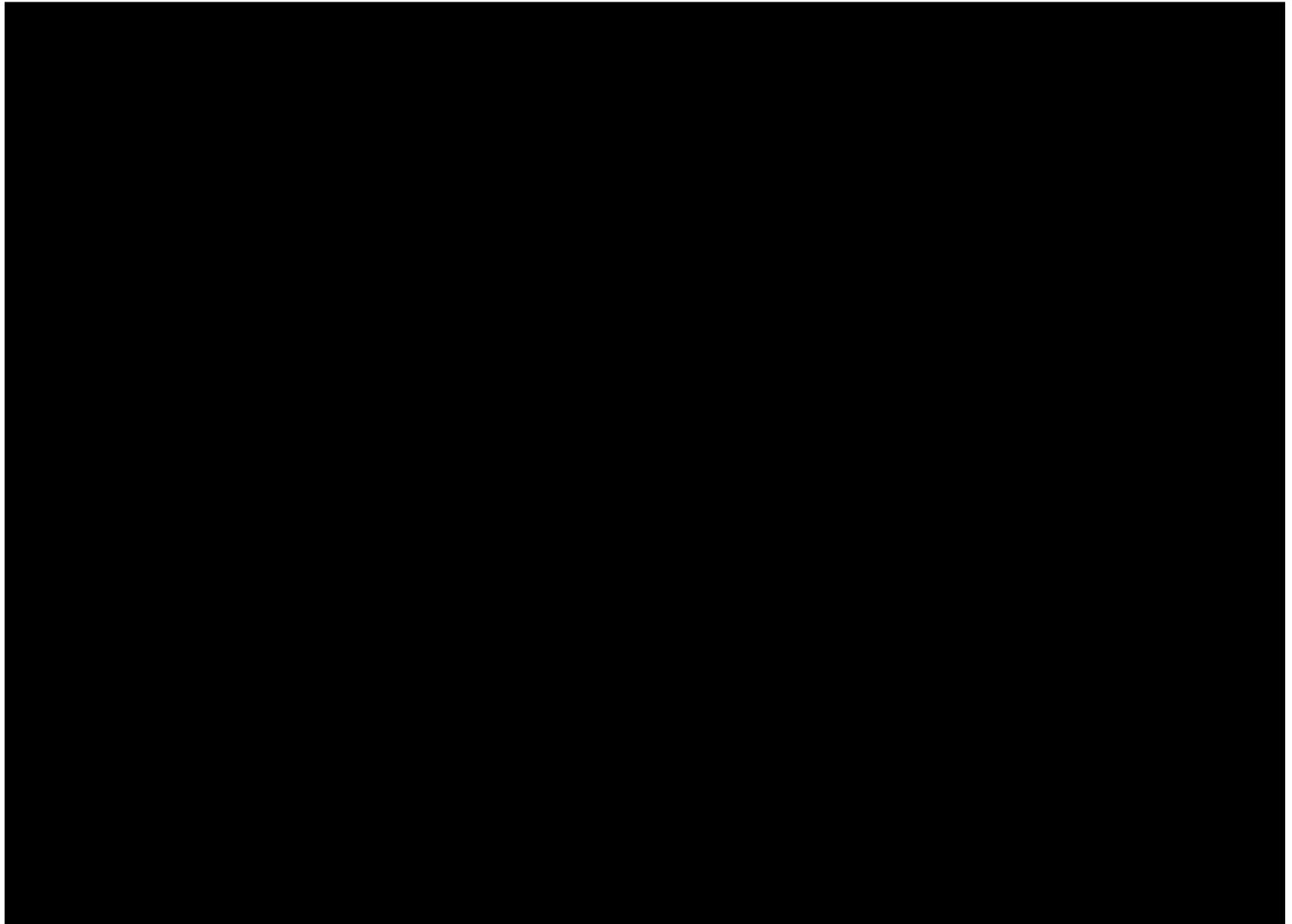
AH-HAs

- Stand on your boss's desk (F/A-18E/F)



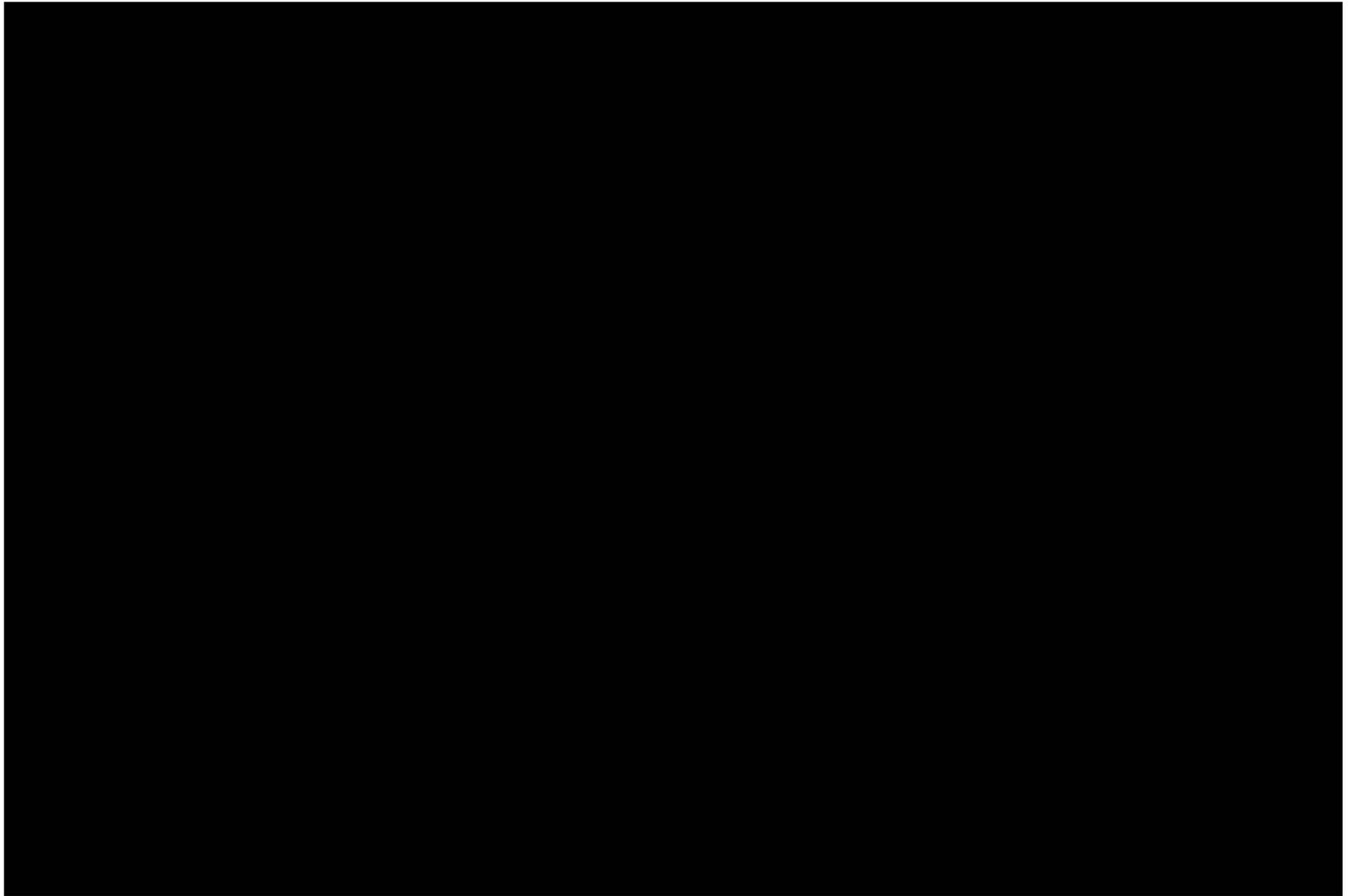


Fast Carrier - 1995





F-35B IST (2011)





AH-HAs

- Make it easy = make it safe (F-35B)



AH-HAs

- Spin it first on purpose (F-18)
- Airshows are **VERY DANGEROUS!** (F-20)
- Test engines in multi-engine airplanes (YF-23)
- FBW *should* be different (B-2)
- Stand on your boss's desk (F/A-18E/F)
- Make it easy = make it safe (F-35B)

QUESTIONS?

COMMENTS?