

It was the fall of 1979, and I had recently joined a Navy E-2 squadron based at Naval Air Station Miramar just north of San Diego. My question came up in a squadron officers' meeting during which we were reviewing the Navy's basic instructions on flight safety-OPNAVINSTR 3710 in naval parlance. In response to my question, the safety officer explained what 3710 says about smoking in naval aircraft. Smoking is prohibited during fueling operations, during and immediately after take-off, immediately before and during landing, whenever gas fumes are detected, during all ground operations, in parts of any plane containing fuel tanks, in the cabin if a flammable cargo is aboard, during inspection of aircraft compartments that collect gas fumes, and whenever oxygen equipment is in use. Moreover, a squadron commanding officer can issue further directives governing smoking in aircraft and—this was the clincher—"smoking shall be discouraged among flight crews."

So with all these obstacles the Navy puts between its aviators and nicotine, it wasn't the price tag that caught my attention during the recent flap over the \$600 ashtrays on the Navy's E-2, a carrier-based, radar surveillance airplane. Instead, I wondered why the Navy was buying the ashtrays in the first place.

Amused by my naivete, an experienced lieu-

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tenant commander set me straight. Just like extras on new automobiles, he explained, extras on Navy planes are quite profitable for the manufacturer. As long as smoking isn't flatly prohibited in an aircraft, the manufacturer, in this case Grumman, will try to include ashtrays. On most tactical aircraft, the use of oxygen equipment rules out smoking right away. But the E-2 has pressurized cabins and carries oxygen masks only as a backup. That means there conceivably could be a little time for smoking during a mission. And since the E-2 is designed for use on aircraft carriers, where the plane is shot off the deck by a steam-powered catapult, not just any ashtray off the shelf will do. Hence the need for custombuilt ashtrays that meet rigorous military specifications—and cost \$600 apiece.

Last spring, after the press discovered Grumman's ashtray bonanza, three senior officers at Miramar were removed from their jobs (although one was later reinstated). Grumman volunteered to cut its ashtray prices drastically. This helped dampen the controversy some. But given that every E-2 in the fleet since the mid-sixties has been equipped with four of these deluxe receptacles, this "solution" seemed typically cosmetic.

The ashtray isn't the only "Grumman extra" on which the Navy wastes money. The typical mission of an E-2 lasts about four to four and a half hours. During this time, the five-man crew is usually far too busy to worry about going to the bathroom; if someone has to urinate, he can

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make use of the "relief tube." There is no in-flight toilet. This may seem somewhat short-sighted, but in all my carrier cruises and E-2 flights, I never once saw nor heard of an aviator who had to improvise an in-flight toilet to get on with the national defense.

The point, however, is not that the E-2 doesn't come equipped with a chemical toilet. In fact, every E-2 that arrives from Grumman's Long Island factory comes complete with a chemical toilet in the aft equipment compartment. But in every E-2 in which I flew, the toilets had been removed—by the Navy. Presumably the reason is space, but in any event, the Navy still pays for the toilets. How much is unclear, since Grumman says that it doesn't break out the cost of the E-2's toilet when it writes up the bill for the Pentagon. One can, however, be reasonably sure that custom-made toilets are somewhat more expensive than custom-made ashtrays.

There's at least one other non-essential orna-

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ment in the E-2—the radar oscilloscope. Designed to calibrate the radar, it's really a throwback to an earlier time in the plane's history. Only certain enlisted aviation flight maintenance technicians are trained to use the oscilloscope, and in recent years, the Navy has gradually dropped all but a few of them from flying status. So almost none of the officers in an E-2 today know how to use the damned thing.

That's no big loss, since a new diagnostic computer program gives information on just about every aspect of radar performance that the maintenance people would want to know. Yet there the oscilloscope sits on every flight, 200 pounds of blank screen. That's like having a crew member who sleeps through the whole war. Experienced fleet E-2 aviators have known for years that gadgets like the oscilloscope are practically worthless. But somehow the operators' opinions haven't yet filtered far enough up the line to convince the Navy to quit paying for them in new E-2s.

Aside from the money involved, there's another, often overlooked reason to be concerned about these and other "extras" on planes like the E-2. The E-2 started out more as a good idea than a carefully designed, ready-for-operations aircraft. "Let's put a radar system in a plane that flies at 20,000 feet," was the good idea, but it's taken about 25 years to make it work. During that time, the E-2's communications, avionics, radar, and navigation systems have been changed several times each, adding more weight to the plane. Meanwhile, the E-2's engine and fuselage—which have to handle all that weight—have changed very little.

The growing weight of the E-2 has been a safety concern inside the Navy for some time. When I was in the E-2 squadron, there was a nearepidemic number of cases where E-2 engines "bogged-down," losing precious power during take-off. The risk of a crash in these circumstances is high, especially if the plane is fully loaded with jet fuel, is hindered by hot, humid weather (which reduces "lift"), or is launched by a "soft" catapult shot.

Obviously the weight of four extra ashtrays isn't going to cause an E-2 to crash. A 200-pound oscilloscope, however, is a different story. And while the Navy has not officially attributed any E-2 crashes or near-crashes to excess weight, one can understand why. It's bad enough that the Navy is paying through the nose for these irrelevant goodies. It's even worse that it may also be compromising the safety of its own men and the readiness of its fighting force.