

Hostile Airspace: Serbian IADS during Allied Force

By: Will McLaughlin

“NATO is confronting an intelligent and capable adversary.”

Gen Wesley Clark, Supreme Allied Commander, Europe

The Cold War had ended seven years earlier, but in the Spring of 1999, the North Atlantic Treaty Organization (NATO), found itself squaring off against a rogue state from the former Warsaw Pact who wielded a robust complement of Soviet Integrated Air Defense Systems (IADS). As the multicultural state of Yugoslavia dissolved into its constituent parts following the death of Communist leader, Josip Tito, through the late 1980s and early 1990s, the small disputed province of Kosovo became the focal point of the violent disintegration. Ultimately, Serbian President Slobodan Milosevic employed his mechanized infantry and heavy weapons to displace Albanians living in Kosovo through force, terror, mass retaliations and counter retaliations of the Albanian Kosovo Liberation Army (KLA). With conflict building and an increasing number of civilians being caught in the crossfire, on 24 March 1999 and, for the first time in the organization’s history, NATO initiated coalition airstrikes against an adversary. In this case, it was against Bosnian targets in Kosovo.



The Former Yugoslavia



Lt Col Dale Zelko’s Downed F-117

NATO planners understood the unique risks to allied aircraft operating in the former Yugoslavia. Not only did Kosovo’s geography of interconnected valleys with heavy cloud cover pose a problem, but hegemonic Serbia also possessed a credible integrated air defense system from the former Soviet Union that was tiered, offered layered defense and was redundant. Additionally, because the command and control structure of Serbian IADS delegated command authority to battalion level commanders, the Serbians were able to disperse their forces and shoot targets of opportunity meanwhile limiting their risks to aircraft flying Suppression of Enemy Air Defenses (SEAD) missions. The risks posed by Serbian IADS proved credible on the third night of the air campaign, when they shot down an F-117 stealth fighter over Serbian airspace. Five days later, Serbian air defenders shot down a F-16CJ flying SEAD piloted by Lt Col David Goldfein, the current CSAF. One month later, a Serbian SA-6 crew downed Capt Scott O’Grady’s F-16 over Bosnia. All pilots successfully ejected their aircraft and were subsequently recovered by either USAF or Marine personnel. The IADS risk forced General Clark aircrews to operate above 15,000 feet.

HISTORY

IN TWO

Interestingly, the aircraft were shot down using SA-3 systems (of the 1961 vintage) and not the more advanced SA-6 systems. The SA-3 was designed as a low to medium altitude counterpart to the SA-2 system which operated in medium to high altitudes. The SA-2 system, first employed in the late 1950s, earned its reputation in 1960 when it shot down Maj Gary Powers while flying a U-2 over the Soviet Union. The SA-2 and SA—3 systems used a long wave radar that, when paired with the known flight paths of NATO aircraft, enabled Serbian air defenders to operate their systems using short bursts of radar emissions to track their targets. Though the system was not credited with any kills during Operation Allied Force, the SA-6 constituted the backbone of Serbian Air Defense. The highly mobile SA-6 enabled defenders to launch their missiles and then jump site before NATO could respond. So called, “shoot and scoot” tactics resulted in more shots being taken by and at the SA-6 batteries



LOW BLOW Radar with SA-3 Launcher



Straight Flush Radar with SA-6 Transporter/ Erector

increasingly powerful and precise air war. As NATO forces shifted into different phases of operations, Serbian air defense could neither be discounted nor prevent NATO from striking key military targets and civilian infrastructure. Despite the air war’s progress, SEAD missions continued to constitute a sizable portion of the daily ATO with a total of 743 radar-destroying HARMs having been expended at IADS targets. The Serbian integrated air defense system proved that capable, but not state of the art systems could hamper theater -wide air operations. As such, Serbian air defenders proved elusive and resilient throughout the campaign with their having fired as many SAMs on the last day as they did on the first of Allied Force.

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Composition of Serbian IADS

- 3 SA-2 battalions
- 16 SA-3 battalions
- 5 SA-6 Regiments of 5 Batteries each (~25 batteries with a radar)
- 130 Infrared SA-9s
- 1,850 AAA pieces
- ~10,000 mixed MANPADS

Strategically, the Serbian IADS capabilities allowed Milosevic to temporarily play for time against an



F-117 Wreckage on Display in Belgrade



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