

## TITAN II MISSILE SYSTEM

The Titan Missile System was developed by the Glenn L. Martin Company in response to a U.S. Air Force requirement for an intercontinental ballistic missile (ICBM) system. The Titan II system that was deployed in the Tucson Area from 1962 to 1983 was a significantly advanced version the Titan. The Titan II used a hydrazine-based [hypergolic](#) propellant that allowed it to be stored fully fueled and launched from its underground silo whereas the Titan I had to be elevated to surface level and then fueled before it could be fired. The Titan II also had a larger warhead (the 9 megaton W-53) and an inertial guidance unit for greater accuracy.

The 390<sup>th</sup> Strategic Missile Wing (ICBM-Titan) was activated at Davis-Monthan Air force Base on 28 November 1961 to prepare for the deployment of the Titan II to the Tucson area. Both the 390<sup>th</sup> Missile Maintenance Squadron (MIMS) and the 570<sup>th</sup> Strategic Missile Squadron (SMS) were activated on 1 January 1962 and the 571<sup>st</sup> SMS was activated on 1 May 1962. The 570<sup>th</sup> received its first missile on 27 November 1962 and became fully operational with 9 missiles on 13 June 1963. The 571<sup>st</sup> SMS became fully operational with its 9 missiles on 30 November 1963. The missile sites were widely distributed around the Tucson area as shown in Figure 1. The sites controlled by the 570<sup>th</sup> SMS were located to the north and west of Tucson while those controlled by the 571<sup>st</sup> SMS were to the south. The command post for the missile wing was located on Davis-Monthon AFB and an alternate command post was located northwest of Tucson (the Blue square in Figure 1). In addition, an underground communications center was located on Mount Lemmon at the Mount Lemmon Air Force Station.

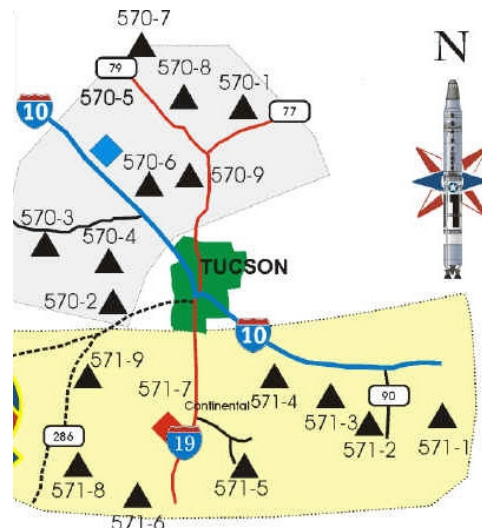


Figure 1. Missile Site Locations

The Titan II was an extremely hazardous system to operate because of its hypergolic propellants but served an urgent need until it could be replaced by the Minuteman Missile system with its solid fuel rocket motor. The fuel consisted of a 50-50 blend of hydrazine and unsymmetrical dimethyl hydrazine and the oxidizer was nitrogen tetroxide. The two components are stored separately in the missile and spontaneously ignite when mixed together during the launch of the missile. An example of its hazardous nature was the missile explosion that occurred at a Titan complex near Damascus Arkansas on 18 September 1980 as the result of a maintenance technician dropping a wrench socket while working on the upper portion of the missile. The 9 pound socket dropped about 70 feet and bounced off the first stage missile skin, puncturing it and resulting in fuel spraying out. Things then went from bad to worse and several hours later the missile exploded, blowing the 740 ton silo closure door 200 feet into the air. The W-53 thermonuclear warhead landed about 150 feet away. Fortunately, there were no serious incidents involving missiles of the 390<sup>th</sup> SMW.

With the deployment of Minuteman missiles and the change in employment tactics to the use of smaller yield warheads, President Reagan made the decision in October 1981 to retire the Titan II. Site deactivation commenced one year later (1 October 1982) and the last missile was removed from its silo in May 1984. The 390<sup>th</sup> SMW was inactivated in July 1984. All of the missile complexes were demolished with the exception of Missile Complex 571-7, the complex on Duval Mine road in Green Valley which became the Titan Missile Museum.

The elements of the missile system that may be of most interest to GVR Hiking Club members are the underground communications facility on Mount Lemmon, Missile Complex 571-5 that was located near the entrance to Madera Canyon and of course the Titan Missile Museum (Site 571-7). Several hiking club hikes pass right next to the Mt. Lemmon communication site and provide a good opportunity to discuss its role in the Cold War. Many of our hikers pass right by the site of former Missile Complex 571-5 on their way to the Madera Canyon trailheads never realizing that a Titan missile was once stored there ready to be launched on a moment's notice. Figure 2 shows the Mt. Lemmon communications site as it existed in 2012. Figure 3 shows what the site of Missile Complex 571-5 looked like after the site was deactivated. Figure 4 is a view of the missile complex that currently comprises the Titan Museum to give an idea of what comprised a Titan Missile Complex. An excellent description of the launch complex may be found at the following web site: <http://www.titan2icbm.org/titanC.html> When at that website, enlarged views of the pictures/graphics may be obtained by clicking on them.



Figure 2. Titan Communications Site



Figure 3. Deactivated Titan Site



Figure 4. Titan Missile Complex

Summarized from various web sites and the book, *Command & Control* by Eric Schlosser. Figure 1 was obtained from the 390<sup>th</sup> SMW website. The photographs in Figures 2, 3 & 4 were taken by T. Johnson

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