

USAF AIR DEMONSTRATION SQUADRON



LINEAGE

30th Aero Squadron organized, 13 Jun 1917

Demobilized, 14 Apr 1919

Reconstituted and redesignated 30th Bombardment Squadron, 24 Mar 1923

Activated, 24 Jun 1932

Redesignated 30th Bombardment Squadron (Heavy), 6 Dec 1939

Redesignated 30th Bombardment Squadron, Very Heavy, 28 Mar 1944

Inactivated, 1 Apr 1944

Activated, 1 Apr 1944

Redesignated 30th Bombardment Squadron, Medium, 10 Aug 1948

Redesignated 30th Bombardment Squadron, Heavy, 1 Jul 1961

Discontinued and inactivated, 1 Feb 1963

USAF Air Demonstration Squadron and activated, 13 Feb 1967

Organized 25 Feb 1967

30th Bombardment Squadron, Heavy and USAF Air Demonstration Squadron consolidated, 19 Sep 1985. Consolidated unit retains USAF Air Demonstration Squadron designation.

STATIONS

Camp Kelly (later, Kelly Field), TX, 13 Jun 1917

Fort Totten, NY, 16-22 Aug 1917

Southampton, England, 15 Sep 1917

Etampes, France, 19 Sep 1917

Issoudun, France, 23 Sep 1917

Bordeaux, France, 6 Jan-18 Mar 1919

Mitchel Field, NY, 5-14 Apr 1919

Rockwell Field, CA, 24 Jun 1932

March Field, CA, 25 Oct 1935

Albuquerque, NM, 1 Jun-27 Sep 1941

Clark Field, Philippines, 23 Oct 1941
Batchelor, Australia, 20 Dec 1941 (ground echelon in Luzon and Mindanao, Philippines, 20 Dec 1941-May 1942)
Singosari, Java, 31 Dec 1941
Melbourne, Australia, 5 Mar 1942
Cloncurry, Australia, 27 Mar 1942
Longreach, Australia, 13 May 1942
Mareeba, Australia, 24 Jul-10 Nov 1942
Pocatello, ID, 9 Dec 1942
Pyote AAB, TX, 24 Jan 1943-1 Apr 1944
Great Bend AAFld, KS, 1 Apr 1944
Dalhart AAFld, TX, 26 May 1944
Great Bend AAFld, KS, 23 Aug- 7 Dec 1944
Fort Lawton, WA, 11-19 Dec 1944
North Field (later, Andersen AFB), Guam, 16 Jan 1945
Kadena AB, Okinawa, 1 Jul 1950-16 May 1954
Pinecastle AFB, FL, 30 May 1954
Homestead AFB, FL, 1 Jun 1956
Grand Forks AFB, ND, 1 Jan 1962-1 Feb 1963
Nellis AFB, NV, 25 Feb 1967

ASSIGNMENTS

Unkn, 13 Jun-Sep 1917
Third Aviation Instruction Center, Sep 1917-Jan 1919
Unkn, Jan-14 Apr 1919
19th Bombardment Group, 24 Jun 1932-1 Apr 1944 (ground echelon attached to 5th Interceptor Command, 20 Dec 1941- May 1942)
19th Bombardment Group, 1 Apr 1944
19th Bombardment Wing, 1 Jun 1953
4133rd Strategic Wing, 1 Jan 1962-1 Feb 1963
Tactical Air Command, 13 Feb 1967
USAF Tactical Fighter Weapons Center, 25 Feb 1967
57th Fighter Weapons (later, 57th Tactical Training; 57th Fighter Weapons; 57th Fighter; 57th) Wing, 15 Feb 1974

WEAPON SYSTEMS

O-27
OA-4
YOA-5
B-3
B-12
B-10
B-18
B-17
B-24
LB-30, 1941-1942

B-17, 1942-1944
B-29, 1944- 1954
B-47, 1954-1961
B-52H, 1962-1963
F-100D, 1967-1968
F-4E, 1969- 1973
T-38A, 1974-1986
F-16A, 1982
F-16B
F-16C
F-16D

ASSIGNED AIRCRAFT SERIAL NUMBERS

T-38			
68-8100	68-8137	68-8175	68-8182
68-8106	68-8156	68-8176	68-8183
68-8131	68-8174	68-8177	68-8184

ASSIGNED AIRCRAFT TAIL/BASE CODES

UNIT COLORS

COMMANDERS

Unkn, 13 Jun 1917-14 Apr 1919
Cpt Willis H. Hale 30 Jun 1926
Inactive 28 Feb 1927
1LT Charles B. Overacker, Jr. 15 Jan 1930
Cpt James L. Grisham 24 Jun 1932
1LT Walter W. Gross 13 Apr 1934
1LT Franklin C. Wolfe 23 May 1934
1LT Wentworth Goss 9 Jul 1934
Cpt Carl W. Pyle 12 Sep 1934
Maj James L. Grisham 5 May 1935
Maj Albert F. Hegenberger 1 Oct 1935
Maj John K. Cannon 9 Jul 1937
Cpt Carlyle I. Ferris 16 Aug 1937
Maj Harry A. Halverson 11 Sep 1937
Cpt Cecil E. Archer 17 Jul 1939
Maj Thomas Blackburn 10 Oct 1940
Maj David R. Gibbs May 1941
Maj Raymond V. Schwanbeck, 14 Mar 1942
Maj Dean C. Hoebet, Jul 1942
Maj John A. Rouse, Sep 1942
Maj Paul E. Cool, 14 Feb 1943
Cpt Edson P. Sponable, May 1943
Unkn, 1 Apr-10 May 1944

Maj Arthur D. Sullivan, 11 May 1944
Maj Leon L. Lowry, 28 May 1944
Maj Robert B. Irwin, 1 Sep 1944
unkn, 1945-1947
Maj Charles J. Boise, 1948
Cpt Richard H. Partrick, 7 Feb 1949
Maj James S. Howard, 19 May 1949
Maj Edward M. Osander, by Dec 1949
LTC Warren C. Stirling, c. 1952
LTC Ralph W. Jones, by Jan 1953
LTC Harold E. Brown, 23 Apr 1954
Maj Louis W. Park, Jul 1954 (acting)
Maj William J. Gregory, Sep 1954 (acting)
Maj Ermine L. Hales, 3 Oct 1954 (acting)
LTC Curtis N. Youngblood, 19 Oct 1954 (acting)
LTC Harold E. Brown, 5 Nov 1954
LTC Fred R. Peck Jr., by Jan 1956
LTC Charles W. Ryckman, 24 Jun 1957
Maj Haldene A. Cope, by May 1959-unkn
LTC Robert J. Horrigan, 1 Jan 1962-1 Feb 1963
Unkn, 13-24 Feb 1967
LTC Ralph J. Maglione Jr., 25 Feb 1967
Maj Neil L. Eddins, 4 Jun 1967
LTC Joseph D. Moore, 1969
LTC Thomas S. Swalm, 28 Jul 1970
Maj Roger K. Parrish, 31 Jan 1973
Maj Chris Patterakis, by Dec 1975
LTC Edward D. Cherry, 12 Jan 1977
LTC David L. Smith, 16 Apr 1979
Maj Norman L. Lowry III, 8 Sep 1981
LTC Shumpert C. Jones, 18 Jan 1982
Maj James D. Latham, 7 Jun 1982
LTC Lawrence E. Stellmon, 3 Feb 1984
LTC Roger D. Riggs, 7 Feb 1986
LTC Stephen E. Trent, 5 Feb 1988
LTC Charles N. Simpson, Jan 1990
LTC Daniel J. Darnell, 1 Jan 1992
LTC Stephen J. Anderson, 11 Feb 1994
LTC Ronald A. Mumm, 19 Jan 1996
LTC Brian J. Bishop, 23 Jan 1998
LTC John R. Venable, 21 Jan 2000
LTC Richard G. McSpadden, 25 Jan 2002
LTC Michael Chandler, Jan 2004
LTC Kevin J. Robbins, 15 Feb 2006
LTC Greg Thomas, 18 Jan 2008

HONORS

Service Streamers

World War I Theater of Operations

Campaign Streamers

World War II

Philippine Islands

East Indies

Papua

Guadalcanal

Western Pacific

Air Offensive, Japan

Air Combat, Asiatic-Pacific Theater

Korea

UN Defensive

UN Offensive

CCF Intervention

First UN Counteroffensive

CCF Spring Offensive

UN Summer-Fall Offensive

Second Korean Winter

Korean Summer-Fall, 1952

Third Korean Winter

Korea, Summer 1953

Armed Forces Expeditionary Streamers

None

Decorations

Distinguished Unit Citations

Philippine Islands, 7 Dec 1941-10 May 1942

Philippine Islands, 8-22 Dec 1941

Philippines and Netherlands Indies, 1 Jan- 1 Mar 1942

Philippine Islands, 6 Jan-8 Mar 1942

Papua, 23 Jul-[10 Nov] 1942

New Britain, 7-12 Aug 1942

Japan, 9-19 Mar 1945

Kobe, Japan, 5 Jun 1945

Korea, 28 Jun-15 Sep 1950

Air Force Outstanding Unit Awards

[25 Feb 1967]-31 Dec 1968

1 Jan-31 Dec 1973

1 Jan-31 Dec 1974

1 Jan 1979-31 Dec 1980

1 Jun 1995-31 May 1997
1 Jun 2001-31 May 2003
1 Jun 2004-31 May 2006

Air Force Organizational Excellence Awards

1 Jan 1984-31 Dec 1985
1 Jan 1986-31 Dec 1987
30 Sep 1989-30 Sep 1991
1 Jun 1997-31 May 1998

Air Force Organizational Excellence Awards

1 Jan 1984- 31 Dec 1985
1 Jan 1986-31 Dec 1987
30 Sep 1989-30 Sep 1991

Philippine Presidential Unit Citation (WWII)

Republic of Korea Presidential Unit Citation

7 Jul 1950-27 Jul 1953

EMBLEM

Emblem (Bombardment Sq): On a blue disc bordered yellow between four cardinal compass points indicated by three yellow triangles and a green fleur-de-lis outlined white for the north point, a white skull in profile with black shadows and with a yellow wing protruding diagonally upward from its back and extending over the disc and from the eye a white lightning flash streaked red extending diagonally downward over the disc. (Approved 8 Sep 1953)

Emblem ("Thunderbirds"): On a White disc with an attached White scroll below the disc, all edged Black, a Blue Thunderbird with Yellow beak and eye, surmounted by a Red disc charged with a White five-pointed star, all above an arced inscription, THUNDERBIRDS, in Black script. (Approved, 14 Jun 1977; replaced emblems approved, 8 Sep 1953 and 9 Jan 1933. Newest rendition approved, 1 Feb 2008)

EMBLEM SIGNIFICANCE

MOTTO

NICKNAME

OPERATIONS

The Thunderbirds Squadron is an Air Combat Command unit composed of eight pilots, four support officers, three civilians and more than 130 enlisted personnel performing in 25 career fields. A Thunderbirds air demonstration is a mix of formation flying and solo routines. The four-aircraft diamond formation demonstrates the training and precision of Air Force pilots, while the solo aircraft highlight the maximum capabilities of the F-16. The pilots perform approximately 30 maneuvers in a demonstration. The entire show, including ground and air, runs

about an hour and fifteen minutes. The season lasts from March to November, with the winter months used to train new members. Officers serve a two-year assignment with the squadron, while enlisted personnel serve three to four. Replacements must be trained for about half of the team each year, providing a constant mix of experience. The squadron performs no more than 88 air demonstrations each year and has never canceled a demonstration due to maintenance difficulty. More than 280 million people in all 50 states and 57 foreign countries have seen the red, white and blue jets in more than 3,500 aerial demonstrations. In addition to their responsibilities as the official U.S. Air Force aerial demonstration team, the Thunderbirds are part of our combat force. If required, the team's personnel and aircraft can be rapidly integrated into a fighter unit at Nellis Air Force Base, Nev. Since the aircraft are only slightly modified, they can be made combat-ready in less than 72 hours.

Repaired and overhauled aircraft engines in France, Sep 1917-Nov 1918.

Organized on 30 June 1926 with Organized Reserve personnel as a RAI unit in the Third Corps Area. Withdrawn from the Third Corps Area on 28 February 1927 and allotted to the Ninth Corps Area. Withdrawn from the Ninth Corps Area on 1 September 1928 and allotted to the Eighth Corps Area. Organized on 15 January 1930 with Organized Reserve personnel as a RAI unit with headquarters at Kelly Field, TX. Activated on 24 June 1932, less Reserve personnel, at Rockwell Field, CA. Concurrently, relieved from assignment to the 7th Bombardment Group and assigned to the 19th Bombardment Group. Transferred on 25 October 1935 to March Field, CA.

Combat in Southwest Pacific, 7 Dec 1941-16 Nov 1942; ground echelon fought with infantry units, in the Philippines Islands, 20 Dec 1941-May 1942. Replacement training in the US, 1943-1944. Combat in Western Pacific 12 Feb-15 Aug 1945. Combat in Korea, 28 Jun 1950-25 Jul 1953. Precision aerobatic demonstrations (popularly known as the "Thunderbirds" squadron), 1967.

30th BS

Reassigned from 19 BW to 4133 SW on 1/1/62 and equipped with B-52H from 4/62 until 1/2/63 when discontinued and inactivated. Resources passed to the 46 BS/319 BW.

1 Jan 62, 30 Bombardment Squadron (Heavy) (30 Bs) With B-52h Aircraft From Homestead Air Force Base Fl Assigned 4133 Strategic Wing 1 Jan 62.

30 Bombardment Squadron Was Reassigned From 19 Bombardment Wing To 4133 Sw Effective 1 Jan 62 With Lt Col Robert J. Horrigan As Commander.

By End Of Month, 30 Bombardment Squadron B-52h Aircraft Returned From Straight Pin Modification At Boeing In Wichita. 1962

30 Bombardment Squadron Personnel Involved In B-52 Aircraft Training.

30 Bombardment Squadron. B-52h Aircraft Loaded With Combat Munitions For The First Time On 19 Sep 62.

Combat Crew Personnel For 30 Bombardment Squadron Were In Training At Other Bases. 1963

With The Arrival Of Two B-52h Bombers During The Month, Four Were Available For Crew Use. 1963

30 Bombardment Squadron Conducted Radar Bomb Scoring (Rbs) Runs And Gam-77 (Guided Air Missile) Impacts. 1963

30 Bombardment Squadron (Bs) Received Five B-52h Aircraft, Bringing Total Of 11 Assigned B- 52h Aircraft. 1962

Higher Headquarters Concerned Over Chaff Dispensing Capability Of 30 Bs. 1962

B-52h Aircraft Involved In Involuntary Chute Jettison That Occurred On 24 Jul 62.

1. *30th Squadron History*

2. *Lineage: Organized as 30th Aero Squadron on 13 Jun 1917. Demobilized on 4 Apr 1919. Reconstituted, and redesignated 30th Bombardment Squadron on 24 Mar 1923. Activated on 24 Jun 1932. Redesignated 30th Bombardment Squadron (Heavy) on 6 Dec 1939. Inactivated on 1 Apr 1944. Redesignated 30th Bombardment Squadron (Very Heavy). Activated on 1 Apr 1944 Redesignated: 30th Bombardment Squadron (Medium) on 10 Aug 1948; 30th Bombardment Squadron (Heavy) on 1 Jul 1961. Discontinued, and inactivated, on 1 Feb 1963.*

Assignments: Unkn, 13 Jun-Sep 1917; Third Aviation Instruction Center, Sep 1917-Jan 1919; unkn, Jan-14 Apr 1919. 19th Bombardment Group, 24 Jun 1932-1 Apr 1944 (ground echelon attached to the 5th Interceptor Command, c. 20 Dec 1941-May 1942). 19th Bombardment Group, 1 Apr 1944; 19th Bombardment Wing, 1 Jun 1953; 4133rd Strategic Wing, 1 Jan 1962-1 Feb 1963.

3. *Stations: Camp Kelly, Tex, 13 Jun-11 Aug 1917; Etampes, France, 19 Sep 1917; Issoudun, France, 23 Sep 1917; Bordeaux, France, c. 6 Jan-c. 18 Mar 1919; Mitchel Field, NY, c. 5-14 Apr 1919. Rockwell Field, Calif, 24 Jun 1932; March Field, Calif, 25 Oct 1935; Albuquerque, NM, Jun-7 Sep 1941; Clark Field, Luzon, c. 23 Oct 1941; Batchelor, Australia, c. 20 Dec 1941 (ground echelon in Luzon and in Mindanao, c. 20 Dec 1941-May 1942); Singosari, Java, c. 31 Dec 1941; Melbourne, Australia, c. 5 Mar 1942; Cloncurry, Australia, c. 27 Mar 1942; Longreach, Australia, c. 13 May 1942; Mareeba, Australia, c. 24 July. to Nov 1942; Pocatello, Idaho, c. 9 Dec 1942; Pyote AAB, Tex, 24 Jan 1943-1 Apr 1944. Great Bend AAFld, Kansas, Apr-8 Dec 1944: North Field, Guam, 16 Jan 1945: Kadena, Okinawa, 27 Jun 1950-16 May 1954; Pinecastle AFB, Fla 30 May 1954; Homestead AFB, Fla, c. 25 Jun 1956; Grand Forks AFB, ND, 1 Jan 1962-1 Feb 1963.*

4. *Aircraft: Included O-27, OA-4, YOA-5, B-3, and B-12 during period 1932-1936; included B-10, B18, and B17, successively, during period 1935-1941; B-17's, and probably B-24's and LB-30's, 7 1941-1942; B-17, 1942-1944. B-29, 1944-1954; B-47, 1954-1961; B-52, 1962-1963.*

5. *Operations: Repaired and overhauled aircraft engines, 1917-1918. Combat in Southwest Pacific, 7 Dec 1941-c. 16 Nov 1942; ground echelon fought with infantry units in Philippine Islands, c. 20 Dec 1941-May 1942; replacement training, 1 Feb 1943-1 Apr 1944 .Combat in Western Pacific, c. 12 Feb-15 Aug 1945. Combat in Korea, 28 Jun 1950-25 Jul 1953.*
6. *Service Streamers: Theater of Operations.*
7. *Campaigns: World War II: Philippine Islands; East Indies; Air Offensive, Japan; Papua; Guadalcanal; Western Pacific; Air Combat, Asiatic-Pacific Theater. Korean War: UN Defensive; UN Offensive; CCF Intervention; First UN Counteroffensive; CCF Spring Offensive; UN Summer-Fall Offensive; Second Korean Winter; Korea Summer-Fall, 1952; Third Korean Winter; Korea Summer-Fall, 1953.*
8. *Decorations: Distinguished Unit Citations: Philippine Islands, 7 Dec 1941-10 May 1942; Philippine Islands, 8-22 Dec 1941; Philippines and Netherlands Indies, 1 Jan-1 Mar 1942; Philippine Islands, 6 Jan-8 Mar 1942; Papua, 23 Jul-[c. 10 Nov 1942];New Britain, 7-12 Aug 1942; Japan, 9-19 Mar 1945; Kobe, Japan, 5 Jun 1945; Korea, 28, Jun-15 Sep 1950. Philippine Presidential Unit Citation. Republic of Korea Presidential Unit Citation: 7 Jul 1950-27 Jul 1953.*
9. *Emblem: On a blue disc bordered 1 yellow between four cardinal compass, points indicated by three yellow triangles and a green fleur-de-lis outlined white for the north point, a white skull in profile with black shadows and with a yellow wing protruding diagonally upward from its back and extending over the disc and from the eve a white lightning flash streaked red extending diagonally downward over the disc. (Approved 8 Sept 1953)*

19 April 1947

A Boeing B-29A-85-BW Superfortress, 44-87638, of the 30th Bomb Squadron, 19th Bomb Group, 20th Air Force, crashes and explodes one mile off shore at Kwajalein Island after take-off. Sixteen KWF, no bodies are recovered.

430222	B-17E	41-2592	30BS	19BG	AAB Pyote, TX	GDF	Finnigan, Joseph C	AAB Pyote, TX
430726	B-17F	42-5384	30BS	19BG	AAB, Pyote, TX	TOAGC	Deering, Robert P	AAB, Pyote, TX
430807	B-17F	42-5384	30BS	19BG	Pyote, TX	KCRGC	Lee, Thomas H	7 Mi E AAB, Pyote, TX
440915	B-17F	42-6139	30BS	19BG	Great Bend AAF, Great Bend, KS	LACMF	Kopit, Aaron M	Great Bend AAF, Great Bend, KS
441005	B-29	42-24428	30BS	19BG	Great Bend AAF, Great Bend, KS	GAC	Martin, James O	Great Bend AAF, Great Bend, KS
441010	B-29	42-6404	30BS	19BG	Great Bend AAF, Great Bend, KS	LAC	Blakeley, Fred T	Great Bend AAF, Great Bend, KS

450505	B-29	42-94060	30BS	19BG		KCR	Fay, Maurice J	Mt Topatchau
450510	B-29	42-65342	30BS	19BG		LAC	Savage, George J	North Fld
450527	B-29	42-65304	30BS	19BG		KCR	Martin, John H	North Fld
450701	B-29	44-69990	30BS	19BG		MIS	Reither, Christian W Jr	Iwo Jima 30mi off
450727	B-29	44-69696	30BS	19BG		LAC 3	Williams, Edward W	Northwest Fld
450907	B-29	44-61712	30BS	19BG		KCR	Williams, Edward W	North Fld
451102	B-29	44-70092	30BS	19BG		KCR	Stai, Robert H	North Fld
470419	B-29A	44-87638	30BS	19BG		MIS	Wilding, Branwood J	Kwajalein Atoll
500420	B-29A	42-65272	30BS	19BG	Anderson AFB, GUA	TAC	Klassen, Frank J.	Yokota AB
501106	B-29A	44-61749	30BS	19BG	Kadena AFB, OKI	FLF	Hendison, James L.	Itazuke AB
511031	B-29A	44-61835	30BS	19BG	Kadena AB, OKI	KBOEFF	Barrentine, George T.	42 Mi NNE Kadena AB
511217	EB-29	45-21745	30BS	19BG	Kadena AB, OKI	KLAC	Regener, Harris E.	Barksdale AFB
350619	OA-4A	32-407	30BS	19BG	Rockwell Field, Coronado, CA	LACGL	Cronau, Robert T.	Los Angeles Muni Airport, CA
360302	OA-5	33-17	30BS	19BG	March Field, Riverside, CA	LACGL	Hegenberger, Alfred F	Rockwell Field, Coronado, CA
361211	B-10B	34-84	30BS	19BG	March Field, Riverside, CA	LACMF	Neal, Wilson H.	Salt Lake City Airport, UT
410129	A-17	356-124	30BS	19BG	March Field, CA	TOMAC	Price, Clyde E.	March Field, CA
410207	A-17	35-124	30BS	19BG	March Field, CA	LAC	Price, Clyde E	Palm Springs, CA

410707	A-17	35-114	30BS	19BG	Albuquerque, NM	GL	Ronka, John I.	Albuquerque, NM
370430	B-10B	34-90	30BS	7BG	March Field, Riverside, CA	LACNU	Reynolds, Elbert D.	Stockton Airport, CA
321216	Y10-27	31-599	30BS		Rockwell Field, Coronado, CA	FLMF	Grisham, James L	San Diego Bay, CA
330210	B-3A	30-282	30BS		Rockwell Field, Coronado, CA	TACMF	Spain, Lee	Rockwell Field, Coronado, CA
331010	Y10-27	31-602	30BS		Crissy Field, San Francisco, CA	LAC	Anderson, Theodore B	Crissy Field, CA
331103	YO-27	31-589	30BS		Rockwell Field, Coronado, CA	KCRGC	Hunting, Lloyd E.	1 mi SW of Olmstead Field, Middletown, PA
340627	BT-2B	30-203	30BS		Rockwell Field, Coronado, CA	LACGL	Dunton, Delmar H.	Biggs Field, Fort Bliss, TX
340630	BT-2B	30-203	30BS		Rockwell Field, Coronado, CA	TOA	Dunton, Delmar H.	Biggs Field, Fort Bliss, TX
341124	OA-4B	33-295	30BS		Rockwell Field, Coronado, CA	TOA	Larson, Westside T.	Catalina Island, CA
351125	PT-3	28-301	30BS		March Field, Riverside, CA	TAC	Ligon, Elvin S., Jr	March Field, CA
360402	PT-3	28-238	30BS		March Field, Riverside, CA	TAC	Dany, George B	Alhambra Airport, CA
360819	B-10B	33-148	30BS		March Field, Riverside, CA	LAC	Steed, Thomas W.	March Field, CA
370911	B-10B	34-80	30BS		March Field, Riverside, CA	LAC	Wilson, Albert T.	Muni Airport, Salt Lake City, UT

10.



11.

The 1969 season saw the first of Thunderbirds with the F-4E. The F-4E was a powerful aircraft and a crowd pleaser. The F-4E was dropped due to the energy crisis in the early 70's. In its place, the T-38A was chosen which was smaller and not as noisy, but did use far less fuel and required less maintenance. The infamous "Diamond Crash" happened with the T-38 during a practice flight on January 18th, 1982 in which the entire team flew into the range. The four aircraft involved were 68-8156, 68-8175, 68-8176 and 68-8184. As a result of this tragic loss, no shows were flown by the Thunderbirds during the 1982 season. Instead the unit took the time to convert to a new aircraft type.

The year 1972 saw the last of the T-38s delivered to the USAF. Two years later the Talon was chosen as the new aircraft for the 3600th Air Demonstration Squadron the "U.S. Air Force Thunderbirds." Using the T-38 trainer for the Thunderbirds was a radical departure from previous practice of use of a front line fighter as the team aircraft. The previous Thunderbird aircraft had started with the F-84 in 1953, and included the F-100 and F-105 in the early 1960s, and finally the F-4 Phantom II in 1968. After six years with the F-4, the fuel economy conscious attitudes of the 1970s made use of a more fuel efficient aircraft good for public opinion, and would also be less expensive to operate. Many European flight demonstration teams had also transitioned to trainers so the USAF was not alone in this change to a more economical aircraft. Even with the economic factors considered, it was not an easy decision to leave the tradition of first line fighters and use a trainer as the Thunderbirds' aircraft. It had long been stated that the USAF T-birds pilots were line pilots flying the same type of aircraft as the operational squadrons in Tactical Air Command. Now the aircraft was going to be a trainer, but at least it was a supersonic high performance aircraft.

For the Thunderbirds role, the Talon received an entirely new paint scheme. The Talons streamlined airframe was not suited to the Thunderbird motif applied to the underside contours of previous aircraft types. Instead, the Talon had grace-fully curved stripes applied to the fuselage and vertical tail. Under the wings a double arrowhead sweeping forward from the wingtips to nose was applied. This achieved a good contrast between the upper and lower surfaces when seen in plain view or during the fast rolls for which the T-38 was well known.

The Thunderbirds operated the T-38 from 1974 until 1982. During this time the T-Birds had three fatal accidents. The first occurred on 9 May 1981. The opposing solo pilot was killed when his T-38 crashed inverted at Hill AFB, Utah. The aircraft crashed outside the air base apparently with both engines stopped. On September 8, 1981 a second Thunderbirds Talon crashed at Cleveland Airport, Ohio. Departing after completing the show, team leader Lt. Col. David Smith had a multiple birdstrike when he ran into a flock of seagulls. Smith and his groundcrew passenger ejected at low altitude but Smith's parachute failed to open in time. His ground crewman survived having suffered only minor injuries.

The final fatal accident occurred during practice at Indian Springs air field, north west of Nellis on the morning of 10 January 1982. The four aircraft formation (Numbers 1 through 4) struck the ground at the bottom of a line abreast loop. All four pilots were killed. Examination of the crash site indicated that the Thunderbird leader, Major Lowry impacted first, followed by Number 4,

with Numbers 2 and 3 hitting last. As the flight of four neared the bottom of the loop, the stabilizer of the lead aircraft (No.1) apparently jammed, preventing the aircraft from recovering at the bottom of the loop. The other three pilots flying standard formation procedures were only watching the lead aircraft and did not see their closeness to the ground until it was too late. The 1982 show season was canceled before it had even begun. The T-38 was replaced by the F-16 for the 1983 show season.

As a replacement for the T-38A the Thunderbirds were given the F-16A/B block 15. The F-16 had been considered as a replacement long before the diamond crash. The first Thunderbird painted F-16 arrived at Nellis AFB, Nevada on June 22nd, 1982. After 18 months with no show due to the "Diamond Crash" the first show returning to the air and with a new aircraft was on April 2nd, 1983.

After the 1991 season and a European tour, the Thunderbirds converted from the F-16A/B to the F-16C/D block 32.

As part of the opening ceremonies for the 1996 Olympic Games held in Atlanta, the Thunderbirds performed a flyby at the end of the American national anthem. The team performed the 1000th demonstration in the F-16 at Pope AFB, North Carolina on November 10th, 1996. The following year in 1997 to celebrate the USAF's 50th anniversary. The US Postal Service used the Thunderbirds to represent the USAF for a commemorative stamp. That year the unit wore a special marking just behind the cockpit indicating the USAF's 50th anniversary. In 2003 the USAF Thunderbirds celebrated their 50th anniversary although no special markings were applied.

Although not assigned, the USAF Thunderbirds do obtain for their own use cargo aircraft from other squadrons. Their first support aircraft was the C-123B followed by the C-119F in 1958. In preparation for Desert Storm the USAF Thunderbirds season was shortened and gave up their C-141B for C-130s. After the war the C-141B returned for a short while as half way through the 1993 season all C-141s were grounded and the Demonstration team used two C-130s. After the retirement of the C-141 it has been difficult as operating two C-130s has been expensive and C-17 numbers were too small. Since around 2006 the C-17 has been primarily used and just like in the past none are dedicated to the team. Whichever one is available as a spare and is given the call sign of Thunderbird fourteen.

The USAF Thunderbirds during a display routine converting an F-16 into a Thunderbird aircraft is rather simple task. The radar is removed as well as the gun. In place of the gun is equipment and holding tanks for the smoke generators. A pipe is run from the gun bay to the afterburner where oil is burned in the engine to make smoke. Finally the F-16 is painted in the trademark paint scheme. The ADS team claims to be able convert an F-16 back to operational status within a 72 hour period. This was tried in 1988 with F-16 #81-0679 and done in only 27 hours except for painting the aircraft.

On 14 September 2003, at 1516 hours local time, F16C S/N 87-0327 crashed between the runway and the control tower at Mountain Home Air Force Base, Idaho, while performing an

aerial demonstration. The mishap pilot (MP), "Thunderbird 6," successfully ejected prior to the impact and sustained only minor injuries. The mishap aircraft (MA) was destroyed with the loss valued at \$20,415,911.93. The aircraft and the pilot were assigned to the USAF Aerial Demonstration Squadron (ADS), 57th Fighter Wing, Nellis Air Force Base, Nevada, and were operating as number 6 of the USAF Thunderbirds. There were no civilian or military casualties. No property, other than the MA, was damaged. Environmental impact was limited to soil contaminated by JP-8 where the fuselage came to rest, thus the costs for the clean up of the mishap were nominal. The crash occurred 25 seconds into Thunderbird 6's flight. The pilot was performing the "Maximum Climb and Split S on Takeoff" maneuver when the mishap occurred. Mountain Home airfield elevation is 2,996 feet above Mean Sea Level (MSL). The Thunderbirds used a 3000 foot altimeter setting for the demonstration. The mishap pilot took off at the proper time, 25 seconds after Thunderbird 5. The MP rotated at 200 knots, retracted the landing gear, and performed the maximum climb. The MP climbed at 55 degrees. At 4,670 feet MSL (1,670 feet above ground level (AGL)), the pilot initiated an unloaded roll to inverted. The target altitude to initiate the roll was 5500 feet MSL, (2500 feet AGL). The mishap pilot's planned apex (the highest point of the maneuver) was 6500 feet MSL (3500 feet AGL). The mishap pilot's actual apex altitude was 5760 feet MSL (2760 feet AGL). The MP called "three five" (meaning 3500 feet AGL) after reading 5500 feet on the heads up display (HUD) altimeter. The safety observer upon hearing "three five" allowed the maneuver to continue. The MP pulled back to complete the Split S. Upon reaching 90 degrees nose low, the MP recognized that "something was wrong." He had in fact put the aircraft in a position from which it could not be recovered. The MP commanded maximum back stick pressure in an attempt to recover and rolled slightly left to ensure the aircraft would impact away from the crowd should he have to eject. Upon realizing that he could not avoid ground impact, the MP ejected from the aircraft at 3140 feet MSL (140 feet AGL), 0.8 seconds prior to aircraft impact. The mishap pilot's ejection was successful and the aircraft impacted the ground on the opposite side of the show line from the crowd. There is clear and convincing evidence that pilot error caused the mishap. The pilot misinterpreted his altitude above the ground causing him to roll and apex approximately 1000 feet below the target altitudes. He mistakenly interpreted 4500 feet MSL as the planned 2500 feet AGL roll altitude and 5500 feet MSL as the target 3500 foot AGL apex altitude. Thus, upon reading 5500 feet MSL on the altimeter, he called "three five" and initiated a Split S that the aircraft was incapable of successfully completing. Three factors substantially contributed to creating the prospect for such a critical error. The requirement for demonstration pilots to real time convert MSL to AGL numbers, a maneuver with a limited margin of error, and a preconscious level of awareness created a situation more susceptible to pilot error.

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Sources
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16 December 1932 During a routine practice flight, Capt. J. L. Grisham flying Fokker Y1O-27, 31-599, '2', of the 30th Bombardment Squadron, is unable to get the port main undercarriage leg to extend more than one-quarter down, makes emergency landing in San Diego Bay off of NAS San Diego, California. He and Sgt. Clarence J. King survive, aircraft salvaged, repaired and returned to service.

10 October 1933 Fokker Y1O-27, 31-602, '3', of 30th Bombardment Squadron, Rockwell Field, California, en route from Burbank, California to Crissy Field, California, lands at Crissy with landing gear retracted. Both light and buzzer in cockpit that are supposed to activate when the throttles are retarded fail to function. Only serious damage is to the propellers but airframe is surveyed and dropped from inventory with 115 hours, 15 minutes flying time. Pilot 2nd Lt. Theodore B. Anderson uninjured.

3 November 1933 First fatal accident involving a Fokker YO-27 occurs when pilot Lt. Lloyd E. Hunting with Sgt. John J. Cunningham aboard, departs Olmsted Field, Middletown Air Depot, Pennsylvania, in 31-589 of the 30th Bombardment Squadron at 1800 hrs. after darkness had fallen. Pilot had apparently not observed a mountain ridge, 400 to 800 feet (120 to 240 m) high, one mile from the airfield, when he landed during the afternoon, and upon departure did not see it in the dark, crashing head-on into the ridge, aircraft burned, both crew KWF.