

# TYNDALL AIR FORCE BASE

*Celebrating 100 Years of Powered Flight*



and

The Next Generation of Air Dominance



**SUPPLEMENT TO THE GULF DEFENDER**

Artwork created by Lance Erwin, K-MAR Industries, Inc.

## Tyndall takes pride in total Raptor team

**BRIG. GEN. LARRY NEW**

325th Fighter Wing commander

It's finally here! Sept. 26, 2003, was a historic day at Tyndall Air Force Base as Raptor 18, the first Tyndall-based F/A-22, joined the fleet.

As our nation and Air Force celebrate 100 years of powered flight, it is only fitting this aircraft, the first operational F/A-22, be delivered to Air Education and Training Command, and the 325th Fighter Wing, a team of professionals whose primary responsibility is to provide our nation with trained warriors.

Make no mistake about it, the training mission is critical, as it is the foundation upon which our warriors rely when making decisions and taking action during peacetime and at a war.

Training prepares us for whatever mission we may be tasked. Our people and training are at the heart of Air Force readiness.

Tyndall has a rich history of providing training to ensure our nation's defense. From gunnery training during World War II to today's F-15 pilot, maintainer, air battle manager, air traffic control and intelligence training, Tyndall has played an important role in maintaining freedoms we all enjoy. From the first days of flying the P-40 in North Africa to the F-15 Eagle, the 325th Fighter Wing has ensured de-



**“With the arrival of the F/A-22, we have the world’s greatest aircraft and the world’s greatest airmen serving in the world’s greatest community — together we make an unbeatable combination.”**

**BRIG. GEN. LARRY NEW**

325th Fighter Wing commander

cadets of air superiority. Now, we begin a new chapter in the 325th Fighter Wing's distinguished history with the arrival of the F/A-22 Raptor.

Since 1996, Tyndall and the Air Education and Training Command has been building the F/A-22 infrastructure and training programs to sustain our place as the world's premiere Air Force. The advanced technologies built into this weapon system not only extend the air-to-air supremacy enjoyed by the F-15 community since the 1970s, but also enhance every facet of aerial combat, from command and control to air-to-ground capabilities currently employed by our military to protect the nation.

The F/A-22 is the linchpin for establishing air dominance. It will restore technological advantage two generations ahead of the highly lethal and modernized air-to-air and surface-to-air threat.

The Raptor provides the capability to kick down the door of any anti-access threat, and allow the full spectrum of integrated military operations.

With the arrival of the F/A-22, we have the world's greatest aircraft and the world's greatest airmen serving in the world's greatest community—together we make an unbeatable combination.

We are proud to call Tyndall Air Force Base and Bay County home of the world's first F/A-22 squadron and proudly accept our role of building the foundation for the next generation of fighter pilots for years to come.

### Civic voices

**What does the Raptor's arrival to Tyndall mean to you?**

“This is the beginning of a great new era, not only for Tyndall and the U.S. Air Force, but for the positive impact it will have on Bay County.”



**CAROL ROBERTS**

Executive Director, Bay County Chamber of Commerce

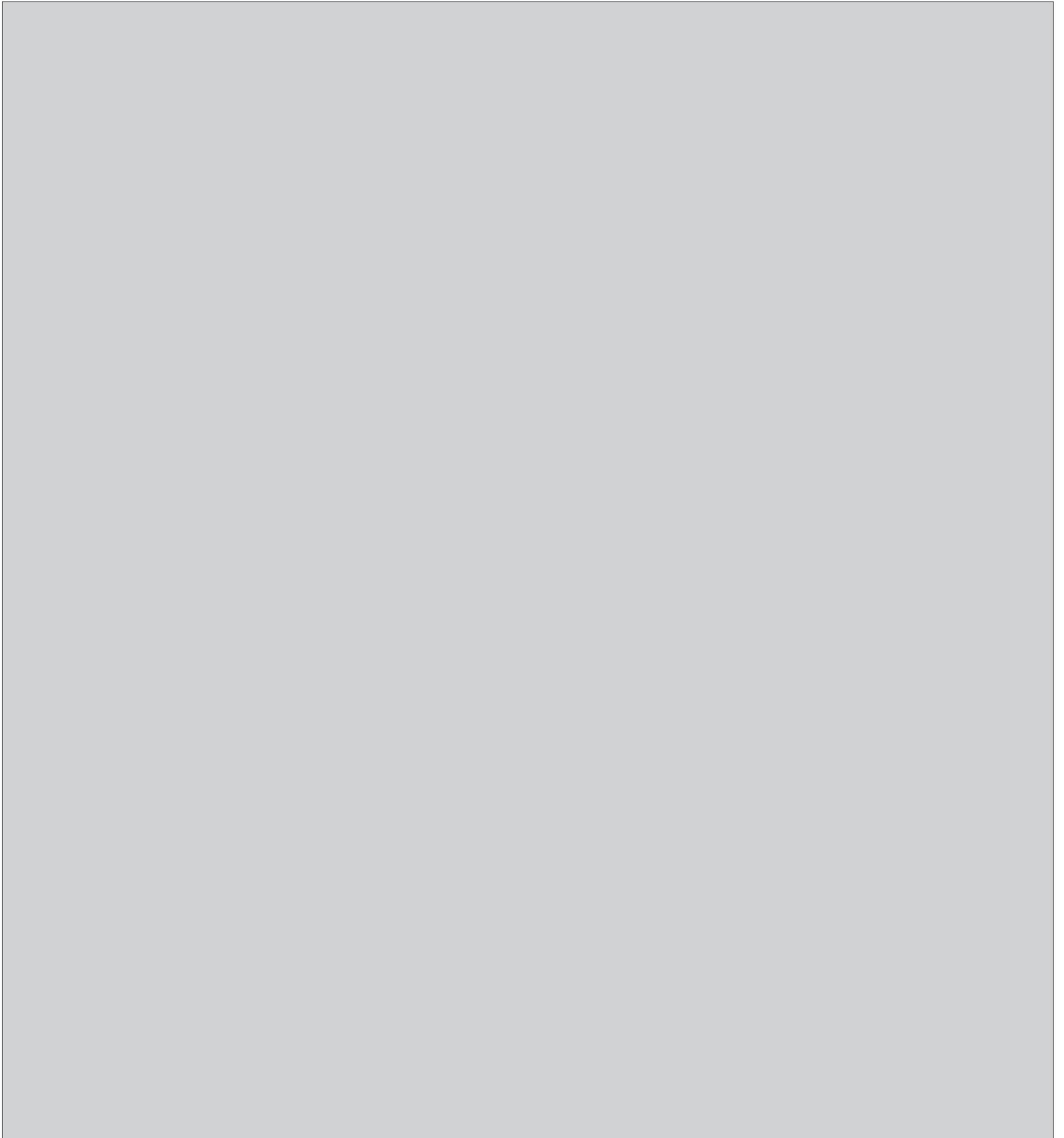


While Bay County appreciates the contributions this awesome aircraft will bring to the local economy, it is the airmen and their

volunteerism that truly enriches our community and makes a difference in the lives of all Bay Countians.”

**KAREN HANES**

Chairman, Bay County Chamber of Commerce, Military Affairs Committee





The 43rd Fighter Squadron became known as the "American Hornets" as depicted by their emblem, a poised Vespa Maculata.

## Meet the commander

### Lt. Col. Jeff 'Cobra' Harrigian

43rd Fighter Squadron commander

**Your vision for the unit:** Develop the framework for future Raptor units; from pilot training systems to predictive battlespace awareness, establish programs that leverage technologies to ensure the F/A-22 is seamlessly integrated into the Combat Air Forces

**Goals:** Graduate F/A-22 warriors with the combat skills required to employ and dominate across the full spectrum of conflict with a focus on the Global Strike concept of operations; daily interface with our maintainers to maintain a healthy fleet of F/A-22s for sortie generation; maintain a deployable force ready to support expeditionary operations; promote teamwork and esprit de corps through effective communication

**Previous assignments:** F-15 division at U.S. Air Force Weapons School, Nellis AFB, Nev.

**Best Air Force experience:** Accomplishing the mission with highly trained Air Force warriors — though landing the first F/A-22 at Tyndall was an experience I'll never forget

**Key to success in the Air Force:** Stay focused on the mission, be an expert at your job and take care of yourself and your family

**Pet peeves:** I like positive people that pursue solutions



## Meet the initial cadre of instructor pilots



**Lt. Col Michael "BamBam" Stapleton**

**Duty title:** Director of Operations

**Time in service:** 15 years

**Flying hours:** 2,500

**Aircraft flown:** F-15C

**Previous assignment:** Pentagon; executive officer to CSAF



**Maj. Mike "Troll" Hoepfner**

**Duty title:** Assistant Director of Operations

**Time in service:** 14 years

**Flying hours:** 2,700

**Aircraft flown:** F-16

**Previous assignment:** F-16 division commander, 85th TES, Eglin AFB, Fla.



**Maj Steven "Spanky" Luczynski**

**Duty title:** "A" Flight Commander/Chief of Standardization and Evaluation/Life Support

**Time in service:** 11 years

**Flying hours:** 1,600

**Aircraft flown:** F-15C, F/A-22

**Previous assignment:** Weapons Officer/Flight Commander, RAF Lakenheath, U.K.



**Maj Lansing "Shudda" Pilch**

**Duty title:** "B" Flight Commander

**Time in service:** 10 years

**Flying hours:** 1,400

**Aircraft flown:** F-16, F-15

**Previous assignment:** Weapons officer, Luke AFB, Ariz.



**Maj Thomas "Roman" Shank**

**Duty title:** Chief of Weapons and Tactics

**Time in service:** 12 years

**Flying hours:** 1,700

**Aircraft flown:** F-15C/D/E

**Previous assignment:** Chief of Weapons, 2nd FS, Tyndall AFB



**Maj Max "Freak" Marosko**

**Duty title:** Assistant DO/Scheduling

**Time in service:** 12 years

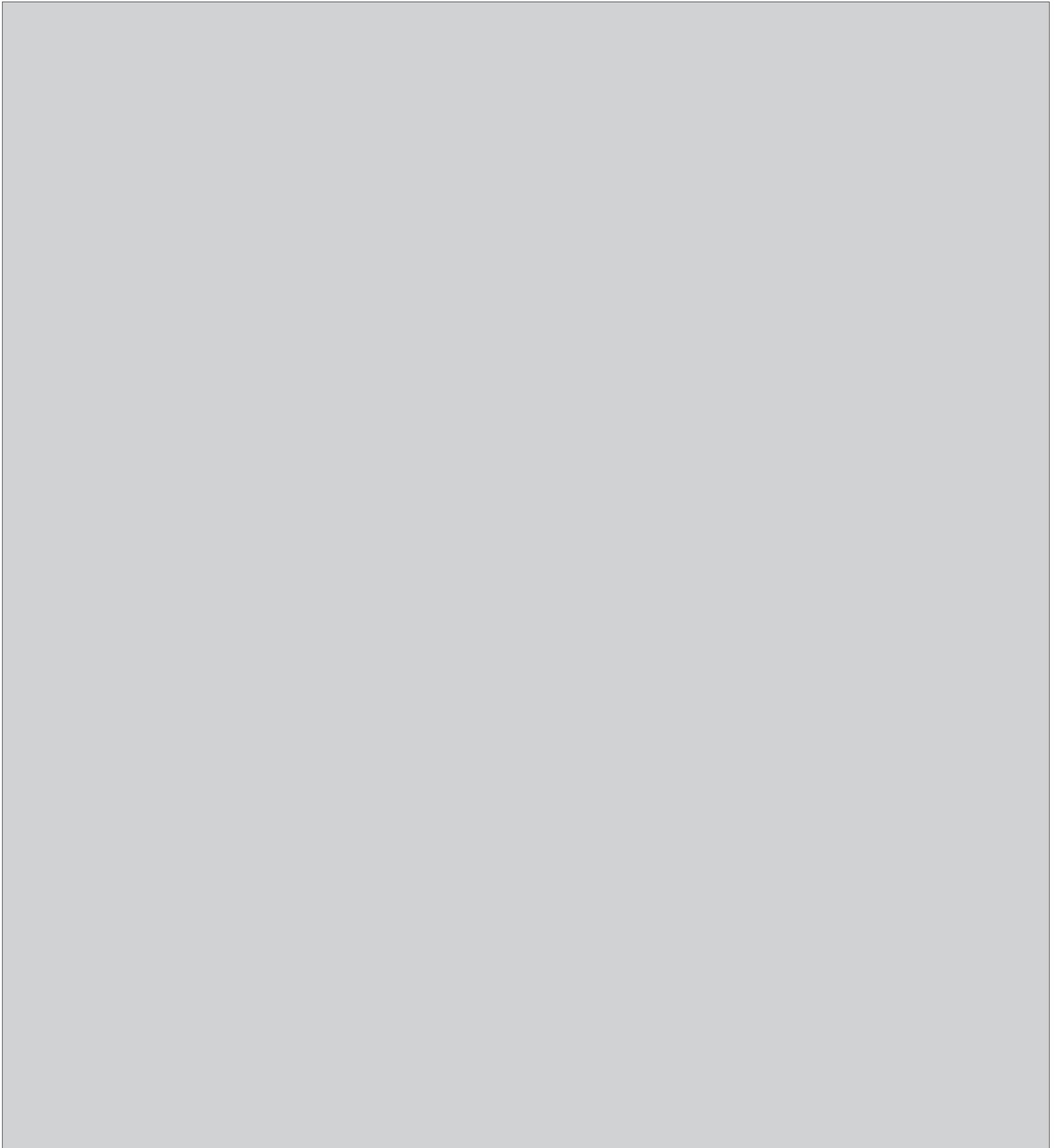
**Flying hours:** 1,800

**Aircraft flown:** F-15C

**Previous assignment:** F-15C Weapons Instructor, Nellis AFB, Nev.

## The mission:

The 43rd Fighter Squadron is responsible for providing air dominance training for the world's newest fighter, the F/A-22 Raptor. The 43rd FS, a subordinate unit of the 325th Fighter Wing at Tyndall Air Force Base, received the command's first Raptor ("Raptor 18") Sept. 26.



# F/A-22 maintainers proud to serve

**CHRISTINE SULLIVAN**

325th Fighter Wing public affairs

If asked what their mantra was while waiting for the first F/A-22 Raptor to arrive, Team Tyndall's 43rd Aircraft Maintenance Unit would probably have said "patience." These days, their motto is "busy as a bee," or in this case *Vespa Maculata*, the unit symbol for the hornet.

Members of the 43rd AMU did not sit idly by though, despite the aircraft's delayed delivery date. "We've been standing up a maintenance unit from the ground up and capturing lessons learned in the process," said Maj. Steven James, 43rd AMU officer in charge. "Tyndall is the home of the F/A-22's very first squadron and consequently we're solving many issues for the Air Force. This includes facilities, programs, processes, support section, computers, furniture, and working relationships with operators and contractors."



Steve Wallace

**43rd AMU maintainers were trained and mission-ready long before they blocked in Tyndall's first Raptor.**

"Even though aircraft delivery delays impacted training, we're flexible enough to incorporate target of opportunity training to make up for as much lost time as

as part of an activation task force to work through any potential issues or problems.

possible," said Master Sgt. Richard Street, 43rd AMU aircraft section chief. "The delay afforded us additional time to get our flights and programs up and functioning."

The original 8-person unit expanded to 60 and has already established the template and standards by which combat air forces will maintain the Raptors. The 43rd AMU has divided its operations and maintenance functions and works closely with contractors in designing and building the new facilities to support the F/A-22.

Maintainers are involved in establishing maintenance flights and their related programs, forecasting future manning requirements, working with the local training detachment to define training needs, and traveling to other F/A-22 sites

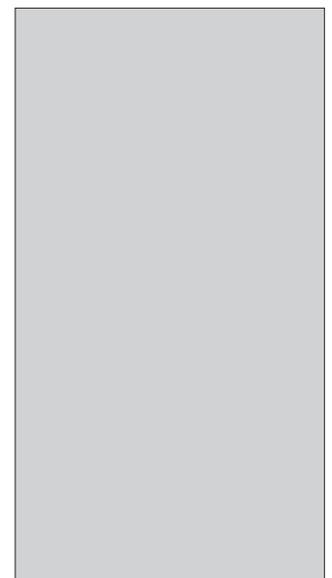
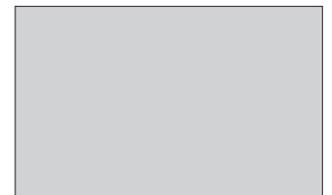
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**Memo****Bay schools,  
Tyndall AFB  
host special  
forum**

Brig. Gen. Larry New, 325th Fighter Wing commander, and James McCalister, Bay District Schools superintendent, will host a Superintendent's Forum for Military/DOD families 6:30 - 7:30 p.m. Tuesday in the Tyndall Elementary School cafeteria.

The purpose of the forum is to provide an opportunity to discuss current issues and concerns facing military families.

It will be open to all military families. Reservations can be made by contacting the Family Support Center at 283-4204/05



# Dedicated duty

## *Crew chief relishes historic Raptor role*

**CHRISTINE SULLIVAN**

325th Fighter Wing public affairs

The crew chief is the person on the front line of the first level of flightline maintenance management. And if you're a crew chief for the F/A-22 Raptor, you are on the front line of paving the path for a new generation of fighter training.

It's a job Tech. Sgt. Jeffrey Simpson, 325th Aircraft Maintenance Squadron crew chief, has been preparing for for nearly 10 years and he is ready and able to take on the numerous challenges that go along with any new sophisticated aircraft.

"The biggest challenge I have right now is in supporting the training requirements," said Tech. Sgt. Jeffrey Simpson, 325th Aircraft Maintenance Squadron crew chief. "Equally important is the challenge of performing maintenance that is needed and trying to fly the jet, all at the same time."

His background and experience have prepared him for these challenges. With technical training as a tactical aircraft maintenance specialist, Sergeant Simpson was first assigned to Tyndall AFB in 1988 as an F-15 maintainer and later accepted an assignment with the Air Force Thunderbirds Air Demonstration Squadron at Nellis AFB, Nev. While assigned to the Thunderbirds, Sergeant Simpson held the position of dedicated crew



Steve Wallace

**Sergeant Simpson marshalls in Tyndall's first F/A-22 Oct. 26.**

chief for Thunderbird aircraft number seven during the 1993 show season and the advance dedicated crew chief for Thunderbird aircraft number eight in 1994. Upon completion of his assignment as an "Ambassador in Blue," he received orders back to Nellis AFB to work with the F-16C.

With assignments to Cannon AFB, N.M. and two trips to Kunsan AB, Korea, he was then accepted to the F/A-22 Advanced Fighter Program at Edwards AFB, Calif., in 1999. In 2002, Sergeant Simpson was selected

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# Support team plays pivotal roles for Raptor beddown

AMN. SARAH MCDOWELL

325th Fighter Wing public affairs

Many people make it possible to bring a new aircraft to a base. The pilots who fly them and the maintainers who keep the jets healthy are obviously critical to that process.

But who schedules, monetarily plans for and constructs new facilities for the jet?

Successfully ushering in the F/A-22 this month could not have been done without collective efforts from around the base, including the men and women who work on Tyndall's support team.

It takes a lot of planning from many areas to make such an arrival happen, one of these key functional areas is finance.

"The comptroller squadron has

tracked and assisted in identifying over \$24 million in funding for the last three years for all beddown equipment and facility projects associated with the F/A-22," said Tech. Sgt. Bethany May, financial analyst. "We have participated in all F/A-22 (Site Activation Task Force) meetings to ensure planning and execution took place as scheduled."

Finance will always give its support and advice to the F/A-22 mission. According to Sergeant May, the unit has financial management responsibility for the flying hour program, facility projects and any other beddown issues that may come up.

Security forces is another support-intensive unit at Tyndall. One key beddown project involves Tyndall's selection as a "pathfinder" base for a joint

Air Education and Training Command flightline security upgrade valued at more than \$6.5 million, said Lt. Col. Scott Enold, 325th Security Forces Squadron commander.

Also, preparation and planning for security of the new aircraft are key aspects of the Raptor's successful homecoming.

"The arrival of this aircraft spanned security reviews of plans for new building construction, incorporating anti-terrorism and force protection standards into the designs," said Master Sgt. Clyde Staub, noncommissioned officer in charge of installation security. "There needed to be thorough studies of information security programs to support storage of classified materials, and we also developed new restricted areas on

the ramps."

"The 325th SFS Operations Flight supports the F/A-22 on a daily basis," said Capt. Alexander Archibald, security forces operations officer. "From the airmen and soldiers providing world class security on the parking ramp, to support staff leadership coordinating force protection initiatives, the section is one of a long list of players integral to sustainment of the aircraft at Tyndall Air Force Base."

Colonel Enold said the added scope of responsibility that accompanies having the Air Force's next generation fighter airframe at Tyndall is an understood addition to the normal pace of our operation tempo. "The 325th SFS remains locked and loaded as the premiere 'De-

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All this is aimed at effectively scheduling and maintaining a healthy fleet of new aircraft for sortie generation. Lessons are being learned from those already flying and maintaining the jet.

“The biggest challenge is the paradigm shift from maintaining the Eagle or the Falcon,” said Major James. “The Integrated Maintenance Information System brings electronic forms and tech data, and increases the communication between the aircraft and the maintainer. IMIS is a maturing system and we’re learning as the system grows in capability.”

Maintaining the Raptor is a departure from the F-15 in both operations and maintenance. “Every aspect is different, from technical data to support equipment to maintainer and air vehicle interface,” said Sergeant Street. “The F/A-22 was designed with ease of maintenance in mind coupled with enhanced system and sub-system component life, which means fewer repairs and less time out of commission.”

Because maintainers were included early on in the design process of the Raptor, they quickly established a strong foothold. To improve turnaround, the maintainers insisted on extensive self-diagnostics for the various subsystems. This means virtually every piece of hardware in the aircraft either does its own health checks or reports when it has failed. That capability can then be leveraged to help both the maintainer and the pilot.

The F/A-22 has a design aimed at gathering and processing information for the pilots’ tactical purposes and fully utilizing its advanced airframe and avionics systems, most notably in the exponential increase in computer power. The aircraft’s main mission computers operate at 10.5 billion instructions per second with 300 megabytes

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**“The F/A-22 was designed with ease of maintenance in mind coupled with enhanced system and sub-system component life, which means fewer repairs and**

**MASTER SGT. RICHARD STREET**  
43rd AMU aircraft section chief

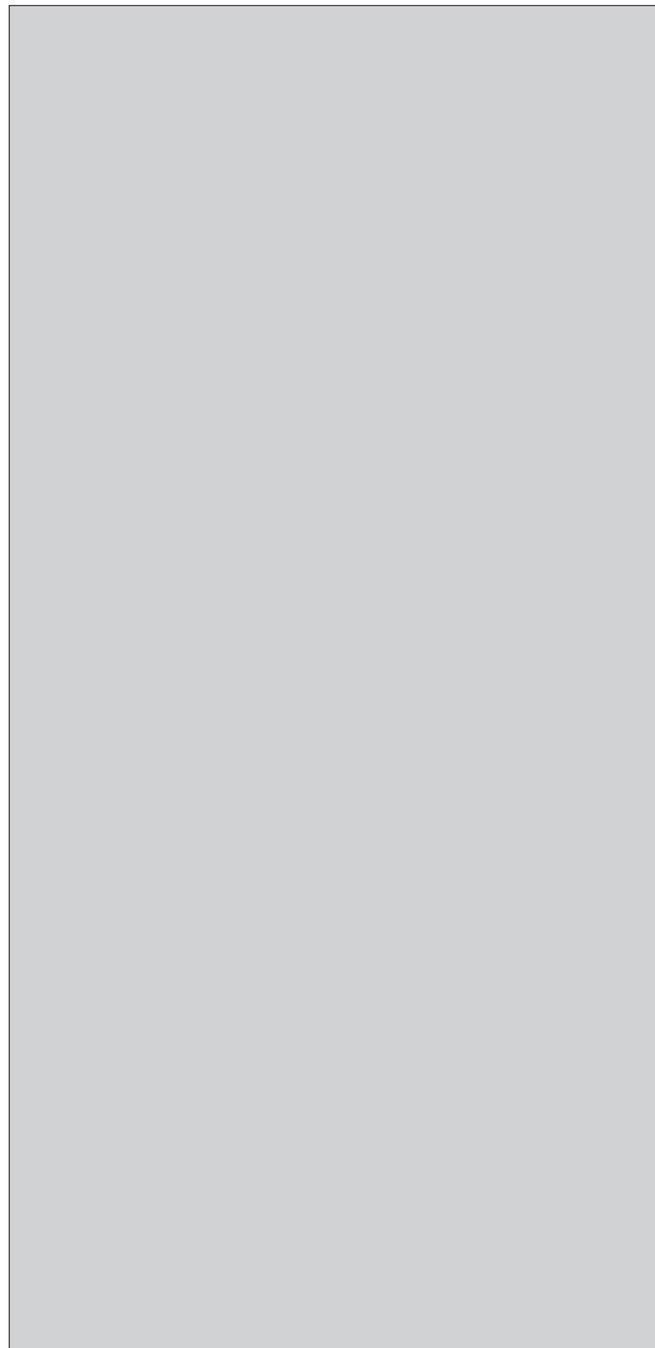
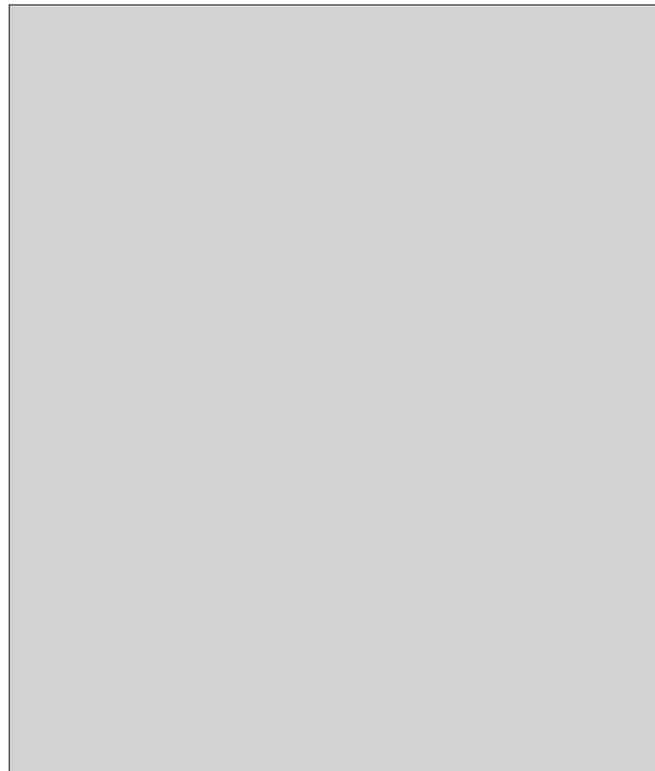
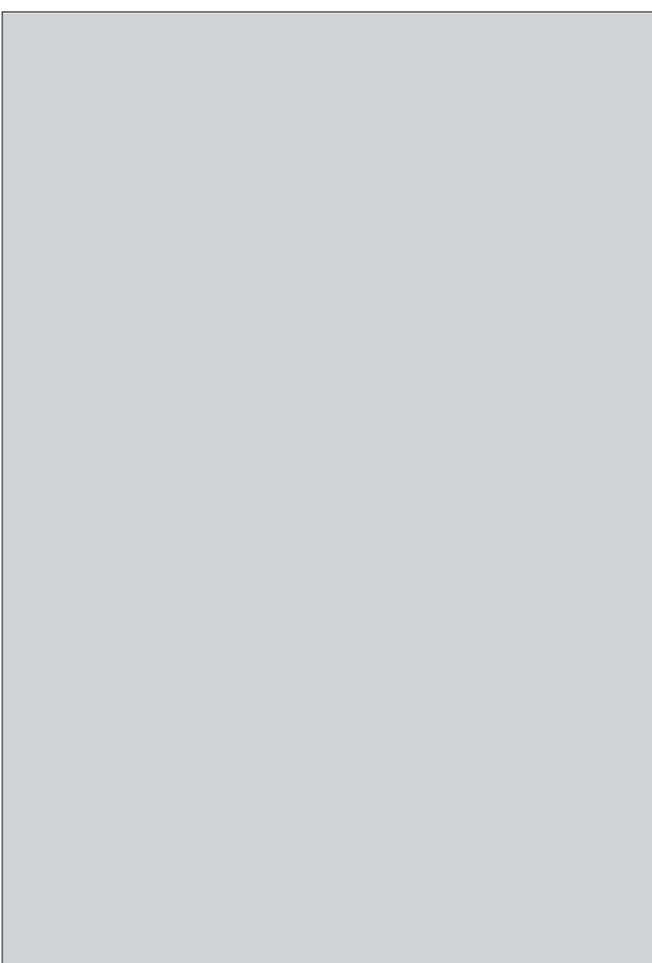
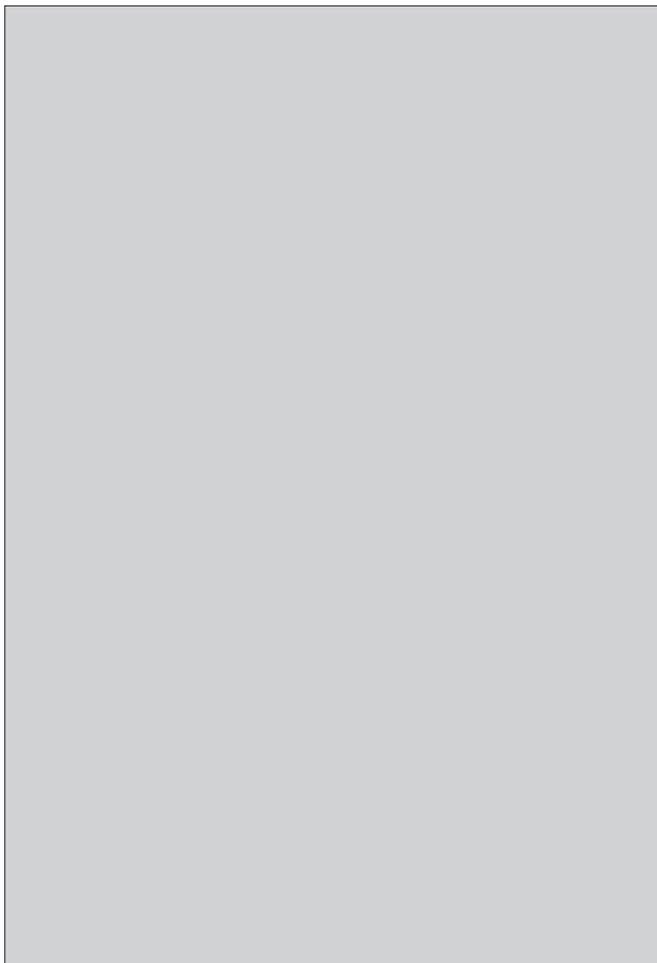
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of memory. These numbers represent 100,000 times the computing speed and 8,000 times the memory of the Apollo moon lander. All this technology though, could not be sustained without the assistance of a top-notch maintenance unit.

“I think we’ll surprise a lot of people by what the aircraft can actually do,” said Sergeant Street. “Then we’ll be able to focus on the bottom line, pilot training and enhanced combat capability.”

To enhance training capability for Raptor pilots, the 43rd AMU continues to help resolve reliability and maintainability issues with systems engineers and manufacturers at Lockheed Martin Aeronautics in Marietta, Georgia. The 43rd AMU will now take over the majority of the jets’ maintenance requirements.

“Maintainers are improving Tyndall’s mission readiness by building upon an already strong legacy of training the world’s top air superiority and air dominance pilots and maintainers,” said Major James. “Members of the squadron are feeling pride and anxiousness. Pride in the privilege of maintaining the first operational F/A-22s in the inventory and anxiousness because everyone is busting at the seams to prove the revolutionary capabilities of this 21st century weapon system.”



## Checkertail Salute



Steve Wallace

**Airman Webb is awarded the Checkertail Salute Warrior of the Week award by Brig. Gen. Larry New, 325th Fighter Wing commander.**

The Checkertail Clan salutes Airman Webb, who served 168 hours as the primary point of contact for users of the Airmen Against Drunk Driving program in a single quarter, netting 12 “saves” in the process.

### Senior Airman Scott Webb

**Duty title:** Ground radio maintenance journeyman

**Unit:** 325th Communications Squadron

**Time on station:** -- 1.5 years

**Time in service:** -- 2.5 years

**Hometown:** Valparaiso, Ind.

**Hobbies:** Reading, football, singing, video games

**Goals:** Finish my bachelor's degree, excel at my job and pay off all my debt

**Favorite thing about Tyndall:** I love the people here and the weather

**Proudest moment in the military:** Receiving Airman of the Quarter for the 325th CS, 2nd quarter

**Pet peeves:** People that don't use their turn signals when driving

**Favorite book:** The Wheel of Time Series, by Robert Jordan

**Favorite movie:** “Hackers”

*The Checkertail Salute is a 325th Fighter Wing commander program designed to recognize Tyndall's Warrior of the Week. Supervisors can nominate individuals via their squadron and group commanders. Award recipients receive a certificate, letter from the commander and a one-day pass.*

### Significant dates in Raptor history

**November 1981** - Air Force identifies need for an advanced tactical fighter.

**October 1986** - Lockheed's YF-22 and Northrop's YF-23 are selected to compete in the ATF program.

**September 1990** - YF-22 makes first flight.

**April 1991** - Lockheed wins contract to build F-22, Pratt & Whitney's F119 engine selected.

**December 1991** - F-22 external design selection finalized.

**December 1993** - The first part for the first flyable F-22 is made.

**June-November 1995** - First F-22 assembly begins in Fort Worth, Texas, Seattle, Wash., and Marietta, Ga.

**April 1997** - Aircraft 4001 officially named Raptor, unveiled at Marietta, Ga.

**September 1997** - Raptor 01 makes first flight.

**February 1998** - Raptor 01 moved to Edwards Air Force Base, Calif., for flight testing.

**July 1999** - Raptor 01 achieves supercruise, sustained supersonic flight without afterburners.

**July 2000** - First AIM-9 launched from Raptor 02 over China Lake Test Range, Calif.

**August 2000** - Tyndall AFB, Fla., selected as F-22 training schoolhouse.

**October 2000** - First AIM-120 launched from Raptor 02 over China Lake Test Range.

**January 2001** - Raptor 04 enters flight testing with full avionics suite.

**February 2001** - Tyndall AFB begins building its first F-22 facilities.

**April 2001** - F-22 Combined Test Force reaches 1,000th flight test hour.

**January 2002** - Langley AFB, Va., chosen to receive first wing of operational F-22s.

**June 2002** - Climatic testing begins at the McKinley Climatic Laboratory, Eglin AFB, Fla.

**September 2002** - F-22 redesignated F/A-22 to reflect combat role.

**September 2002** - Raptor 04 completes climatic testing.

**September 2002** - Bay County/Tyndall AFB, Fla., receive first glimpse of the F/A-22 as Raptor 04 flies over the base enroute to Fort Worth, Texas.

**October 2002** - Tyndall AFB stands up first F/A-22 squadron, 43rd Fighter Squadron. Lt. Col. Jeffrey Harrigian named commander.

**January 2003** - F/A-22 enters operational flight testing at Nellis AFB, Nev.

**February 2003** - F/A-22 program reaches 3,000th flight test hour.

**August 2003** - Lt. Col. Jeffrey Harrigian becomes Air Education and Training Command's first F/A-22 pilot.

**September 2003** - Tyndall AFB receives its first F/A-22, Raptor 18.

**“The Raptor is a plane that the Air Force can be proud of. It's a plane that the Air Force and the nation needs.”**

**DR. MARVIN SAMBUR**

Assistant Secretary of the Air Force for Acquisition



Eglin MultiMedia Center

**Raptor 04 endures freezing temperatures during climatic testing at the McKinley Climatic Laboratory, Eglin Air Force Base, Fla.**



Courtesy photo

**Lockheed's YF-22 makes its first flight over the California desert in September 1990.**

**“The F/A-22's combination of stealth, super-cruise, maneuverability and integrated avionics, coupled with improved supportability, represents an exponential leap in warfighting capabilities and allows for the full realization of operational concepts that are vital to the 21st century Air Force”**

**DR. JAMES ROCHE**

Air Force Secretary

# Rise of the

1981

...and the dawn of



**Raptor 01 makes its first test flight**



**Raptor 18 taxis to its parking spot**

# e Raptor...



2003

# of air dominance



Courtesy photo

Raptor 04 flies beside a 325th Fighter Wing F-15 from Tyndall AFB over Bay County September 2002. Raptor 04 was enroute to Fort Worth, Texas, after completing climatic testing at Eglin AFB.



Courtesy photo

...t over the California desert May 1998.



Lisa Carroll

...t upon arrival to Tyndall AFB Sept. 26.

**“At the higher end of the conflict spectrum, the extremely maneuverable, stealthy F/A-22, armed with both air-to-air and air-to-ground munitions will give commanders unmatched around-the-clock mission versatility.”**

**RETIRED GEN. RICHARD E. HAWLEY**  
Former commander, Air Combat Command



Tech. Sgt. Mike Ammons

Lt. Col. Jeffrey Harrigian, 43rd Fighter Squadron commander, flies Raptor 18 over Bay County Sept. 26 enroute to Tyndall AFB from Marietta, Ga. Tyndall is the world's first and only F/A-22 schoolhouse.

**“In the air, the F/A-22 will be crucial to our ability to ‘kick down the door’ with the Global Strike Task Force.”**

**GEN. JOHN P. JUMPER**  
Air Force Chief of Staff

● FROM SUPPORT PAGE 9

defenders of the Force,” he said

Supporting the Raptor also called for construction of new facilities for housing and maintenance, a pivotal role for the 325th Civil Engineer Squadron. Today the unit continues to support the Raptor mission by overseeing the warranty work on the new facilities. According to 1st Lt. Paul Cristina, a CES civil engineer, the squadron currently is designing a new six-bay, F/A-22 consolidated operations and aircraft maintenance unit hangar, an addition to the F/A-22 flight simulator and a runway extension project to support parking for the new aircraft. “CES is also planning for the addition of a second bay to the F/A-22 Fuel Barn,” he said.

“The contracts section has provided oversight during the con-

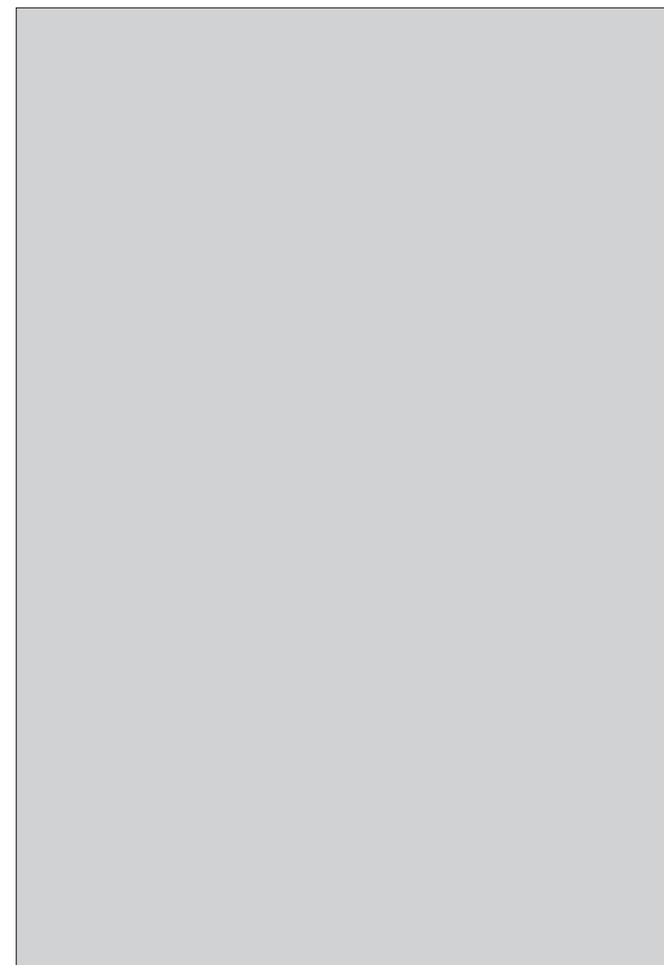
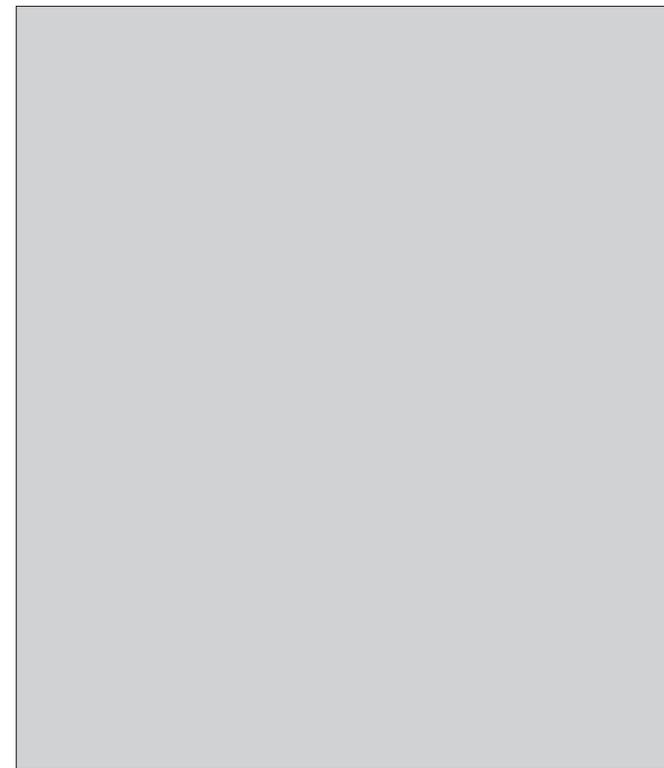
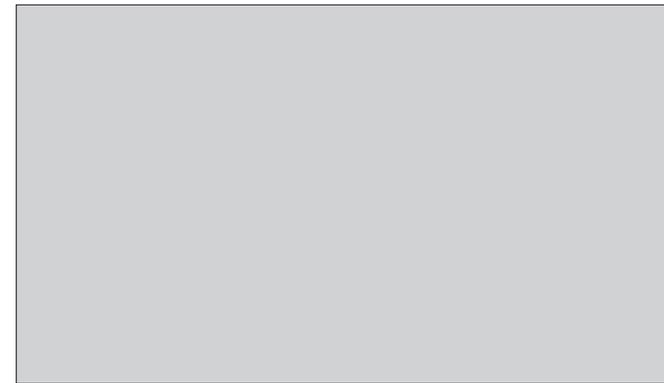
struction of the new F/A-22 support facilities and has acted as the conduit between the eventual facility users and the Army Corps of Engineers,” Lieutenant Cristina continued. “We have communicated the Air Force’s needs to the corps as construction progresses and requirements evolve so the personnel that will eventually occupy the facilities have everything they need in order to perform their mission effectively.”

The Raptor’s new facilities must be properly equipped for the aircraft and all the training that will support it. One of the key equippers is the 325th Communications Squadron. “The 325th CS has been placed in charge of designing and implementing a \$600,000 network upgrade that directly supports the F/A-22 as well as coordinating and assist-

ing with the addition of two new contractor networks that support Lockheed Martin and Boeing personnel here at Tyndall,” said Tech. Sgt. Benjamin Griffin, assistant NCOIC, 325th CS. The CS integrates all the systems that the F/A-22 has brought to Tyndall. The computer network will not only be used for Internet and e-mail anymore, it is now a cost saving resource for many other applications, Sergeant Griffin said.

While the previously mentioned units are but a sample of those comprising the Raptor team, thousands of Tyndall men and women continue to play vital roles for the Raptor beddown.

“There isn’t a finer team in the Air Force to bring the Raptor on line and begin a new chapter in the Air Force history than the men and women of Team Tyndall,” said Brig. Gen. Larry New, 325th Fighter Wing commander.



● FROM DEDICATED PAGE 8

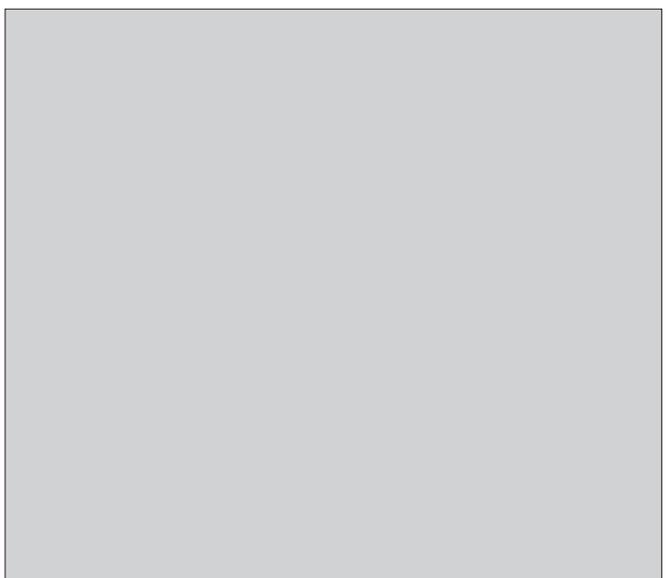
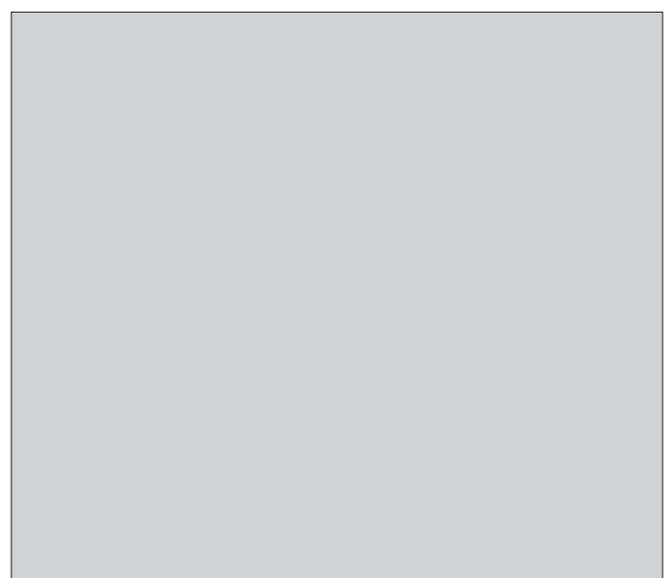
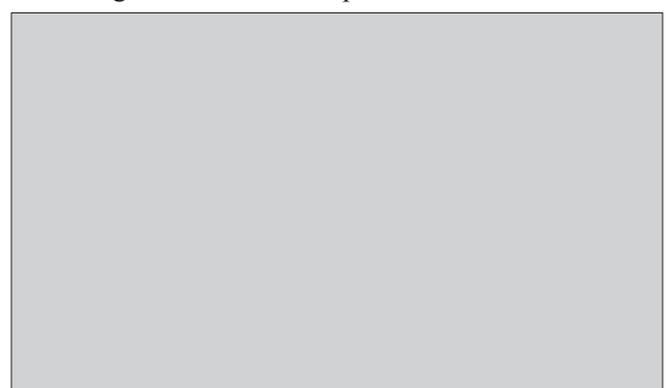
for his current assignment as part of the initial cadre to set up the first operational F/A-22 squadron at Tyndall AFB.

“I had been trying to get in the program since 1994 while I was with the Thunderbirds, because the F/A-22 was and still is the state of the art fighter program in the Air Force,” said Sergeant Simpson.

His daily duties within the 43rd Aircraft Maintenance Unit include various inspections directly related to the daily flying activities. His team ensures all aircraft systems are serviced properly and in good working order. Sergeant Simpson is also answerable for the F/A-22’s overall maintenance to include engine, landing gear, flight-controls, airframe and sub-systems.

“The support I get from members of the 43rd AMU is very important,” said Sergeant Simpson. “This aircraft

is still immature in many ways and we are literally paving the path for the F/A-22 program for the next 20 years. I’m very glad the Raptor is here and that I’m assigned to Tyndall, AFB again,” he said. “I’m looking forward to when we’ll be able to utilize the aircraft as it was designed and to its full potential.”



# Air Superiority makes way for 'Home of Air Dominance'

**1ST LT. RYAN FITZGERALD**

325th Fighter Wing public affairs

The F/A-22 roll-out in the Raptor hangar today ushers in a new generation of aircraft designed to provide the U.S. military with a new brand of air superiority and Tyndall Air Force Base a new training mantra. No longer is Tyndall "The Home of Air Superiority," the 325th Fighter Wing can now claim to be the place where an entire team trains to dominate the skies over any battlefield. Welcome to the "Home of Air Dominance."

To understand Tyndall's expanded role in training America's Air Dominance team, it's important to know the difference between air dominance and air superiority.

"Air superiority allows U.S. forces freedom from attack, while providing the freedom to attack," said Lt. Col. Jeffrey Harrigian, 43rd Fighter Squadron commander. "Air dominance allows the joint forces commander (air, land and sea forces commander) to operate with impunity throughout the adversary's battle

space, allowing the commander to prevail quickly, efficiently and decisively. Air superiority does not guarantee the complete effectiveness of air power."

The roll-out of the Air Force's first operational F/A-22 allows Tyndall pilots to equip new Raptor drivers with the tools to employ the F/A-22 as a weapon, a mission that differs from F-15 training because of the new airframe's expanded capabilities, says Col. Harrigian.

"Our training will focus on emphasizing stealth, precision and supercruise employment in the Beyond Visual Range arena," he said.

Other skills such as basic fighter maneuvers and air combat maneuvering will be taught in a building block approach similar to current F-15 training, he added.

The new training is critical to the overall F/A-22 and air dominance mission because of the aircraft's unique capabilities.

The F/A-22's stealth, speed and maneuverability are vital, because the nation's adversaries are taking advantage of new

technologies and acquiring inexpensive and deadly weapons such as advanced surface-to-air missiles and radars said Lt. Gen. John D.W. Corley, principal deputy assistant secretary of the Air Force for acquisition, in a recent interview.

Those weapons could provide a nearly impenetrable curtain around enemy targets, he said.

Additionally, the Raptor can outperform the most robust enemy aircraft being delivered in quantity today or envisioned for the future, said General Corley.

"No enemy target will be safe from the F/A-22 or the forces it enables," he said. "It's the linchpin for ensuring air dominance for this nation."

Control of the skies includes another facet of the wing's mission: air battle manager training. The F/A-22's air-to-ground capabilities require a more complete controller aboard command and control aircraft.

"With the arrival of the F/A-22, ABM training will evolve to a more balanced

approach as we train students to provide command and control support to a single platform capable of both air-to-air and air-to-ground roles," said Lt. Col. John A. Cote, 325th Air Control Squadron commander.

"ABM training will maintain air superiority training while emphasizing the building of the air-to-ground picture to fulfill the sensor-to-shooter role we play in killing any target," he added.

The addition of the F/A-22 to the fighter wing's arsenal makes Tyndall a one-stop shop for a total air dominance team. Team Tyndall-trained F/A-22 pilots will clear the way for other platforms, F-15 pilots will engage aerial threats, Air Battle Managers will control all the pieces aboard airborne command platforms like the E-8 Joint Stars and E-3 Sentry, intelligence officers trained here will channel information to the warfighters and maintainers will apply their expertise to keeping the jets flying, making Tyndall the "Home of Air Dominance."

# F/A-22 brings stealth into light of day

SENIOR MASTER SGT. ROB FULLER

325th Fighter Wing public affairs

Wouldn't it be great if Air Force pilots could just push a button and trigger a cloaking device that hides them and their aircraft from sight and radar contact? Stealth in the 21st century is close, especially on the F/A-22 Raptor, but a full-blown disappearing act might be a millennium or two away.

Stealth is something engineered into a jet at the design beginning. It just can't be bought and placed on an established aircraft. The F/A-22 represents this revolutionary design process. The low-observable technology used on the Raptor applies the latest stealth technology without compromising aerodynamic performance.

"Low-observable is synonymous with stealth," said Master Sgt. Tom Pfister, 325th Fighter Wing F/A-22 Integration Office aircraft structures manager. "Low-observable is the combination of reducing angles on the aircraft and coating panel seams with a specialized paint. Together these reduce an enemy's radar cross-section of the F/A-22."

Making an aircraft stealthy requires special attention be placed on the shape and angle of all external surfaces. It also means weapons and fuel must be carried internally, which requires an aircraft with greater volume than a conventional aircraft capable of the same performance.

"For instance on an F-15, any external stores such as weapons or fuel tanks provide surfaces for radar to reflect off of," said Sergeant Pfister. "That's why the F/A-22 carries everything internally."

Stealth is not a new concept. The F-117 Nighthawk design played a key role in developing the stealth characteristics of the F/A-22. However, one difference between the F-117 and the F/A-22 is that radar-absorbent mate-

rial is not applied to an entire Raptor. Instead it's primarily found on edges, cavities and some surface areas.

The capability to maintain the stealth of the aircraft and ensure a place to do it is key to preparing for the F/A-22 arrival at Tyndall in 2003.

"We incorporated the low-observable and composite repair into one facility here at Tyndall," said Sergeant Pfister, "making it a one-stop shop and eliminating the need for a separate paint barn."

The composite repair is the restoration of the structural integrity, strength and shape of the aircraft component, said Sergeant Pfister.

Maintaining the 'stealth health' of Raptors is the top priority for folks like Sergeant Pfister, but another group of people has a very relevant opinion about the importance of stealth too — pilots.

"Having a stealthy aircraft makes me difficult to detect, and will increase 'first shot, first kill' advantage over all other fighter aircraft in the world,"

said Lt. Col. Jeff Harrigan, 43rd Fighter Squadron commander.

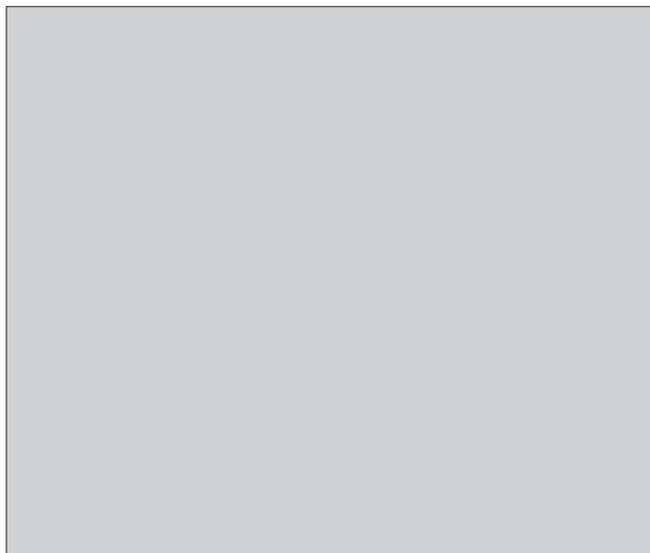
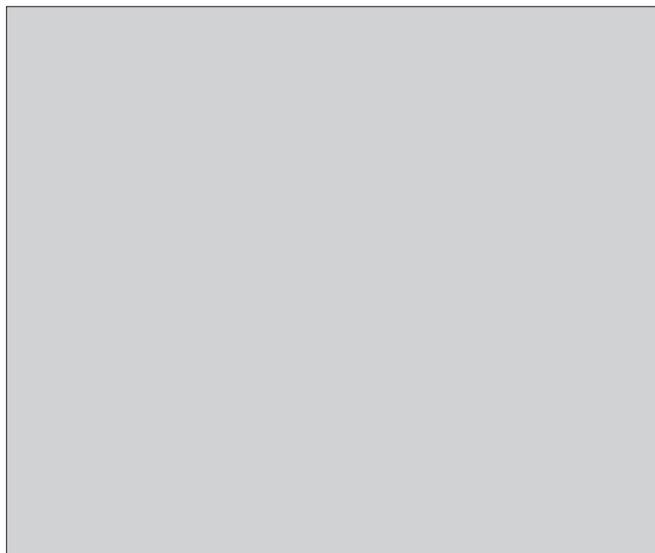
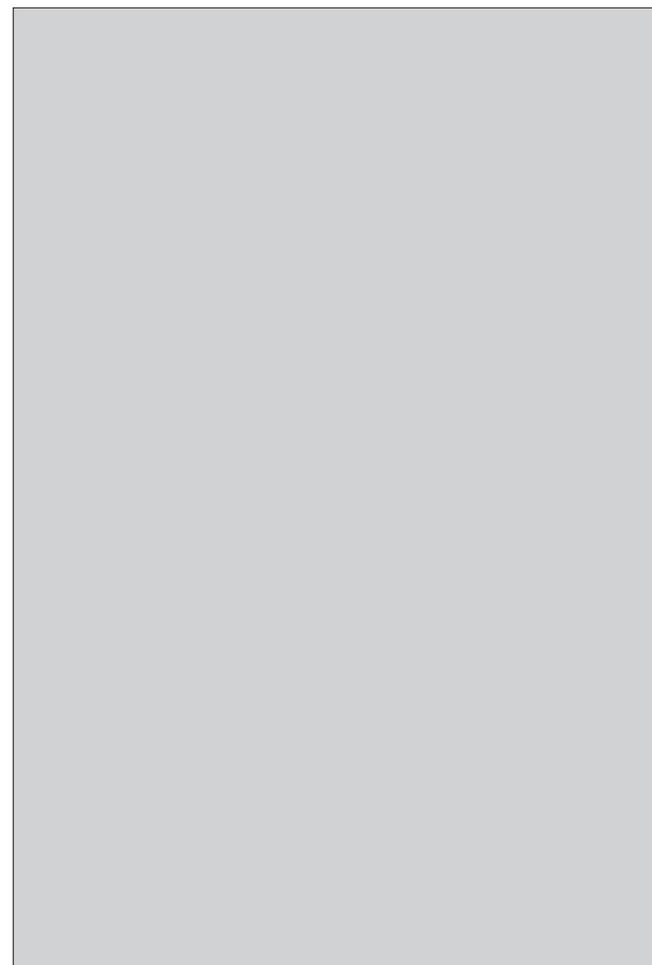
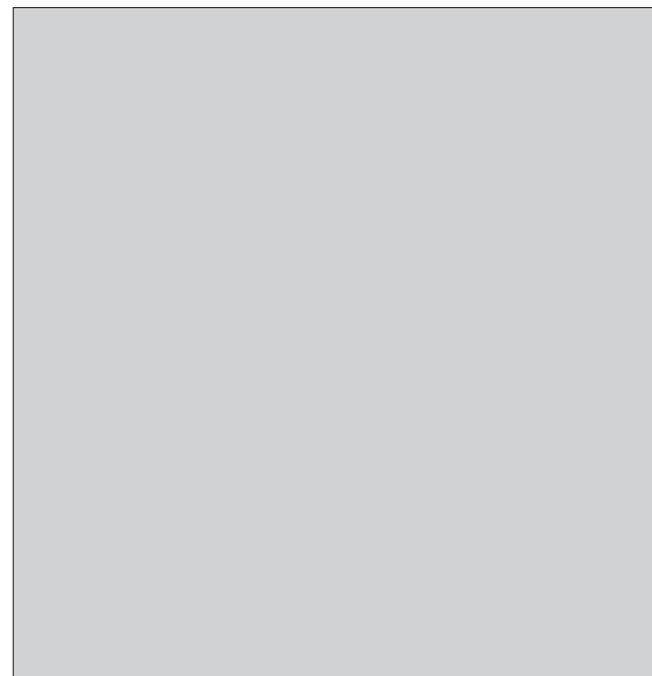
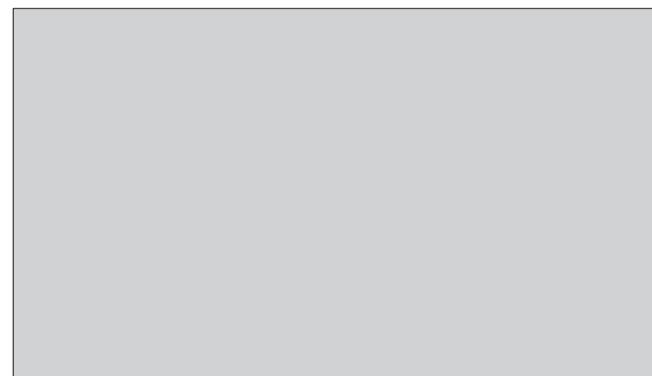
The revolutionary blend of stealth, supercruise, integrated avionics and maneuverability, provides a tremendous air-to-air capability to the pilot.

"All those factors, when combined, form a lethal fighting machine," said Colonel Harrigan. "The F/A-22 will offer all these components, and when you throw in stealth, the enemy will never know what hit them. The F/A-22 will be the tip of the spear in the 'Kick down the door' force to achieve air superiority over the enemy."

The F/A-22 will enable the world's premier air and space force to deliver air dominance in any threat environment for decades, said Gen. John Jumper, Air Force chief of staff.



**Think  
before  
you  
drink.**



## Raptor facilities, construction update

### **F/A-22 Academic Simulator Training Facility**

Project cost: \$6.6 million

Complete: Dec. 19, 2002

### **F/A-22 Low Observable/Composite Repair Facility**

Project cost: \$18.2 million

Complete: July 1, 2003

### **F/A-22 Squadron Operations/AMU Hangar**

Project cost: \$9.65 million

Currently 96 percent complete; scheduled completion Nov. 10, 2003

### **F/A-22 Fuel Maintenance Hangar**

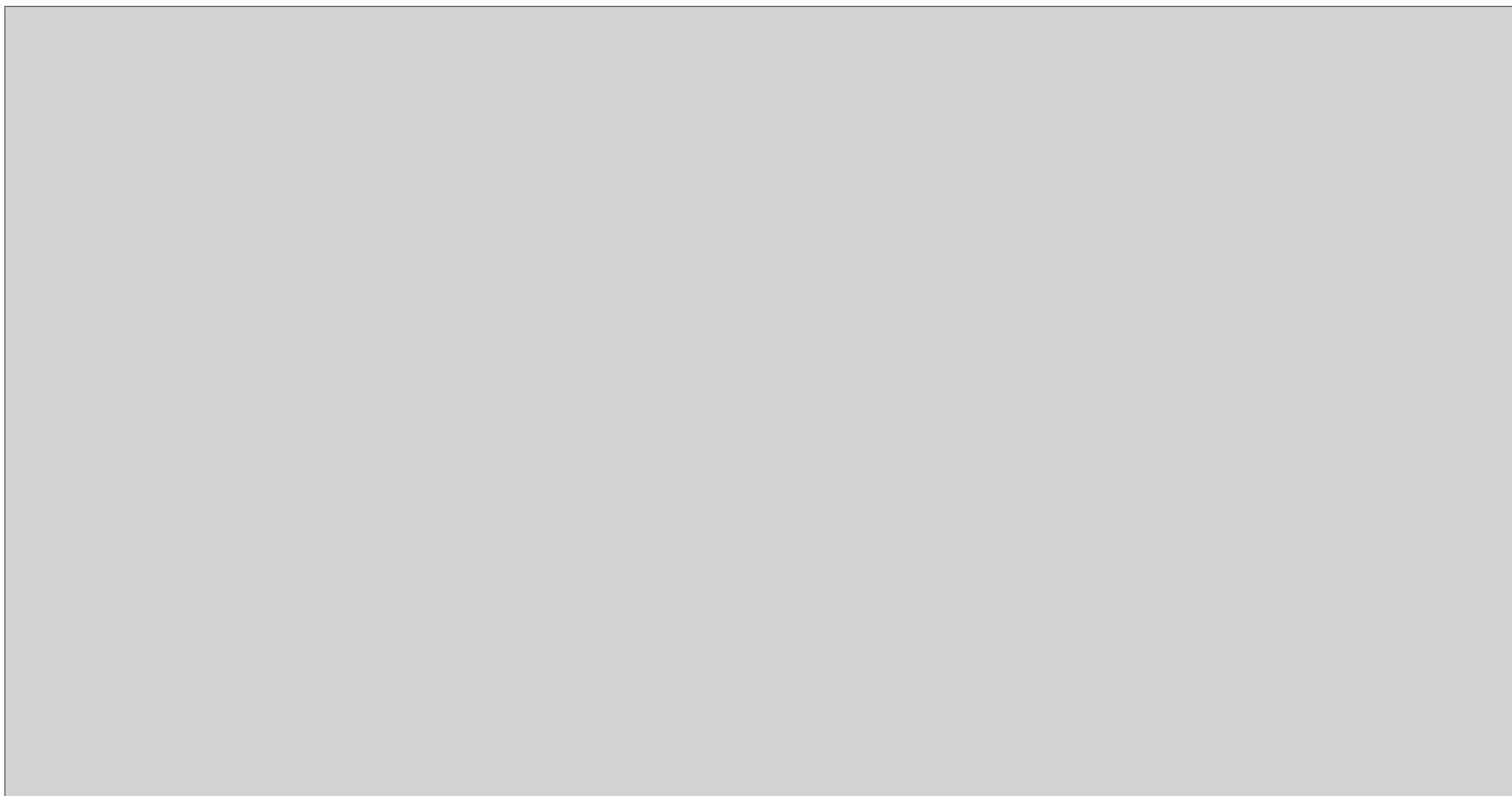
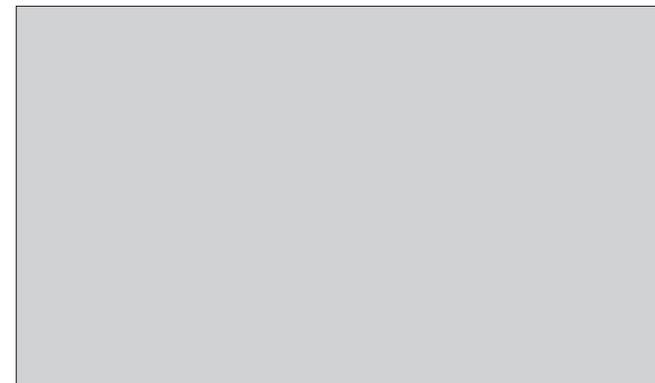
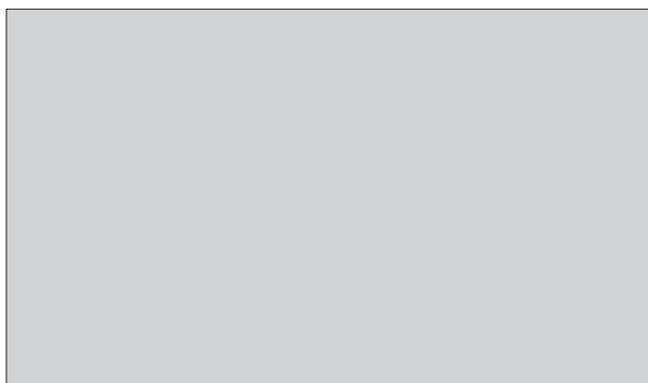
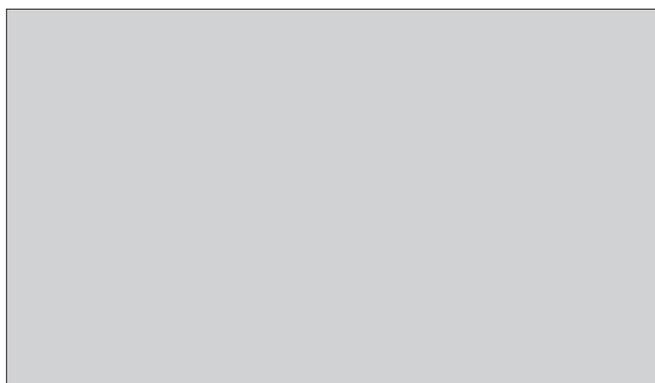
Project cost: \$3.2 million

89 percent complete; scheduled completion Jan. 23, 2004



**F/A-22 Academic  
Simulator Training  
Facility**

Tech. Sgt. Dan Neely



# Raptor redefines maneuverability

**SENIOR MASTER SGT. ROB FULLER**

325th Fighter Wing public affairs

“Turning on a dime” brings to mind images of a split-second change of direction. Imagine doing that in a jet hurling through the sky. That’s the F/A-22 Raptor.

The F/A-22 design with its stealth, supercruise and integrated avionics provide a high degree of assurance that a “dogfight” will not be the typical experience for combat air force pilots.

If close air-to-air combat ever becomes necessary, other fighters don’t stand a chance because of the Raptor’s enhanced maneuverability.

“The preferred solution is first look, first shot, first kill,” said Jeff Harris, Lockheed Martin lead engineer for flight control law decision and analysis, “but from a flying-quality perspective, we design the F/A-22 to be a lethal fighter even close-in and give pilots maximum maneuverability.”

The key to the F/A-22 Raptor’s ability to maneuver better than conventional fighters is a system called thrust vectoring. Thrust vectoring is controlled by the

●SEE RAPTOR PAGE 19



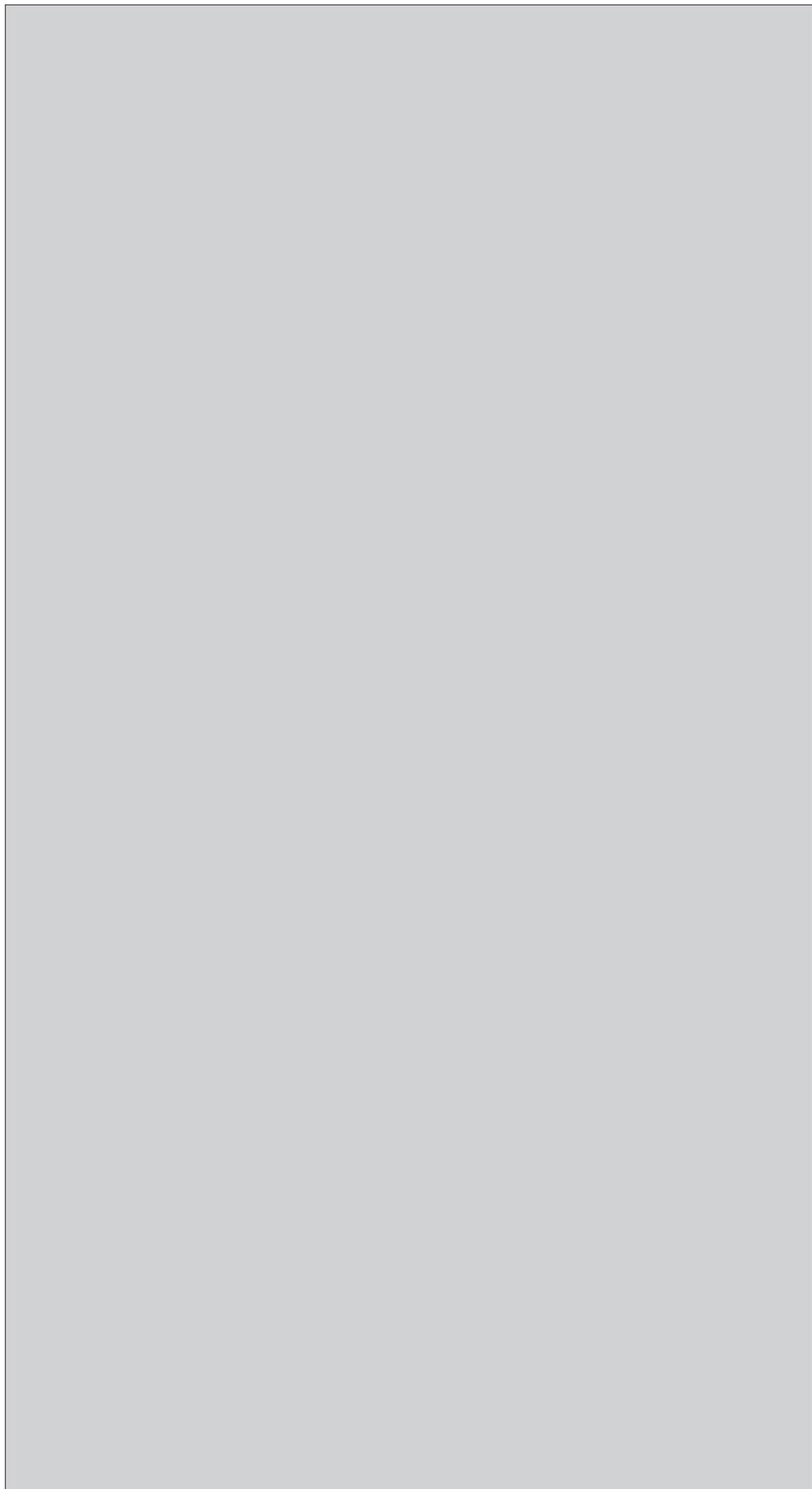
**The F/A-22’s vectored thrust capability makes it the world’s most lethal fighter.**

By Tech. Sgt. Mike Ammons

● FROM RAPTOR PAGE 18

pilot through the flight controls and gets the F/A-22 quickly from one maneuver to another. The vectoring nozzles on the two Pratt & Whitney F119 engines are controlled by the same flight control system that operates the horizontal tails, rudders and wing surfaces.

“It’s the ability for a pilot to point the nose wherever he wants in a much larger envelope, all the way to zero air speed,” Mr. Harris said. “Thrust vectoring harnesses the power from the rear of the jet by using the thrust vectoring nozzles (on the engines) and opens the envelope where other fighters would stall.”



For the most part, the enhanced maneuverability features of the F/A-22 are transparent to the pilot. The aircraft controls are designed much like any conventional fighter with the thrust vectoring nozzles factored in for additional maneuver capability.

“The most obvious (difference from other jets) is the slow speed, high angle of attack region where the F/A-22 is still completely controllable while an F-16 or F-15 is completely uncontrollable,” said Bret Luedke, F/A-22 chief test pilot at the Combined Test Force at Edwards Air Force Base, Calif. He has been a test pilot for 13 years and has more than 150 hours in the F/A-22.

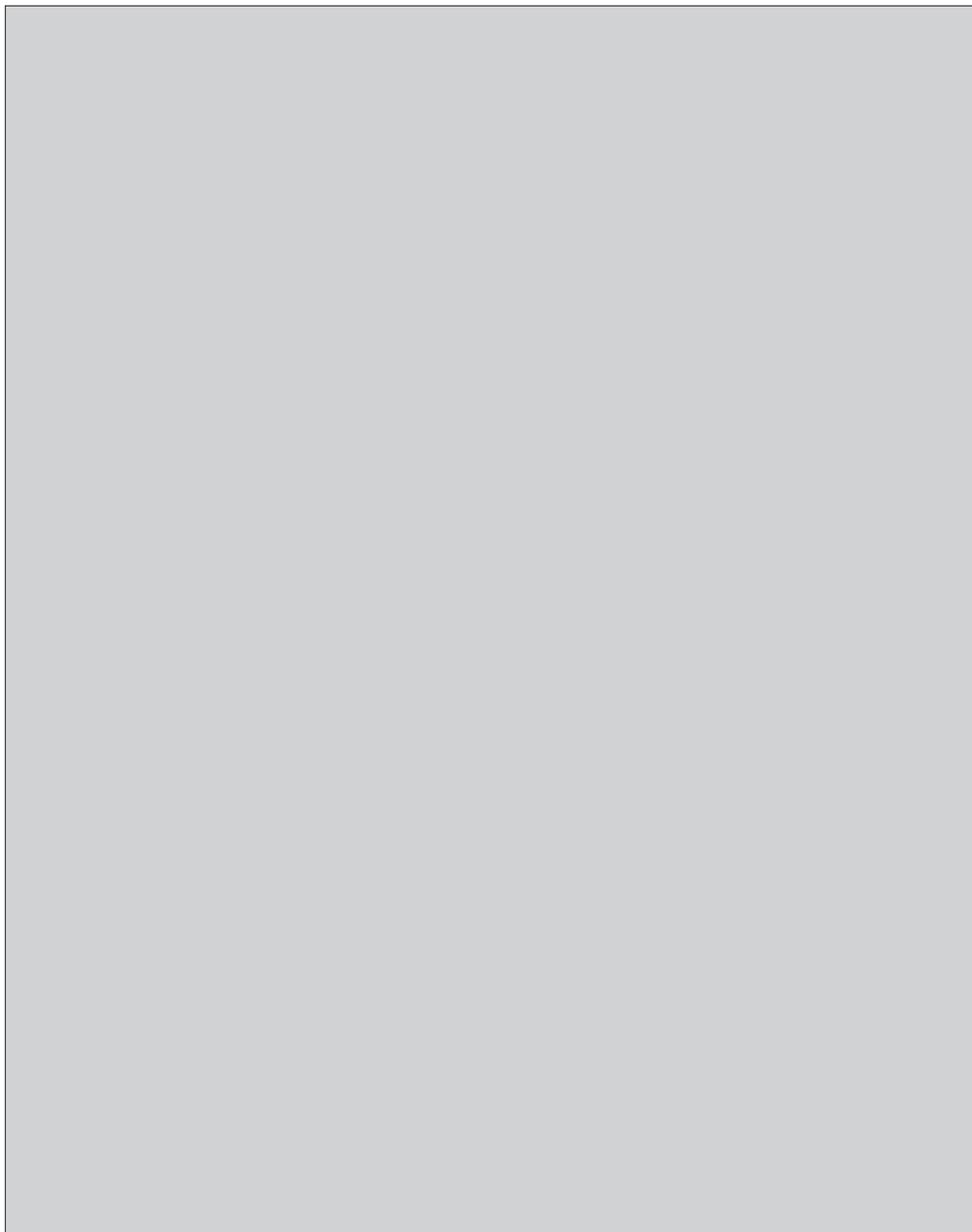
“The large control surfaces and the thrust vectoring capability of the aircraft give us maneuverability and control in areas where other aircraft don’t dare go,” Mr. Luedke said. “It’s kind of like comparing the capabilities of a Formula 1 race car with those of a VW van while driving on a road race course.”

Thrust vectoring maneuverability, once reserved only for test pilots, will now be available to the combat air forces, Mr. Harris said.

“This feature has been used in other developmental programs, but it’s the first time it’s been incorporated into production design,” he said.

Combined with the other unique design elements of the F/A-22 — stealth, supercruise and integrated avionics — it transforms air superiority into air dominance.

“From the pilot’s perspective, they will give the Raptor pilots the element of surprise and allow them to pick and choose the fights with significant tactical advantage,” Mr. Luedke said.



Your link  
to what's going on

# Gulf Guide

in the  
Tyndall community

## OCTOBER

## NOTES

FRI 10

### Comptroller Hours Change

The 325th Comptroller Squadron will be closing at 10:30 a.m. today for a squadron function. In case of an emergency, customers may page the following numbers:

First Sergeant, Senior Master Sgt. Graber, 914-1082

Financial Services, 1st Lt. Rozman, 914-1207  
Commander, Maj. Weilacher, 914-1224

TUE 14

### FSU software seminars

Dr. Sara Stoecklin, director of software engineering at Florida State University's Panama City Campus, will be offering free, one-hour state-of-the-art software engineering lectures 11:30 a.m. to 12:30 p.m. on the second Tuesday of each month in Room 58 of the Tyndall Education Center. Future topics will include Unified Modeling Language, Extensible Markup Language, Pair Programming, Agent-Oriented Programming and Software Patterns.

WED 15

### Tuskegee Airman speaks to Tyndall

Retired Lt. Col. Herbert Carter, a member of the original Tuskegee Airmen (99th Fighter Squadron) is the featured speaker at the Black Heritage Committee-sponsored event at 2 p.m. Wednesday in the NCO Academy auditorium. Everyone is invited.

MON 22

### Microsoft FrontPage Course

Gulf Coast Community College will offer a two-day Microsoft Frontpage course at the base education center Oct. 22. The course will provide the skills to create and maintain professional web pages using the current version Microsoft Frontpage. Class will be held on Monday and Wednesday from 5:30 - 8:15p.m.

### Airman's Attic

The Airman's Attic is in need of donations. They collect almost everything (clothes, kitchen items, furniture, linen, etc.) and give or lend it out to members at Tyndall in need. Anyone with excess household items can call 283-4913 to arrange drop-off. This is just one way that we help our own. Also, those that need household items please call 283-4913.

### FTAC Deputy Flight Chief Position Open

The First Term Airmen Center has an opening for an energetic, enthusiastic Tech. Sgt. or Staff Sgt to fill the Deputy Flight Chief position.

The individual selected will play a major role in transitioning Tyndall's newest airmen into the Air Force and Team Tyndall. Duties of the position include: planning, supervising and coordinating FTAC activities, enforcing policies and procedures, managing the FTAC curriculum, supervising team leaders and up to 900 students per year, coordinating with over 40 base and community agencies, providing professional briefings and tours, and advising wing leadership on issues impacting first term airmen and their families.

Packages must include an application letter, a letter of recommendation from the applicant's commander approving release and the last five Enlisted Performance Reports. Packages will be accepted until Thursday. Applicants must contact the FTAC staff to schedule an interview. The selected individual will need to be available to assume FTAC responsibilities no later than Nov. 1. If you have any questions please contact Master Sgt. Albert Lewis Jr. via email or DSN. 523-0154.

Forward to packages to MSgt. Lewis, FTAC Flight Chief, 523-4336.

### EIT Exam

The Florida Engineering Society, Gulf Coast Chapter, will conduct a 24-lesson engineer-in-training exam review course at Gulf Coast Community College on Monday evenings through March 29. This program for those who plan on taking the Florida State EIT exam on April 17. For more information call Doug Merkle at

283-6113 or 871-3132 or e-mail at dhmerkle@aol.com.

### Dental clinic hours

Effective Oct. 1, the dental clinic has changed its hours of operation to 7:30 a.m.-4:30 p.m. Monday-Friday. Dental sick call remains by appointment and will begin at 7:30 a.m. Monday-Friday. For more information, call the dental clinic, 283-7572.

### New Sickcall hours

The Family Practice Clinic sickcall hours will now be from 7- 7:30 a.m. and from 1- 1:30 p.m.. Family Practice will be closed the first Wednesday of every month at noon for mandatory training purposes and will not have sickcall or late clinic on these days. To make an appointment at Family Practice call 283-2778.

## CHAPEL SCHEDULE

The following Catholic services will be held at Chapel 2: Daily Mass, 11:30 a.m. Monday-Friday; Reconciliation, after Saturday Mass or by appointment; Saturday Mass, 5 p.m.; Sunday Mass, 9:30 a.m.; religious education, 11 a.m. Sunday.

Protestant services will be as follows: Communion service, 9:30 a.m., Chapel 1; religious education classes, 9:30-10:30 a.m. in Building 1476; general Protestant service, 11 a.m., Chapel 2.

## BASE EXCHANGE HOLIDAY HOURS

FACILITY	Oct. 11	Oct. 12	Oct. 13
OVERHEAD OFFICE	CLOSED	CLOSED	CLOSED
MAIN STORE	0900-1900	0000-1700	0000-1700
MCSS	0900-1600	CLOSED	CLOSED
SHOAL POINT	1000-1800	1000-1800	1000-1600
CLASS SIX	0800-2200	0000-1800	0000-1700
FELIX LAKE	0600-2100	0600-2100	0600-2100
SERVICE STATION	0900-1700	CLOSED	CLOSED
WOK WORKS	CLOSED	CLOSED	CLOSED
ANTHONY'S	1000-1700	1000-1600	CLOSED
ROBINHOOD	CLOSED	CLOSED	CLOSED
FRANKS KIOSK	CLOSED	CLOSED	CLOSED
BURGER KING	0700-2000	0000-1700	CLOSED
BARBER SHOP	0900-1700	1000-1600	CLOSED
FLT LINE BARBER SHOP	CLOSED	CLOSED	CLOSED
BEAUTY SHOP	0000-1600	CLOSED	CLOSED
LAUNDRY/CLEANERS	0900-1500	CLOSED	CLOSED
ALTERATIONS	0900-1200	CLOSED	CLOSED
GNC	0900-1800	0000-1700	0000-1700
FLOWER SHOP	0900-1800	CLOSED	CLOSED
ALLTEL	0900-1730	CLOSED	CLOSED
OPTICAL SHOP	0000-1800	CLOSED	CLOSED
NAIL SALON	0000-1700	CLOSED	CLOSED



# Funshine NEWS

October 10, 2003

## All Ranks Lunch at the Officers' Club

Mon.-Thurs.: \$6.95 ■ Friday: \$7.95  
11 a.m.-1 p.m.

Unlimited access to the daily buffet, salad bar, fountain soda, tea & coffee!

Includes Fresh, Hot, Carved Meat Sandwiches on Kaiser Roll

Monday	Chef's Choice
Tuesday	Italian
Wednesday	Oriental
Thursday	All American
Friday	Seafood

\*Members, show your club card to receive a \$1 discount!

### On Base Food Delivery

- Lunch Menu: Mon.-Fri. 11 a.m.-1 p.m. Limited to office deliveries (i.e. squadron addresses)
- Evening Menu: Fri. & Sat. 5:30-9 p.m.

**Subs & Pizzas**  
**286-2900**

### All Member Services

are provided at the Officers' Club Business Office  
9 a.m.-3 p.m., Mon. - Fri.

- Membership Inquiries
- Account Maintenance
- Club Card Payments
- Birthday Voucher
- Catering Arrangements
- Transfers
- Sign-ups
- Check Cashing



### The Heat is On!

Attention O' & E' Personnel  
Join your Tyndall AF Club by Oct. 31 for a chance to win a Sunsational Services Card good for free services: Greens Fees at Pelican Point Golf Course Open Bowling at Raptor Lanes & a Swim Pass for the base pool (2004 season) Some restrictions apply.

Please stop by the O' Club business office for more information.

Tyndall AF Clubs present:

## Travel the World On Us

A membership recruitment & recognition program designed to "take you away".

Promotion ends October 31.

More than 140 people Air Force wide will win travel related prizes valued from \$500 to \$5,000 just for signing up. The drive is open to all eligible non-members. (active duty, reserve, DoD civilians and retirees)

A set of prizes will also be offered to current club members, who are automatically entered to win.

Membership applications are available at the club.



### Youth Center

☎ 283-4366

#### Start Smart Basketball

Is your 3-5 year old ready for basketball? Sign up for Start Smart Basketball and work with your child developing basic skills. Program runs Oct. 25, Nov. 1, 8, and 15, 9 a.m. \$30.

#### Youth Surf Classes

Saturday afternoons 12-4 p.m. open to youth ages 10 yrs. and up. Cost is \$35.

#### Start Smart Baseball

Is your 3-5 year old ready to play baseball? Sign up for Start Smart Baseball and work with your child developing basic skills. Program runs Oct. 21, 28, Nov. 4 and 11 at 11 a.m. Cost is \$30.

### Football Frenzy

Each visit to the CAC Pizza Pub is your chance to win a pro game trip!



Enjoy a large, 1 topping pizza and a pitcher of Miller Lite for \$8.50 every Sunday.



Sponsored in part by:



No federal endorsement of sponsors intended.

**283-3222**

### Berg Liles

☎ 283-2239

#### Birthday Meal

This birthday meal is FREE for SIK customers whose birthday occurred between May and October 2003. Participants may bring one guest for a cost of \$15.

### Teen Center

☎ 283-0295

#### Red Ribbon Week

Oct. 20-25. Create your own unique poster about drug and alcohol awareness. Posters will be created week of Oct. 14-18. A prize will be given for the best entry.

#### YES Program Meeting

Oct. 23. Receive job employment tips and an update on completed volunteer hours. Ask questions about the program. New applicants welcome.

### Family Child Care

☎ 283-2266

#### Help Wanted

Currently there is a need for FCC spaces for infants and toddlers. Contact the FCC office for more information on how to become a licensed provider.

#### Provider Training Classes

New provider training classes are scheduled to begin the last week of October. Contact the FCC office to schedule your orientation prior to the beginning of training.

### Columbus Day Hours of Operation

- Oct 11-13 Community Activities Center Closed
- Oct 13 Fitness Center 10 a.m. - 6 p.m.
- Bowling Center 4 - 9:30 p.m.
- Graphic Impressions Closed
- Enlisted & Officers' Clubs Closed
- CAC Pizza Pub & Snack Bar Closed
- Youth & Teen Centers Closed
- Oct 13-14 Skills Development Center Closed
- Information, Tickets & Travel Closed
- Aero Club Closed

### Lodging Programs Expanded for Holidays

Due to an Air Force waiver, the Sand Dollar Inn and other AETC lodging offices can take "Space A" reservations as far out as two months in advance of the Nov. 22-29 Thanksgiving holiday and the Dec. 12 to Jan. 4 Christmas and New Year's holiday. That means people can book up to an eight-day stay for Thanksgiving now and as soon as Oct. 1 for up to a 20-day stay over the Christmas and New Year's holidays.

**283-4211**

### Honor Guard of the Month

A1C Kelson Nisbett - 325 SFS  
8 months served in Honor Guard  
**Congratulations!**

### Tyndall Youth Center Seventh Annual

# FALL FESTIVAL

October 24, 2003 • 6-9 p.m.  
*Games, food & lots of fun for the entire family*

- Climbing Wall
- Face Painting
- Fish Pond
- Cake Walk
- Bean Bag Toss
- Spooky Maze
- Crafts
- Lollipop Tree
- Basketball Shoot
- Lots More...

Sponsored in part by:  
First Command  
Financial Planning  
No federal endorsement of sponsor intended.

Details call:  
**283-4366**



### Community Activity Center

☎ 283-2495

#### Pig Skin Picks

Forms are available at the CAC & Sports Page Pizza Pub. Prizes will be awarded. Ace the weekly Pig Skin Pick and receive one free Pizza Buffet. Winner heat #1 MSgt Howard Marshall with 52 correct picks out of 73.

## Retiree's Golf Championship

October 25 & 26  
7:30 a.m. tee time

Cost is \$30 and does not include cart or greens fees. Must be retired from any federal government service or agency. Tees: White and Gold Prizes  
Sign up by noon Oct. 24  
Must have certified handicap.



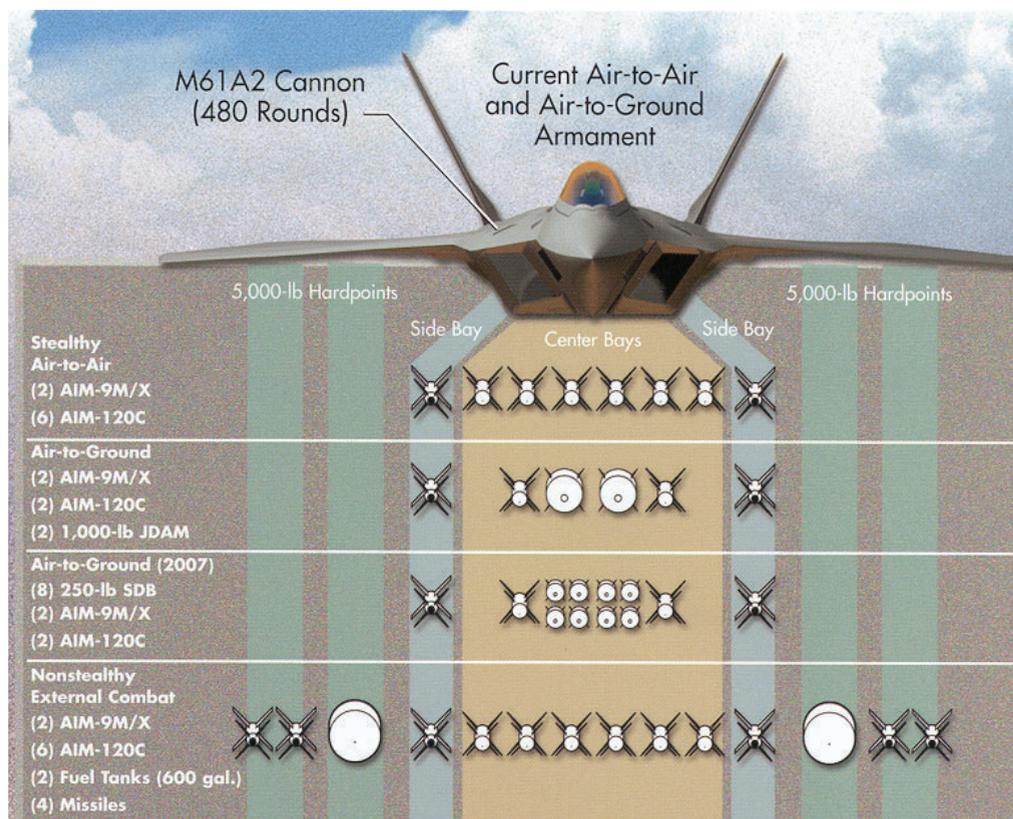
### Skills Development Ctr.

☎ 283-4511

#### Basic Knitting Classes

Classes are suitable for both adults and youth (ages 10 yrs. and up). Fee is \$25 and includes supplies. Maximum of 3 students per class. Classes are held from 9:30-11:30 a.m. on the following days: Oct. 11 & 18, Nov. 8 & 22, Dec. 6. Stop by the Skills Center to register.

## Raptor facts



## General Characteristics

**Primary Function:** Multi-role fighter, air dominance.

**Builder: Air Vehicle** -Lockheed-Martin, Boeing; Engines - Pratt & Whitney

**Power Plant:** Two Pratt & Whitney F119-PW-100 turbofan engines with afterburners and two-dimensional thrust vectoring nozzles.

**Thrust (each engine):** 35,000-pound class.

**Length:** 62 feet, 1 inch (18.9 meters).

**Height:** 16 feet, 8 inches (5.1 meters).

**Wingspan:** 44 feet, 6 inches (13.6 meters).

**Speed:** Mach 2 class.

**Ceiling:** Above 50,000 feet (approximately 15 kilometers).

**Empty Weight:** 40,000-pound class (approximately 18,000 kilograms).

**Armament:** One M61A2 20-millimeter multibarrel cannon with 480 rounds; side weapon bays can carry two AIM-9 infrared (heat seeking) air-to-air missiles and main weapon bays can carry (air-to-air loadout) six AIM-120 radar-guided air-to-air missiles or (air-to-ground loadout) two 1,000-pound JDAMs and two AIM-120 radar-guided air-to-air missiles.

**Crew:** one.

**Initial Operational Capability:** 2005.

(Current as of February 2003)

## F/A-22 mission

The F/A-22's combination of stealth, supercruise, maneuverability, and integrated avionics, coupled with improved supportability, represents an exponential leap in warfighting capabilities and allows for the full realization of operational concepts that are vital to the 21st century Air Force.

The F/A-22 is a critical component of the Global Strike Task Force that is designed to project air dominance, rapidly and at great distances, to counter and defeat threats that will attempt to deny access to our forces. The F/A-22 cannot be matched by any known or projected adversary fighter aircraft.

## Features

First look/first shot/first kill in all environments - A combination of improved sensor capability, integrated avionics, improved situational awareness, and improved weapons provides first-kill opportunity against the threat.

The F/A-22 possesses a sophisticated sensor suite that allows the pilot to track, identify, shoot and kill the threat before it detects the F/A-22. Significant advances in cockpit design and avionics fusion improve the pilot's situational awareness. Advanced avionic technologies allow the F/A-22 sensors to gather, integrate and display essential information in the most useful format to the pilot.

## Air-to-surface capability

The F/A-22 has a significant capability to attack surface targets. The aircraft is capable of carrying two 1,000-pound Joint Direct Attack Munitions (JDAMs) internally and will use on-board avionics for navigation and weapons delivery support. Future air-to-ground capability will be enhanced with the addition of an upgraded radar and the Small Diameter Bomb.

### Gulf Defender Editorial Staff

Brig. Gen. Larry New ..... 325th FW commander  
 Capt. Chris Karns ..... chief, 325th FW public affairs  
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Everything advertised in this publication shall be made available for purchase, use or patronage without regard to race, color, religion, sex, national origin, age, marital status, physical handicap, political affiliation or any other non-merit factor of the purchaser, user or patron.

Editorial content is edited, prepared and provided by the 325th Fighter Wing public affairs office. Photographs are U.S. Air Force photos unless otherwise noted.

The deadline for article submissions to the *Gulf Defender* is 4 p.m. Friday, prior to the week of publication unless otherwise noted. Articles must be typed and double-spaced, preferably on a 3.5-inch disc. Stories should be submitted directly to the public affairs office, Building 662, Room 129 or mailed to: 325 FW/PAI, 445 Suwannee Ave., Tyndall AFB, FL, 32403-5425 or emailed to editor@tyndall.af.mil. Public affairs staff members edit all material for accuracy, brevity, clarity, conformity to regulations and journalistic style. The delivery of the *Gulf Defender* to Tyndall base housing sections is provided by the *Panama City News Herald*.

For more information, or to advertise in the newspaper, call (850) 747-5000.



## Raptor over Bay

Raptor 18, piloted by Lt. Col. Jeff Harrigian, 43rd Fighter Squadron commander, flies above Bay County en route to its delivery to Tyndall Air Force Base Oct. 26.

