



# **AIR WARFARE COURSE**

## **THE VIETNAM WAR – Part 1**



# THE VIETNAM WAR-I

## OBJECTIVES

The objectives of The Vietnam War lessons of the USAFX Air Warfare Course are to:

- Ensure squadron personnel obtain, understand and remember information of North / South Vietnam-U.N. – Western Forces and USSR / Chinese contributions, major concepts, theories, actions, and type assets and aircraft used during this period in Air Warfare History.**



# THE VIETNAM WAR-I

## OBJECTIVES

### **The course is taught by:**

- Powerpoint Presentation OR Handout of Overheads over 3 class periods.**
- Covers 7 Sections or Chapters from 1960 to 1975.**
- Each Class is approximately 45 – 60 min. long and will cover 1/2 of material each of approx. 7 chapters.**
- There will be one 10 question quizzes given after each class, and before the next one.**
- A Class guideline of materials taught will be handed out prior to each class. These can be filled in during instruction or during review. The quiz or Final Exam will come from these guidelines.**
- Group study sessions are encouraged.**

**... LET'S ROLL !**



# AIR WARFARE COURSE

## *The Vietnam War - I*

### MAIN COURSE TOPICS

#### VIETNAM WAR – PART 1

1. Early American Involvement (1960 - 1964)
2. In-Country War (1964 - 1973)



# Vietnam: Early American Involvement

1960 - 1964



*The US Air Force's 'Farm Gate' deployment brought the North American T-28 to Vietnam as a low-budget, all-purpose fighter-bomber for Saigon's pilots.*



# THE VIETNAM WAR- Part 1

## EARLY AMERICAN INVOLVEMENT (1960-1964)

### CHAPTER 1 TOPICS COVERED

1. Special Forces
2. Supply Ship Sunk
3. Undeclared War
4. Troops Committed



## EARLY AMERICAN INVOLVEMENT

### 1 – SPECIAL FORCES

- ❑ 1957 – U.S. (took role of bastion against insidious, creeping advancement of world communism takeover)
- ❑ Took over from France – task of training / strengthening Armed Forces of South Vietnam.
- ❑ Vietnam Air Forces (VAF) poorly equipped & trained.
- ❑ Military Assistance & Advisory Group (MAAG) – working in country since 1950.



## EARLY AMERICAN INVOLVEMENT 1 – SPECIAL FORCES

- ❑ Goal of US – in line w/1954 Geneva Accords...
  - ❑ Achieve unification (North Vietnam) by means of democratic elections.
  - ❑ Compromised at outset by un-crossable divide.
  - ❑ Communist North vs old Catholic land-owning class which dominated in South.
  - ❑ Position made worse by Viet Cong (revolutionary insurgents in South Vietnam – backed by Hanoi)



# EARLY AMERICAN INVOLVEMENT

## 1 – SPECIAL FORCES

- ❑ End of 1950's:
  - ❑ American Advisors in South = 700
  - ❑ F8F Bearcats replaced by AD-6 Skyraiders (accelerated advisors)
- ❑ 1961:
  - ❑ Viet Cong guerillas staged show of strength
  - ❑ w/support from North – increased infiltration
  - ❑ Attacked / cut many principal north-south trunk roads





**The Viet Cong brought their insurgency to the cities. By bombing installations associated with the South Vietnamese government and its US advisors, they unwittingly encouraged Presidents Kennedy and Johnson to send more help to Saigon.**



# EARLY AMERICAN INVOLVEMENT

## 1 – SPECIAL FORCES

- Newly elected Kennedy Administration:
  - Unwilling to involve Americans in formally declared war.
  - Redoubled efforts to train South Vietnamese (in skills of counter-insurgency)
- First US Special Forces entered country
  - To provide more training
  - Became actively involved in leading active missions against Viet Cong.
  - Occasionally mounting covert intelligence missions or sabotage against the North.





## EARLY AMERICAN INVOLVEMENT 1 – SPECIAL FORCES

- As USA support the South
- North support came from China & Soviet Union.
  - Large quantities of war supplies
  - Some supplies bolstered Viet Cong
  - Moving down supply routes through Laos & Cambodia...
  - Supply routes that became known as Ho Chi Ming Trail.





## EARLY AMERICAN INVOLVEMENT

### 1 – SPECIAL FORCES

- ❑ USA responded by supplying the south
  - ❑ US Army Piasecki H-21 helicopters to South
  - ❑ Including pilots to fly them
  - ❑ American personnel were not to engage in combat missions – many did
  - ❑ They generally flew w/one Vietnamese crew member who was “ostensibly in command”
    - ❑ Creating fiction that no American units were actually fighting.



# EARLY AMERICAN INVOLVEMENT

## 1 – SPECIAL FORCES



**A South Vietnamese soldier emerges from a US Army Piasecki H-21C helicopter. In the early 1960's, Americans were supposed to be advising, not fighting, but they often joined in.**



## EARLY AMERICAN INVOLVEMENT

### 2 – SUPPLY SHIP SUNK

- ❑ 2 May 1964 – American aircraft supply ship ‘Card’ was sunk in Saigon Harbor
  - ❑ By Viet Cong underwater demolition team (while off-loading helicopters)
- ❑ Fairchild C-123 Providers (USAF) engaged in “Operation-Ranch Hand”
  - ❑ Stripping large areas of S.Vietnamese jungle of foliage
  - ❑ Sprayed chemicals – depriving enemy infiltrators of natural camouflage & cover.





**The Fairchild C-123 Provider flew 'in-country' airlift and sprayed defoliants, including the infamous Agent Orange.**





**The Douglas B-25 Invader suffered from wing spar fatigue, but was a superb weapon for jungle and counter-insurgency fighting. Farm Gate's Air Commandos flew hundreds of low-level missions in the B-26.**



## EARLY AMERICAN INVOLVEMENT

### 2 – SUPPLY SHIP SUNK

- ❑ 2 Aug 64 – American destroyer “Maddox” attacked
  - ❑ International waters – Gulf of Tonkin
  - ❑ By Soviet built torpedo boats
- ❑ 5 nights later – destroyer ‘Turner Joy’ similarly attacked
- ❑ In Washington – Pres. Johnson announced ‘a measured response’
  - ❑ US Navy A-1 & A-4 striker acft (USS Ticonderoga & Constellation) carried out numerous attacks on North Vietnam.
  - ❑ North Vietnam bases at Hon Gai & Loc Chao
  - ❑ Losing 1 A-1 and 1 A-4 (to ground fire)

## Watching the Viet Cong

The first American combat aircraft in Vietnam were McDonnell RF-101C Voodoos of the 15th Tactical Reconnaissance Squadron from Kadena. A detachment of four, code-named 'Pipe Stem', arrived at Tan Son Nhut on 18 October 1961.

It happened to be the day the Mekong River overflowed its banks and flooded hundreds of square miles of the countryside. The four RF-101Cs began photographing both the floods and the Viet Cong on 20 October. Another detachment, known as 'Able Mable', flew missions over Laos from Don Muang, Thailand. Captain A. Robert Gould recalled:

"We lived in the Caravelle Hotel, drove our Jeeps to Tan Son Nhut for our 0800 take-off and were back at the hotel by 1500 or 1600 hours. We looked at airfields, bridges, and all the other normal military-type targets. We used French maps over Laos - there were no US maps of sufficient detail."

*The McDonnell RF-101C Voodoo was the first USAF warplane in Vietnam, serving from 1961. The camouflage came later, when Voodoos were flying the fastest combat missions of the war.*







## EARLY AMERICAN INVOLVEMENT 3- UNDECLARED WAR

- ❑ This progressive drift to open conflict was NOT accompanied by formal declaration of war.
- ❑ came simply from escalated series of local incidents of growing scale.
- ❑ followed by righteous indignation & retaliation.
- ❑ Guerrilla attack during Christmas Eve-1964, Saigon Hotel used by US officers.
- ❑ Followed by mortar attack – Pleiku AB – killed 8 American personnel.





## EARLY AMERICAN INVOLVEMENT 3– UNDECLARED WAR

- ❑ US Navy retaliated – ‘Operation-Flaming Dart’:
  - ❑ Strike acft – from Carriers ‘Ranger’, ‘Hancock’, ‘Coral Sea’ (Task Force 77)
  - ❑ Hit North Vietnamese targets at Dong Hoi & Vit Thuu
  - ❑ More mortar attacks = ‘Ops-Flaming Dart II’
  - ❑ USAF & USN attacks at Chang Hoa + elsewhere.



## EARLY AMERICAN INVOLVEMENT

### 4 – TROOPS COMMITTED

- 7 March 1965 – open war started
  - American ground forces arrived.
  - 3,500 US Marines – sent to Da Nang AB
  - Provide security to US facilities
- Soon after, they were in action with Viet Cong (VC or “Charlie”)
- Within 4 months – Combat Troops = 75,000
- Next 3 years = 500,000 troops



## EARLY AMERICAN INVOLVEMENT 4 – TROOPS COMMITTED

- Nature of entire war different...
  - Absence of 'front line'
  - Use of guerrilla tactics on large scale
  - Underlying ideologies of the combatants
  - All combined – stretched endurance of American fighting men
- Worse yet – these factors were misunderstood...
  - By ill-informed, but powerful pacifist lobby back in U.S.



# THE VIETNAM WAR

## Early American Involvement

**END**

**of**

**CHAPTER 1**



ASIA

# Vietnam: In-Country War

1964 - 1973





# THE VIETNAM WAR-I

## VIETNAM: In-Country War

### CHAPTER 2 TOPICS COVERED

1. Air Support
2. Slow Movers
3. Into the Breach
4. Combat Rescue





## Chap 2 --- VIETNAM: In-Country War

### 1 – AIR SUPPORT



**The North American F-100 Super Sabre flew more combat sorties than any other warplane in Vietnam. Most were short hops to drop ordnance – like the napalm here tumbling from a low-flying “Hun” of the 352<sup>nd</sup> TFS / 35<sup>th</sup> TFW based at Phan Rang.**



# VIETNAM – In-Country War

## 1 – AIR SUPPORT

- ❑ Air war in south Vietnam, unlike any other - saw full-might of world's greatest military power
  - ❑ Against highly motivated enemy
  - ❑ Indistinguishable most of time fr civilians
  - ❑ Enemy equipped w/ small arms
  - ❑ Enemy w/intimate knowledge of terrain





# VIETNAM – In-Country War

## 1 – AIR SUPPORT

- Differences in air war from WW II:
  - Piston-driven bombers vs Mach 2 supersonic fighters
  - Support w/troops in contact w/enemy (most imp)
  - Destruction of key Viet Cong strongholds
  - Defense of American & South Vietnamese bases
  - Interdiction of communist supply effort (land & water)



**The rotary bomb bay designed by Martin in the 1950's was finally combat-tested when the B-57 began operations in Vietnam in 1965. A license-built version of the British Canberra, the B-57 was the last USAF light bomber to fly combat sorties.**



## VIETNAM – In-Country War

### 1 – AIR SUPPORT

- War against Viet Cong became short-range struggle. (unconventional /non-text book)
- Fighters in south became known as ‘Mud movers’ – fighting down on deck, dwelling almost eye-to-eye w/insurgents.
- Close combat called for – more accurate delivery of weapons (within few feet of friendly troops)
- Attacks mostly at very low level.



## VIETNAM – In-Country War

### 1 – AIR SUPPORT

- These attacks could be very dangerous:
  - Though communist insurgents lacked advanced weapons
  - They did have a lot of small arms
  - Low-level attacks brought American fighters well within their range
- Small arms/light anti-aircraft fire accounted for vast majority – American aircraft losses



# VIETNAM – In-Country War

## 1 – AIR SUPPORT

- ❑ w/ War without Front-Lines, fire-bases became key to control of territory.
- ❑ Strong-points equipped w/artillery served as bases where patrols would move out from.
- ❑ They were also magnets to Viet Cong attack
- ❑ Several occasions were dealt major attacks
- ❑ In most serious cases, major air support was required.





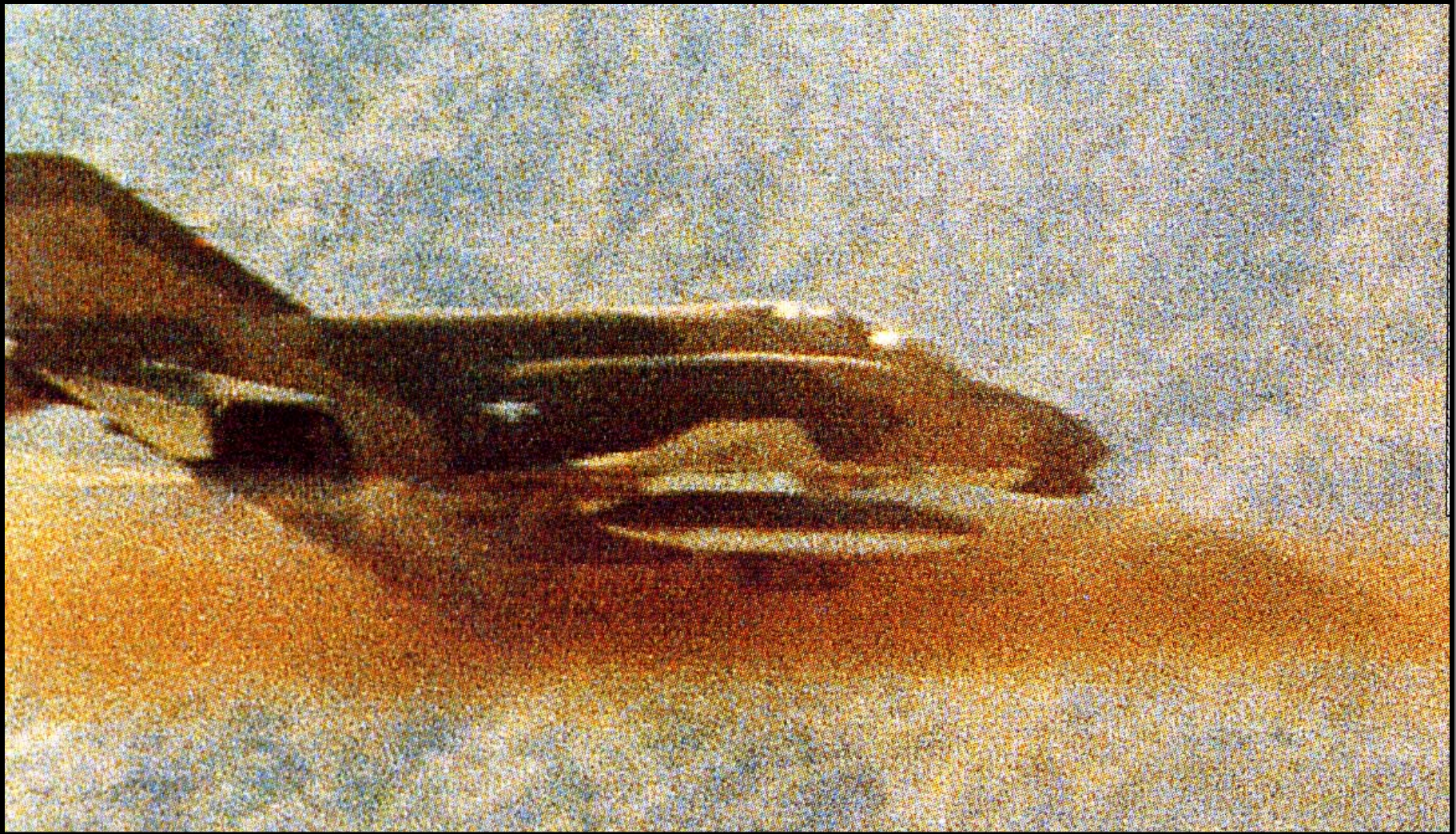
**A Lockheed C-130A Hercules makes its own kind of delivery, dropping supplies to a friendly outpost. 'In-country' airlift was vital when ground access was difficult and roads often blocked by the enemy.**





**The USAF deployed a new fighter, the Northrop F-5, to Vietnam during Operation Skoshi Tiger in 1965. The lightweight F5 went on to become a major export to developing nations, and was the backbone of South Vietnam's fighter force.**





**A USAF F-4 Phantom unleashes a barrage of 70-mm (2.75-in) rockets. The Phantom had set speed and altitude records before going to Vietnam and was recognized as a superb warplane, but air-to-ground work was difficult for a jet-powered 'fast mover.'**





## VIETNAM – In-Country War 1 – AIR SUPPORT

- When decision made to expand war, original advisor flown, piston-driven acft replaced...
- By full range of modern acft against Viet Cong
- Fast moving jets against targets moving in covered jungle difficult to find
- FAC (Forward Air Controllers) in low & slow light planes were used to direct jets.



# VIETNAM – In-Country War

## 1 – AIR SUPPORT

- FAC main mission:
  - Detect enemy
  - Mark his location some way
  - Pass info on to fighters coming in (providing air support & firepower)
  - Slow-movers in fragile (Cessna's) played vital part in finding enemy

# VIETNAM – In-Country War

## 2 – SLOW MOVERS



The twin-boomed O-2 was an 'off the shelf' Cessna 337 Skymaster. With twin push/pull engines it was more difficult to fly than the Bird Dog but had greater speed, range and endurance and could carry light ordinance.



# 'Slow Movers'



The Cessna O-1 Bird Dog evolved into the ground commander's best friend and a major irritant to the enemy. The weathered paint on this aircraft reflects the intensity of low-level combat in harsh tropical conditions

This Cessna O-1A Bird Dog of the South Vietnamese Army is typical for more than 1,000 forward air control (FAC) aircraft that flew low and slow to spot targets for bigger, faster warplanes. Bird Dog pilots inevitably flew more combat missions than anyone else. When the fighting was heavy, it was not uncommon for a FAC to fly two or three sorties per day.

It was called a 'war among the treetops' by one FAC, who flew 230 missions without ever getting high enough to don an oxygen mask. Fortunately, the O-1 was nimble and responsive – as it had to be to survive.





## VIETNAM – In-Country War 3 – INTO THE BREACH

- Cessnas carried white phos-phorous or smoke rockets...
- FACs often flew solo, demanding to control their aircraft, while hunting for enemy and marking targets.
- FAC pilot was expected to expose himself to enemy gunfire
  - Primarily to learn about the target
  - Determine best way of attacking
  - No one expect FAC to hit targets w/rockets...
  - Use smoke to give accurate instructions to fighter pilots
  - Typically 200 metres/ 650 feet uphill from smoke would be a typical direction.

## Counter Insurgency

'Real' flying, some pilots insisted, was possible only in one of the light, nimble aircraft designed to keep the war very 'up close and personal'. The OV-10 Bronco had been developed with much fanfare as a

### Marine mud-mover

Right: The Marines flew close support in the North American OV-10 Bronco. At one time or another, FAC and light attack duties were taken on by Broncos of the Air Force, Navy and Marine Corps. The rear-seat observer sat directly between the spinning propellers.



'COIN' (counter insurgency) warplane. The A-37 Dragonfly was an outgrowth of the USAF's standard primary trainer but was heavier, more powerful, and could carry a useful load of bombs and rockets.



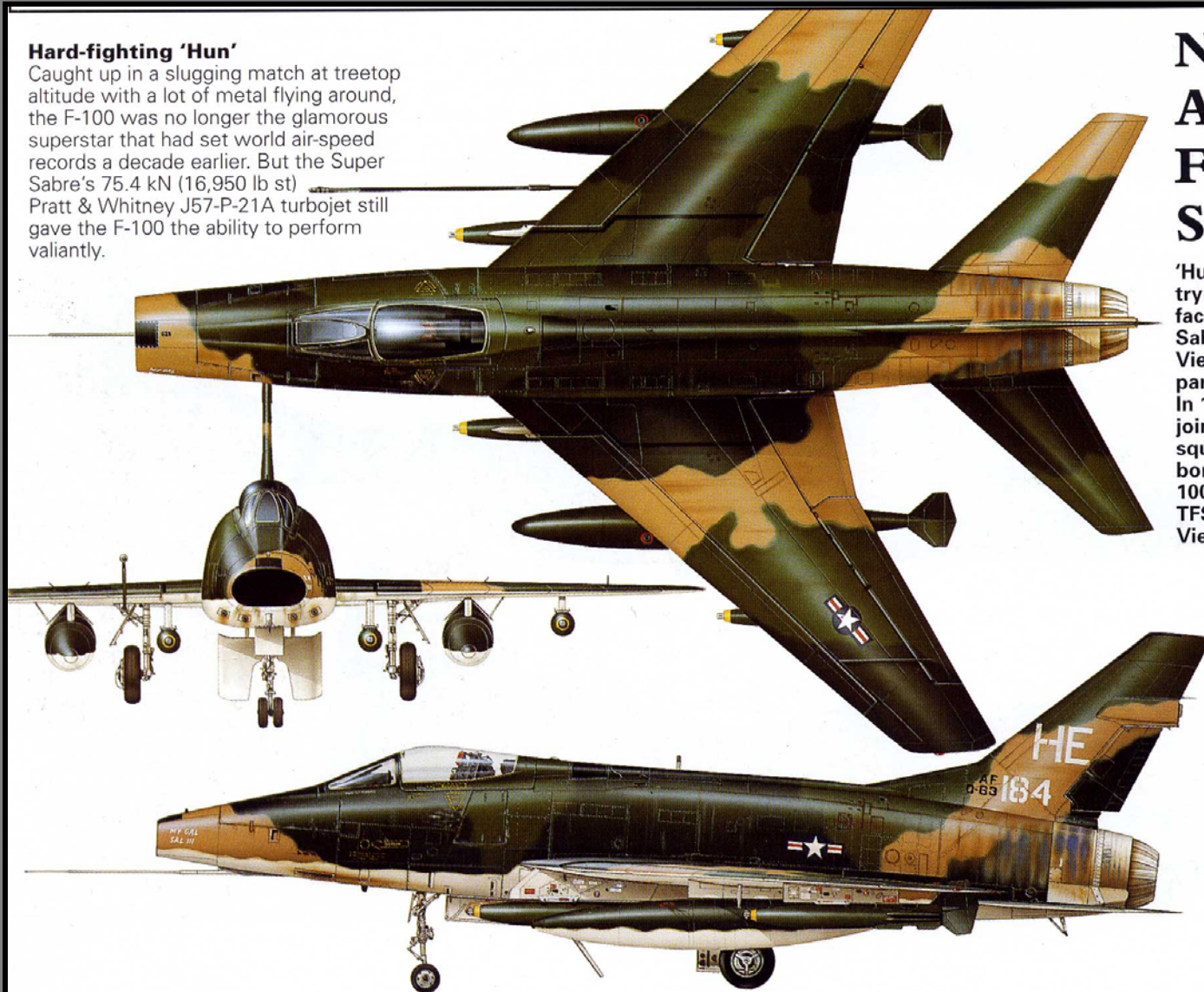
### Deadly Dragonfly

Left: Wearing the post-war markings of the 104th TFS, Maryland Air National Guard, this Cessna A-37B Dragonfly is typical of those that fought in US and South Vietnamese squadrons in the Southeast Asia conflict. The A-37 was simple and sturdy, yet nimble and versatile.



### Hard-fighting 'Hun'

Caught up in a slugging match at treetop altitude with a lot of metal flying around, the F-100 was no longer the glamorous superstar that had set world air-speed records a decade earlier. But the Super Sabre's 75.4 kN (16,950 lb st) Pratt & Whitney J57-P-21A turbojet still gave the F-100 the ability to perform valiantly.



## North American F-100 Super Sabre

'Huns' were employed mainly for in-country missions where they did not need to face Hanoi's MiG fighters, although Super Sabres flew sorties over Laos and North Vietnam in the early phases of American participation in the war in Southeast Asia. In 1968, regular Air Force F-100 units were joined by four Air National Guard squadrons. Carrying two 340-kg (750-lb) bombs and two external fuel tanks, This F-100D-75-NA (56-3184) belongs to the 416th TFS/37th TFW at Phu Cat airfield in South Vietnam.

### Armament

The F-100D Super Sabre was a potent ground attacker, with its four 20-mm Pontiac M39E cannon each with 1,200 rounds and underwing pylons for up to 3193 kg (7,040 lb) of bombs, rockets, or missiles. However, some of its weapons were less than effective: early versions of the AGM-12A/B Bullpup missile bounced harmlessly off any hard target they struck and often failed to detonate.



## VIETNAM – In-Country War 3 – INTO THE BREACH

- W/ bases the entire length of country... troops could rely on rapid air support
- Tactical aircraft could be armed & in air within minutes of any call for help.
- Technology was also thrown at the problem...
  - Use of night vision & thermal sensors became widespread
  - Seismic & chemical sensors came into being
  - Led to targets engaged w/pinpoint accuracy



## VIETNAM – In-Country War 3 – INTO THE BREACH

- ❑ One notable exception...the high altitude B-52 efforts
  - ❑ Massive B-52 bombers dropped huge tonnages of high explosive onto suspected Viet Cong positions / strongholds
  - ❑ Results of strikes code-named: 'Arc Light'
  - ❑ Too often – just empty jungle was hit
  - ❑ When they hit targets = effects were devastating.





**This black-bellied Boeing B-52F Stratofortress is sending a message to Viet Cong insurgents in South Vietnam. Crews flew from Guam on exhausting, marathon missions that could last up to 18 hours with air refueling.**



**Nothing was louder or more frightening than the sound of a B-52 blasting out a pathway in the Jungle. With as many as 108 bombs from a single aircraft raining down on Viet Cong targets, the result was devastating, and could be felt as an earth tremor many miles away.**



## VIETNAM – In-Country War 3 – INTO THE BREACH

- Bulk of attacks (on American positions was by troops armed with):
  - Rifles, machine-guns, rockets/mortars
  - Except occasional major battles
    - A-Shau Valley / Khe Sanh
  - Khe Sanh – ground attack acft faced enemy in division strength w/artillery & armour
- This War – many ways easier to deal with..
  - Ideal target material for massive aerial attacks
  - By wide variety of fighters / bombers

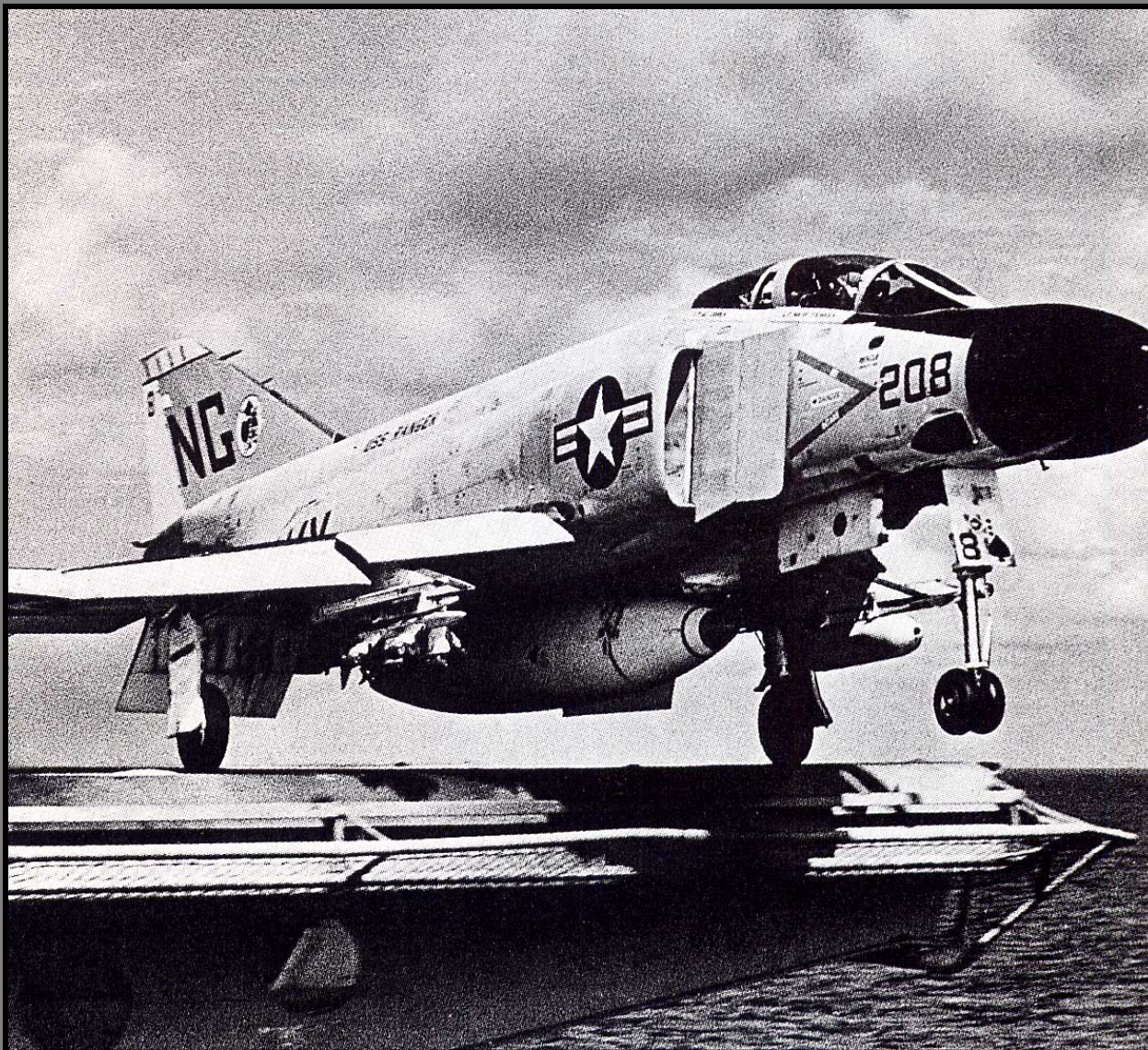


# VIETNAM – In-Country War

## 3 – INTO THE BREACH

- Main strike effort (US) augmented by numerous Support Missions:
  - Aerial tanking / Recovery of ditched acft / Airborne early warning
    - By Lockheed EC-121 Warning Stars
  - Massive airlift / ferrying cargo in-country
    - By Lockheed C-5 / **C-141** / C-130
    - de Havilland Canada C-7 Caribou
    - Douglas C-47 / Boeing C-135
- Mekong Delta Strike Missions
  - US Navy carriers sailing at 'Dixie Station'
  - Worked to full strength before moving north to 'Yankee Station in the North.'





**A McDonnell F-4B Phantom lightly armed for an air defense mission launches from the angled deck of the USS Ranger (CV-62). No serious attempt was ever made to attack US carriers at sea near Vietnam.**



# VIETNAM – In-Country War

## 4 – COMBAT RESCUE

- Most daring of supporting role:
  - Rescuing downed airman, from midst of enemy-held territory.
- Actual pickups by (heavily armed & and armoured) Sikorsky HH-3 / HH-53 helicopters.
- Helicopters under protection of aging Douglas A-1 Skyraiders (“Sandy”)
  - Older prop-driven fighters better performance
  - Longer loiter times over downed area
  - Delivered wider range of munitions
  - Sandy pilots flew some of the most dangerous missions of war
  - Flying often in face of concentrated & accurate anti-aircraft fire.
- Sandy’s job: Draw fire from & then enemy guns & troops, Lay smoke screens, Suppress fire for the helicopters



## COMBAT RESCUE

### Hard-hitting 'Cowboy'

Capt Richard S. Drury of the 602nd SOS/56th SOW fires a salvo of 20-mm (2.75-in) rockets while diving his Douglas A-1H Skyraider, 'Midnight Cowboy' (BuNo. 134257) to protect a combat rescue attempt. The heavily-armed Skyraider, which could carry some 4535 kg (10,000 lb) of bombs, was the ideal escort for rescue helicopters and a welcome friend to every downed airman.



*Right: This Sikorsky CH-3 is fitted with a winch above its cabin door. The better-known HH-3E 'Jolly Green Giant', was similar,*

**It was used to rescue airmen shot down behind enemy lines.**







**'Firebird' is an A-1H Skyraider flying from Nakhon Phanom (NKP), Thailand. An A-1H pilot using the radio call-sign 'Sandy', often found himself as the mission commander at a rescue site, charged to orchestrate efforts by all involved in a pick-up attempt.**



## Chap 2 --- VIETNAM: In-Country War

**END  
of  
CHAPTER 2**





# THE VIETNAM WAR

## Vietnam: Rolling Thunder

# END of Vietnam War – Part I

