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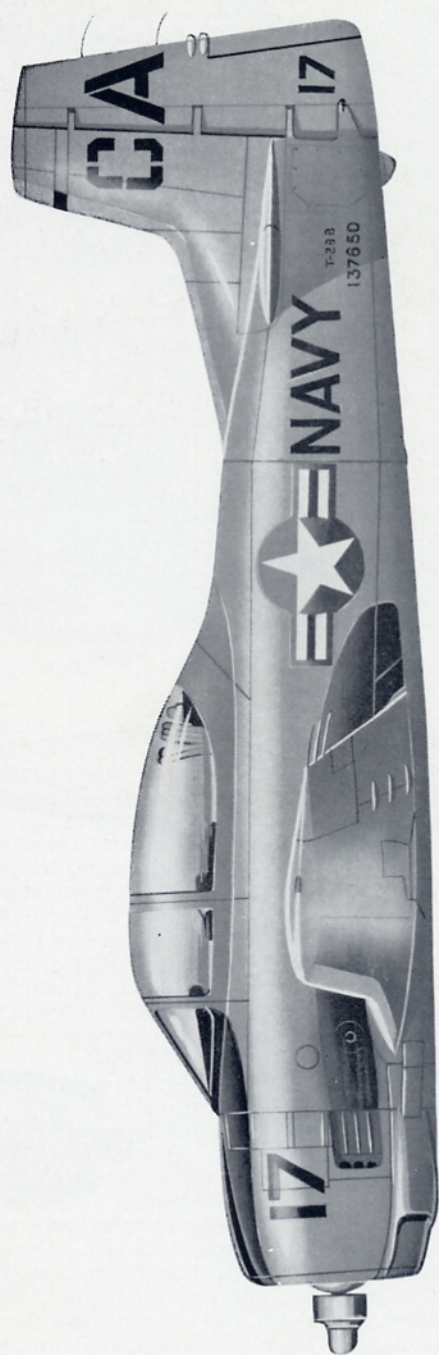
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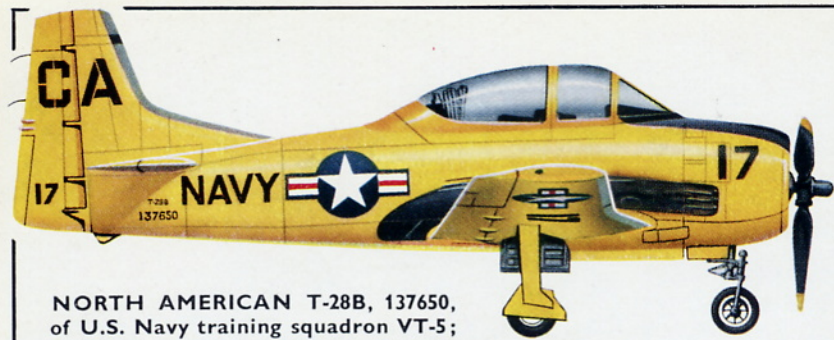
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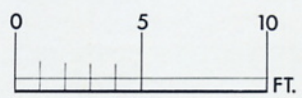
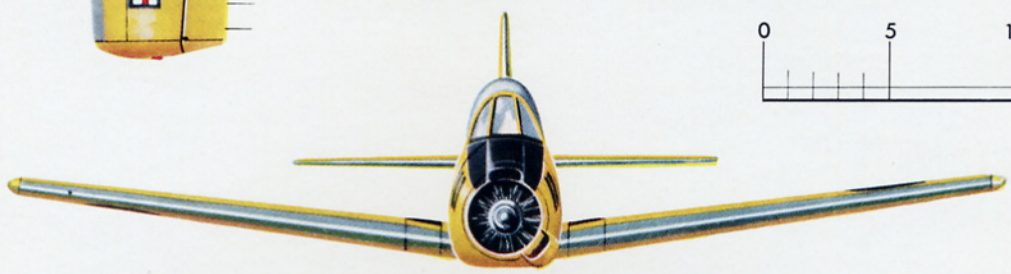
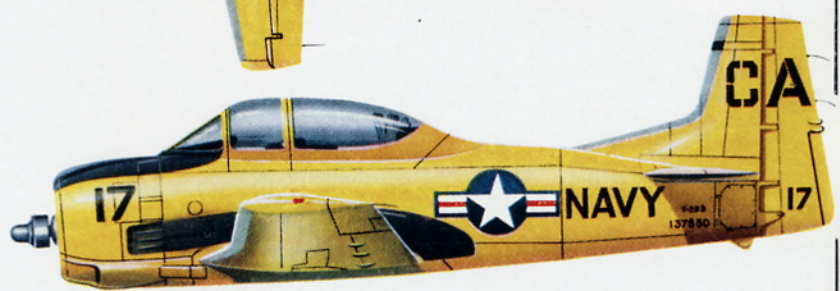
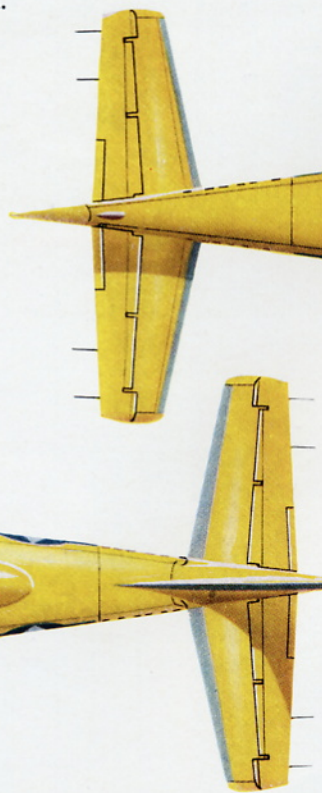
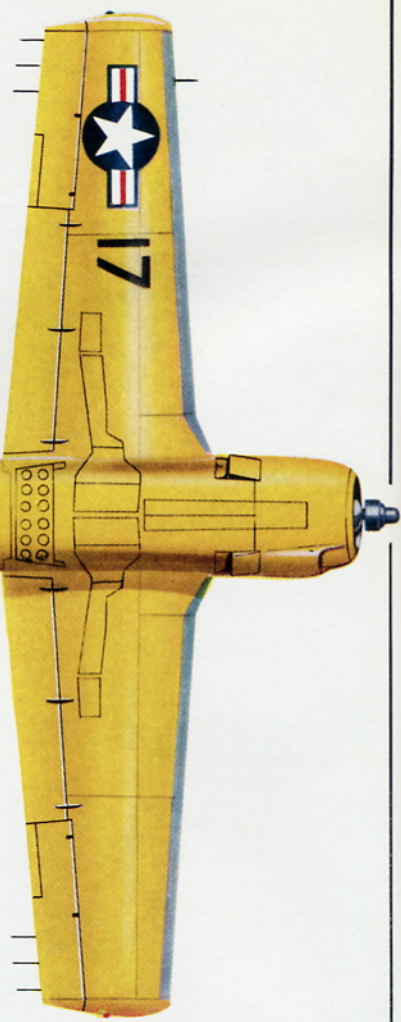
UNITED KINGDOM TWO SHILLINGS

UNITED STATES & CANADA 50 CENTS





NORTH AMERICAN T-28B, 137650,  
of U.S. Navy training squadron VT-5;  
Pensacola Naval Air Station, Florida.



© JAMES GOULDING

T-28C, U.S. Navy target-tug. Subsequently with all-yellow rudder and elevators. Serial 138219.

T-28C in standard U.S. Navy trainer scheme. Serial 140583.

T-28B in standard U.S. Marine Corps trainer scheme. Serial 137871.

Mexican Air Force.



T-28A in standard U.S. Air Force grey undersurfaces/ natural metal upper- surfaces scheme. Note differences between U.S.N. and U.S.A.F. "dayglo" shades.

T-28B trainer, 501st Photo Reconnaissance Squadron, Japanese Air Self-Defence Force. (Main squadron equipment, RF-86F.)



T-28A, No. 207 Sqn., 1st Air Group, Mexican Air Force; Ixtepec A.F.B., Oaxaca, Mexico.



No. 207 Sqn.

T-28A, No. 201 Sqn., Mexican Air Force; Cozumel A.F.B., Quintana Roo, Mexico. Serial T-28-945, carried on fin band.

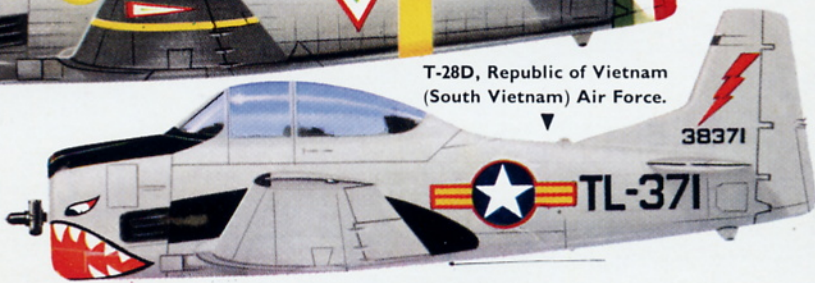
No. 205 Sqn., 4th Air Group, Mexican Air Force; Merida A.F.B., Yucatan. Green fuselage band only.



Serial T-28-961, carried under squadron insignia on fin band.



T-28D, Republic of Vietnam (South Vietnam) Air Force.



No. 201 Sqn., "Pancho Pistolas"; note Sqn. number on sombrero.





# The North American T-28

by David Brazelton

*A typical scene from the T-28's operational life; this photograph shows a T-28B, 137691, at Corpus Christi N.A.S., Texas. In the background are Martin PBM Mariners.*  
(Photo: via Naval Aviation News)

In the normal course of events, a tactical aeroplane becomes obsolescent in its fighting rôle and is relegated to the training rôle. This is accepted practice and serves the purpose of approximating the flight characteristics of first-line aircraft and extending the life of outdated but still flyable aircraft. Seldom has the process been reversed. Never, in the memory of this writer, has a trainer become obsolete as a trainer and found a secondary rôle as a tactical fighter—until the T-28.

The T-28 nominally replaced the venerable T-6 series of aircraft as an advanced trainer for both the U.S.A.F. and U.S. Navy. Ultimately, it was to follow the Texan (or Harvard, as it was known in the R.A.F.) in its upgrading to a tactical mission. The T-6 will go down in history as a great training aircraft, but occasionally throughout its career the Texan had an opportunity to fire its guns in anger. Outstanding in its career was its rôle in the Korean conflict; the stories of the little trainer finding and marking targets for the jets are legendary. Eventually, as with all such aircraft, the T-6 was retired to civilian life, or the scrapheap, and is now often a featured exhibit at antique aeroplane fly-ins.

As the T-6 began to age, the U.S.A.F. held a design competition for a replacement, in 1948. The successful design was to combine the functions of primary and basic trainers in a single aeroplane. With the NA-159 design, North American won this competition and received a contract to build two prototypes. They were provisionally designated XBT-28, but they were reclassified as the XT-28 when the AT, BT and PT classifications for trainers were dropped. At the same time, the Air Force changed

its training concept. The T-28 became the stepping-stone to the T-33 jet trainer and remained in the training scheme until replaced by the T-37 and *ab initio* jet-training. The jet age had finally overcome the piston-engined trainer; with the graduation of the first all-jet trained aviation cadet, an era had ended and the T-28's designed purpose was no longer relevant.

Yet the aircraft was still airworthy; in fact the U.S. Navy was still using the T-28 and uses it today. The type's weapons-carrying capability made it desirable for tactical employment by smaller nations who needed a limited air force. By this means, the T-28 escaped the obscurity that appeared to be its probable end.

## THE T-28 ENTERS SERVICE

The contract for two prototypes was placed in May 1948, and the XT-28 first flew on 24th September 1949. After extensive flight testing, an initial order was placed for 266 T-28A aircraft, and the first aircraft entered service in April 1950. Ultimately, 1,194 T-28A trainers were delivered to Air Training Command between 1950 and 1953. The advent of the T-28A had a deeper meaning than just the entry of a new aircraft into service. United States military aviation entered a true post-war phase. The last of the wartime trainers were leaving the inventory and this aircraft, conceived in a wholly peacetime environment, would start a new advancement in the art of flight training. The T-28 had considerably more power than the aircraft it replaced and was among the heaviest and most powerful piston-engined trainers ever projected for *ab initio* and primary use. Physically, it was approximately the size of the tactical aircraft the students were learning to fly. It was the first

September 1949; the first XT-28 in flight.

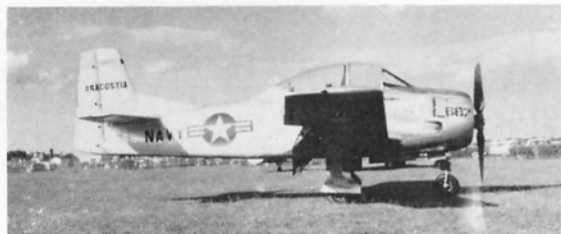
(Photo: North American Aircraft)

U.S. military trainer with tricycle landing gear and the first with "power steering" (the T-28 had a hydraulically boosted, steerable nose wheel).

In one aspect, the T-28 was unfortunate. The exhaust from the seven-cylinder Wright R-1300 engine led through four exhaust stacks. No matter how efficient the aircraft might become, it was slated to become the brunt of countless jokes about its unique "poppity-pop" noise. Throughout its range of engine speed, it never achieved the smooth roar normally associated with radial engines. A unit mechanic once asked how one could tell when the T-28A engine was running rough. The lack of response indicated the difficulty in actually telling by just listening.

The T-28A was named the Trojan by the Air Force, and it turned out to be an honest aircraft that treated both pilots and mechanics decently. Its entry into service was not without problems, however. A tendency to break crankshafts was soon overcome, but a reluctance on the part of the engine to run on less than the full complement of cylinders remained with the T-28A throughout its life. Overboost was sure to lead to destruction of the engine, and the engine required careful handling. This was a hazard of an engine that developed more than 100 h.p. per cylinder.

Pilots learned that the aircraft had a sluggish feel on take-off, ascribed by many to a desire to make the machine feel like a jet fighter; eventually they all agreed that it was probably due to a lack of power. It was soon realised that the light aileron "feel"



13667, thought to be the only U.S. Navy T-28A, in the livery of Anacostia N.A.S. (Photo: David W. Menard)

meant a satisfying roll-rate and that vibration of the rear fuselage was not evidence of structural weakness. The aircraft was very easy to fly; stalls were more than adequately signalled by the onset of very uncomfortable buffeting and an accidental spin was almost impossible, although some pilots did manage it. (The Illinois ANG aircraft 51-7690 shown in the illustrations achieved that end shortly after the in-flight photographs were taken.)

To the sharp-eyed observer there were some differences between the T-28A machines. The prototypes 48-1371 and 48-1372 had speed brakes installed, but although later aircraft carried provision for speed brakes they were not functional. Aircraft 49-1709, 51-3763 to 3796 and 51-7482 and subsequent had no turnover truss and the canopy was lowered four inches. 51-3463 and subsequent aircraft carried 52 gallons more fuel in tanks mounted outboard of the main fuel tanks. These tanks gravity fed into the main tanks. Other minor differences existed in the electrical system and instruments.

A feature of the T-28A that was retained in the B-series and was to gain an importance undreamed of in the original design was the armament pod installation. The aircraft incorporated provision for installing an armament kit to give the type an all-electric bombing, rocketry and gunnery system.

The T-28A was designed and built, initially, in the North American plant at Downey, California. Soon after production got under way, the operation was moved to the plant in Columbus, Ohio. From these two factories a total of 1,194 T-28A's was produced, and literally thousands of pilots were trained on the type.

In 1956, the T-28A appeared to be ending its career as an Air Force trainer. At the same time, the Air National Guard found that its F-51D Mustang



137780, a T-28B in the markings of the U.S. Navy Test Pilot School at Patuxent River; and a detail view of the nose insignia. (Photos: Jos. G. Handelman, D.D.S.)



aircraft (see *Profile No. 8*) were at the end of their airframe "lives". Although the various units were feverishly building runways to accommodate jets, the premature demise of the old and faithful F-51D left several squadrons without aircraft. To fill the void, the ANG accepted the T-28A into its inventory. Over the next three years, the aircraft were used to keep a very frustrated collection of fighter pilots in training. If the type accomplished nothing else in its life, it made excellent instrument pilots of these men. As the runways were completed at each of the airports, the ANG units handed over their T-28A's and accepted jet aircraft in return. The Trojans were either handed over to the remaining T-28A squadrons or committed to the Air Force's "graveyard" at Davis-Monthan Air Force Base, Arizona. By the end of 1959, the last T-28A had left the ANG inventory and another phase of its life was ended. A few were sold by the Air Force to the civilian market and others were distributed to the armed forces flying clubs. Slowly the Trojan left the Air Force, although a short reprieve was gained by using the machine as a flight proficiency vehicle in various headquarters units and Air Training Command bases.

#### THE T-28A DESCRIBED

The T-28A Trojan was a tandem two-seat trainer monoplane powered by an 800 h.p. Wright R-1300-1A seven-cylinder air-cooled radial engine. The engine exhaust outlets on each side of the engine were designed to utilise the additional thrust available from the jet effect of the exhaust. The engine was equipped with a direct-cranking starter and an injection-type carburettor incorporating an electric primer valve. All instruments essential for flight were fitted in each cockpit, so that the machine could be flown from either position. A control shift switch was provided to enable complete control of the aircraft to be exercised from either cockpit.

The fuselage was semi-monocoque and consisted of two sections bolted together with four tension attachment bolts. The internal structure consisted of longerons, intercostals, frames, and the cockpit floor, which served as an integral structural member. The external structure was stressed-skin, riveted to the internal structure. A front and rear beam and ribs



Top: A U.S.A.F. T-28A in standard two-tone colour scheme of grey undersurfaces and bare metal upper surfaces. Centre: A T-28B, 137709 of U.S. Navy training squadron VT-3. Bottom: A Washington-based T-28B of the U.S. Marine Corps, 138149. Note underwing legend on the Air Force T-28A—"Keep your hands off!" (Photos: Stephen Peltz via R. Ward)

comprised the internal structure of the vertical stabiliser. The internal rudder structure consisted of ribs, two stringers which took the bending loads, and a rear beam forward of the trim-tab cutout. The horizontal stabiliser consisted of a rear beam, front spar and ribs covered, as were all other members, by stressed-skin. The elevators were of the same type of construction as the rudder.

T-28C, 140549 of the Navy's training squadron VT-5 in the markings of the U.S.S. Lexington. (Photo: Stephen Peltz via R. Ward)





An interesting sequence showing a U.S. Navy T-28C performing "touch and go" on the U.S.S. Lexington. Note extended speed brake in landing view. (Photos: the author)

The wing was a semi-monocoque, full cantilever structure consisting of the centre-section (divided into two halves), two outer wing panels, wing flaps and ailerons. The internal structure of the wing consisted of a front and rear spar, a landing-gear beam, stringers, formers, and full ribs as required. A single beam, stringers, and ribs made up the internal structure of aileron and flap. As with the fuselage, the wing covering was stressed-skin, riveted to the internal structure. The landing gear consisted of a main gear which retracted into the wing centre-section, and a nose-gear which retracted into the forward section of the fuselage.

Mention has already been made of the armament kit that could be installed and T-28A aircraft 49-1492 to 1956, 50-195 to 319, and 51-3463 to 3662 had provision for the A-ICM sighting system. Aircraft 51-3663 and subsequent aircraft mounted the N-9-1 fixed sight system. These are described in detail in view of their application to other T-28 variants.

The type A-ICM sight system was a universal sighting system which computed lead as a gun, rocket or bomb sight. The system automatically computed lead for ranges between 600 and 6,000 feet. Manual ranging could be accomplished between 600 and 3,000 feet. Ranging and lead was calculated by computer and relayed by microsynchronizers, sight amplifier, and drive motor to deflect the mirror in the sight head. Ranging was not required for bombing. Since the sight could be depressed only 10 degrees for bombing, the pilot was forced to fly a spiral path in the vertical plane towards the target. Sight system components were mounted in the baggage compartment and under the cockpit floor aft of the nose-wheel well. An armament pedestal was mounted between the pilot's legs and contained sight and weapons controls. The casual observer could identify the A-ICM sight installation by the large reflector glass mounted on the wind shield frame and the sight head mounted well forward in the instrument cowl.

The type N-9-1 sight system incorporated the A-3 variable head of the collimator or reflex type.

The N-9-1 sight functioned as a fixed sight during actual or simulated gunnery, rocket, or bombing missions. The type A-3 variable head permitted adjustment of the N-9-1 sight reflector glass angle from 0 to 14 degrees for bombing and rocket-firing missions. Controls for the sight and weapons were contained in a pedestal between the pilot's legs. The type N-9-1 sight installation could be identified by the sight head with a

small reflector mounted near the lip of the instrument cowl. An installation was possible, using the N-9-1 sight, an AN-N6 camera, and a small sight control panel mounted directly beneath the instrument panel, for use on simulated gunnery missions without the gun packages installed.

The gun packages contained one 0.50 cal. type M-3 machine gun, and the T-28A could carry two mounted directly to the wing. The gun packages were identical and could be mounted on either wing. In addition to the gun, the package included a type J-4 gun heater, a type B-1 gun charger and airbottle, and 100 rounds of ammunition. Expended cases and links were stored in the package and removed after landing.

Bomb pylons with type S-2 racks could be installed which could carry bombs, a type T-1 practice-bomb container, or a rocket-launcher. Bombs could be dropped singly, in train or salvoed. Bomb jettison, to drop the bombs without arming the fuses, was also provided. The rocket-launchers carried three 2.75 inch sub-calibre rockets, and they could be fired either in singles or in ripples. Jettison was accomplished by jettisoning the entire launcher.

#### NEW DEVELOPMENTS

On 6th April 1953, the T-28B made its first flight. The appearance of sluggishness immediately after take-off was gone, as was the slight dip in attitude as the pilot reached for the landing-gear handle and unconsciously relaxed a little of his backward pressure on the stick. The climb was better and the aircraft was noticeably faster. Although the characteristic T-28 sound was still present, it was somewhat deeper in tone and gave the impression of more power.

The aircraft was more powerful, since it was built for the U.S. Navy and the requirements of Navy training made improved performance desirable. Basically the same aircraft, the "B" model was about

Many ex-U.S.A.F T-28A's were supplied to foreign air forces; among them were (left) the Philippines and (right) Argentina. (Photos: Stephen Peltz via R. Ward)





six inches longer than the T-28A and this extra length was accounted for by the dome on the propeller boss. The engine that brought about the extra performance was the 1,425 h.p. Wright R-1820 nine-cylinder air-cooled radial driving a three-bladed 10 ft. 1 in. diameter Hamilton Standard propeller. The extra weight of the engine and propeller was balanced by moving the battery further aft in the fuselage. Gross take-off weight was raised to 8,035 lb. and maximum speed was raised to about 300 knots (346 m.p.h.) and service ceiling to 37,000 feet.

A total of 489 T-28B trainers was produced, and many of these were used by foreign countries as either trainers or tactical fighters, according to the relative affluence of the air force involved. The U.S. Army evaluated the T-28B but the type did not enter service in that branch. The improved performance brought about by the larger engine made the aircraft attractive for training, operational, or utility use when reasonable economy was also a requirement.

The most obvious feature in which the T-28B differed from the A-model was the paint scheme. Since the T-28A was an Air Force aeroplane it was normally natural metal and light grey, while the Navy painted its T-28B's either yellow or white and orange. There were a few other significant differences to provide identification. The R-1820 engine required a larger cowling that was not as rounded on the leading edge as that of the T-28A and included an air scoop extending only partway forward on the lower left side. The engine also drove a three-bladed propeller (the T-28A had only a two-blader). The T-28B is still in active service with the Navy and looks like remaining in use for several more years to come.

After the introduction of the T-28B into service, the U.S. Navy felt a need to extend the use of the Trojan to shipboard training. The T-28B was already taking the brunt of basic, advanced, instrument, tactical transition, and gunnery flight training work; addition of a tailhook would permit recovery of the trainer aboard an aircraft carrier. It would then be

capable of handling the Navy's complete training mission. On 19th September 1955, the first carrier-borne T-28C Trojan made its first flight.

The new configuration was not without its costs. The T-28C's fuselage was lengthened to 34 ft. 4 in. and strengthened to withstand the snap of the arrestor gear. The weight of the aeroplane was increased to 8,247 lb., which reduced the service ceiling to 35,000 feet and the range to 750 nautical miles (860 statute miles). Because of the violent dip of the nose as the aircraft is stopped short on the carrier-deck, the propeller diameter was reduced to 9 ft. 4 in. which increased ground clearance from 9.3 inches in the case of the T-28B to 14.5 inches for the T-28C. In all, a total of 301 T-28C trainers was produced for the U.S. Navy and the type remains in use today.

During the autumn of this year, the present writer was able to spend a few days aboard the aircraft carrier *U.S.S. Lexington* as it cruised in the Gulf of Mexico during carrier qualifications of trainee naval aviators from Pensacola and Corpus Christi Naval Air Stations. The stability and strength of the T-28C was obvious as, time after time, the aircraft sought the flight deck and smashed down to a successful arrested landing, or careered off the flight deck in a "touch and go". The schedule called for each pilot to make four "touch and go's" and six "traps" or arrested landings. Every forty seconds, an aircraft engaged the arrestor cable, the cable was disconnected, the hook retracted, the aircraft repositioned and checked, the engine revved up and the machine was taking off over the bows with just a hint of one wing low to account for the crosswind that is characteristic of an angled-deck carrier. All of this took just 25 seconds. The entire squadron qualified without any trouble—a tribute to a fine aircraft.

In 1961, Tactical Air Command was ordered to develop counter-insurgency capability and for really close-support the aircraft they chose to develop was the T-28. Large numbers of retired T-28A aircraft were stored at Davis-Monthan AFB, Arizona (more officially the 2704th Air Force Aircraft Storage and Disposition Group). Modifications to develop current operational capabilities for the type were carried out by the Combat Applications Group, which undertook considerable redesign and armament changes. Three pylon attachments were provided and up to 4,000 lb. weight of external stores could be carried. These included two 0.50 in. Browning M-3 machine-guns in detachable pods, two 500 lb. bombs, two MA-3 eight-tube 2.75 in. rocket-launchers and a multiple bomb-rack carrying thirty-six 19 lb. MIA2 fragmentation bombs under each wing.







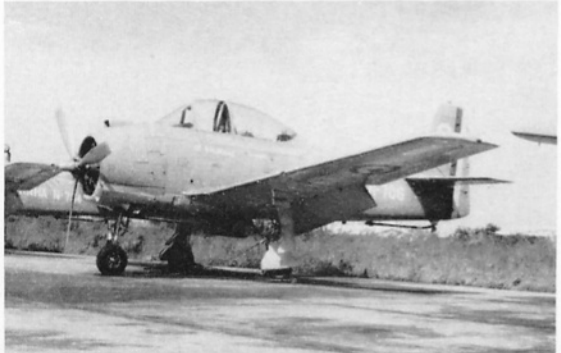
In 1956 the "premature" withdrawal of the F-51D Mustang from Air National Guard service before many units could become operational with jet fighter types caused the adoption of the T-28A by many squadrons as an interim measure. This series of illustrations shows the T-28A in service with the 169th Fighter Squadron, Illinois A.N.G., at Peoria. (Photos: the author, and via David W. Menard)

The original Wright R-1300 engine was replaced by a Wright R-1820-86, the undercarriage was strengthened to take a 10,400 lb. gross weight and the crew positions were provided with armour. The light attack version was designated T-28D for service with the 1st Air Commando Group and several overseas air forces. A similar conversion by Sud-Aviation in France of 130 T-28's supplied for use in Algeria was named *Fennec*. Conversions in the U.S.A. were undertaken by North American's Columbus Division and at the time of writing over 200 had been produced. The Tactical Air Command T-28D's were not entirely successful in Vietnam and thoughts were turned to a radical redesign of the T-28 in the light of experience gained in Vietnam.

The resulting aircraft was the YAT-28E, barely recognisable as a T-28 at all! A 2,445 s.h.p. Lycoming YT-55-L-9 turboprop was fitted, and other changes such as a taller fin and rudder and LW-2

ejector seats for the two crew members were made. Three conversions were made for evaluation at the Air Force's Special Air Warfare Centre, Eglin AFB, Florida. The first YAT-28E crashed, shortly after its first flight on 15th February 1963, due to tail flutter during a high *g* manoeuvre. Fuselage length was increased by 38 inches and gross weight became 15,600 lb. Two further prototypes were flown, the latter conforming to projected production standards. This aircraft first flown in July 1964, had twelve underwing pylons instead of the former six, for the 4,000 lb. external load (including Sidewinder missiles at the wingtips), and a modified rear canopy. Testing was completed late in 1964, but the U.S.A.F. announced that no production orders would follow. The type was inactive for more than a year, but late in 1965, the third prototype was reflown and U.S. Navy Preliminary Evaluation began in January 1966. At the time of writing no orders had been announced.

Two T-28R-1's of the Brazilian Navy; the aircraft used to operate from the carrier "Minas Gerais" (ex-H.M.S. *Vengeance*), but following a difference of opinion between the Brazilian Navy and Air Force about which service should operate the carrier machines they have now been passed to the Air Force's 2nd Liaison and Observation Sqn. at Sao Pedro da Aldeia. Seen here in their original Naval yellow are N-703 flown by Capitao-Tenente *Arieira* (note serial, roundel and rocket racks under wing) and Capitao-Tenente *Daldegan's* N-706. These aircraft are ex-50-202 and ex-49-1720 respectively. (Photos: M. R. Vaz Carneiro)



## FOREIGN SERVICE

The United States was not the only country to see the virtue of the Trojan. Its low cost and simplicity of operation made it attractive to many nations with a large need and short purse strings.

The first country to see the potential of the type as a counter-insurgency aircraft was France and, in 1960 and 1961, France purchased 245 T-28A trainers and had them converted for use in Algeria. The original modification was done by Pac-Aero Engineering Corporation in Santa Monica, California. As related, production modifications were done by Sud-Aviation in St. Nazaire, France, the aircraft then being known as the *Fennec*. The cockpits were fitted out to French standards and armour plate was provided for the crew. Bomb pylons accommodated four 297 lb. bombs, and the machine had an excellent cruise speed of 217 m.p.h.

In one of its more classical misinterpretations of a foreign government's political motives, the U.S. released ten T-28A's to Castro's Cuba to build up their air force shortly after the revolution. Before long, Cuba showed its true colours and began to receive Russian aid. No doubt the U.S. has prevented the supply of spares for these aircraft and they are probably unserviceable by now.

Other South American countries purchased the T-28A. In 1961, the Argentine purchased several Trojans to provide a stepping-stone between the Beech T-34 and the Morane-Saulnier M.S.760 jet-trainers in use. Mexico also purchased 30 T-28A's during the 1960-61 period, using the type on policing duties formerly undertaken by the Douglas Dauntless.

(continued on page 12)



A T-28C during circular runway evaluation tests at General Motors' Mesa, Arizona, test track. Visible just below the open cowling flap is the spin recovery strip installed on T-28C's when underwing stores are carried. (Photo: U.S.N. via Naval Aviation News)

A single T-28B was acquired by the Japanese Air Self Defence Force, and allocated to the 501st Photo-Reconnaissance Squadron as a trainer. (Photo: Stephen Peltz via R. Ward)



Right: More than 170 T-28A's were converted to the ground-attack T-28D configuration, with three stores pylons under each wing and the more powerful R-1820-56S engine. Photographed at Hanscomb A.F.B., Massachusetts, this machine serves with the 1st Air Commando Wing and is finished in South-East Asia camouflage. U.S.A.F. and Vietnamese T-28D's have seen considerable service in the Vietnam war. (Photo: Ronald W. Harrison)

#### T-28A DATA

##### Dimensions:

Wingspan, 40 ft. 7 in.  
 Root chord, 8 ft. 2½ in.  
 Tip chord, 5 ft. 2½ in.  
 Dihedral, 8 degrees.  
 Incidence:  
 Root, +2 degrees.  
 Tip, -1 degree.  
 Sweepback of leading edge, 2 degrees 11 ft. 46-14 in.  
 Aspect ratio, 6.0.  
 Wing area—Flaps up, less ailerons, 245.3 sq. ft.  
 Wing area—Flaps down, less ailerons, 271.1 sq. ft.  
 Aileron area (total), 25.8 sq. ft.  
 Flap area (total), 53.6 sq. ft.  
 Airfoil section:  
 Root, NACA 64A215.  
 Tip, NACA 64A215.  
 Overall length, 32 ft.  
 Overall height, 12 ft. 7 in.  
 Propeller ground clearance, 9.6 in.  
 Thrust line, 5 degrees down thrust.  
 Main landing gear tread, 12 ft. 8½ in.  
 Vertical fin incidence, 1 degree left.  
 Fin area, 18.2 sq. ft.  
 Rudder area, 12.1 sq. ft.  
 Rudder trim tab, 1.7 sq. ft.  
 Stabilizer span, 16 ft. 5 in.  
 Stabilizer-elevator chord:  
 Root, 4 ft. 8½ in.  
 Tip, 2 ft. 8½ in.  
 Stabilizer incidence, -½ degree.  
 Stabilizer-elevator area, 59.7 sq. ft.  
 Elevator area (total), 16.5 sq. ft.  
 Elevator trim tab, 1.7 sq. ft.  
 Fuel capacity (MIL-F-5572, Grade 91/96):  
 Early aeroplanes, 125.0 U.S. gallons.  
 51-3463 & Subs., 177.0 U.S. gallons.  
 Oil capacity (MIL-L-6082, Grade 1100), 35.2 U.S. quarts.  
 Hydraulic fluid (MIL-O-5606). Total system, 4.25 U.S. gallons.  
 Oxygen cylinders. Low pressure type G-1, 2,100 cu. in., 425 PSI.  
 Propeller:  
 Aeroproducts model A422-E1.  
 Diameter, 10 ft.  
 Low pitch angle, 24 degrees (at 42 in. station).  
 High pitch angle, 64 degrees (at 42 in. station).

##### Weight:

Design weight:  
 48-1371, 48-1372, 49-1492 through 49-1756, 50-195 through 50-319, 7,550 lb.  
 51-3463 and Subs., 7,925 lb.

##### Performance:

Minimum take-off distance, 1,050 ft.  
 Clear 50 ft. obstacle, 1,950 ft.  
 Normal take-off speed, 75 kts.  
 Minimum take-off speed, 65 kts.  
 Maximum power settings, 44 in. HG Manifold pressure 2,550 r.p.m.  
 Landing speed, 75 kts. (normal).  
 Best power-off glide speed, 105 kts.  
 Oxygen duration, 2.1 hours at 25,000 ft.  
 Maximum permissible speed, 340 kts.  
 Limit load factor:  
 48-1371, 48-1372, 49-1492 through 49-1756, 50-195 through 50-319, +6.9G, -2.0G.  
 51-3463 and Subs., +6.7G, -2.0G.  
 Stalling speeds, 6,500 lb. gross weight, level flight:  
 Clean:  
 2,400 r.p.m., 39.5 in. m.p., rich, 56 kts.  
 Power off, 70 kts.  
 Landing configuration:  
 2,400 r.p.m., 23.9 in. m.p., rich, 57 kts.  
 Power off, 64 kts.  
 Cruising speed: 180 kts. TAS, 25,000 ft.  
 Maximum range:  
 Early aircraft, 800 nautical miles.  
 51-3463 and Subs., 1,175 nautical miles.



France purchased 245 T-28A's, which were subsequently put through an extensive modification programme by Sud Aviation. Re-engined, armoured, and with considerable underwing stores capability, the result was the ground-attack aircraft known to the French as the "Fennek" (Photo: Stephen Peltz via R. Ward)



A reconnaissance version of the T-28D carries three cameras in a protruding pack under the belly. (Photo: N.A.A.)

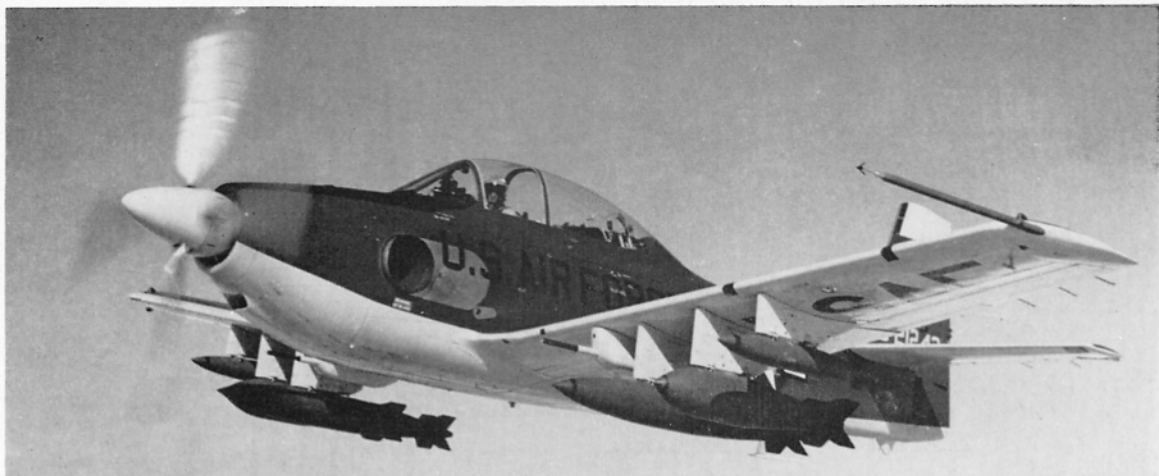


A Republic of Vietnam Air Force T-28D photographed at Da Nang in May, 1965. (Photo: David W. Menard)

With the growing emphasis on counter-insurgency aircraft, North American produced the formidable YAT-28E. Making its first flight in February 1963, the aircraft was powered by the 2,445 h.p. Lycoming LTC 46-3 turbo-prop engine and could carry a 4,000 lb. weapons load at 360 m.p.h.

(Photo: Stephen Peltz via R. Ward)





Fine study of 0-21242, the first YAT-28E; the machine crashed shortly after beginning its flight test programme, losing its tail through flutter in a high-g manoeuvre. (Photo: N.A.A.)

The Philippines and South Korea also acquired the T-28A.

Japan purchased a solitary T-28B and fitted it out with cameras for use as a photo-reconnaissance trainer. For some reason, they purchased no others and this constitutes the only low point in the Trojan's career.

As related, the U.S.A.F. took the T-28D to Vietnam. South Vietnam ordered an initial batch of 31 aircraft and the crews for these aircraft were trained by American service pilots. Others have been obtained by the Thai Air Force.

#### CIVILIAN MODIFICATIONS

North American modified an ex-U.S.A.F. T-28A into a general-purpose aircraft with the name NA-260 Nomad in 1958. Production conversions have been produced by Pacific Airmotive Corporation of Burbank, California. Two versions are available:

the Nomad Mk. I with a 1,300 h.p. Wright R-1820-56S driving a Hamilton Standard three-blade propeller, and the Nomad Mk. II with an R-1820-76A of 1,425 h.p.

The Hamilton Aircraft Company of Tucson, Arizona has produced a further version known as the T-28R Nomair. This features a more powerful engine, increased fuel tankage and other changes. There are two main versions: the T-28-R1, a military model (six were supplied to the Brazilian Navy in 1962 with arrester hooks), and the T-28-R2, a commercial version with accommodation for a pilot and four passengers. Both variants were powered by the 1,350 h.p. Wright R-1820-56A. Thompson Aircraft Sales of Phoenix, Arizona holds a restricted category Type Certificate for conversion of the T-28A for aerial photography duties.

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#### COMPARISON OF T-28 VARIANTS

	T-28A	T-28B	T-28D	YAT-28E
Span ... ..	40 ft. 7 in.	40 ft. 7 in.	40 ft. 7 in.	40 ft. 7 in.
Length ... ..	32 ft. 0 in.	32 ft. 6 in. (2)	32 ft. 10 in.	36 ft. 0½ in.
Height ... ..	12 ft. 7 in.	12 ft. 7 in.	12 ft. 8½ in.	14 ft. 4 in.
Wing Area ... ..	271.1 sq. ft. (1)	271.1 sq. ft. (1)	271.1 sq. ft. (1)	271.1 sq. ft. (1)
Empty Weight ... ..	5,111 lb.	6,424 lb.	6,251 lb.	7,750 lb.
Loaded Weight ... ..	6,365 lb.	—	8,118 lb.	15,600 lb.
Maximum Loaded Weight ... ..	7,550 lb. (3)	8,035 lb.	8,495 lb.	16,300 lb.
Power Plant ... ..	One 800 h.p. Wright R-1300-1	One 1,425 h.p. Wright R-1820-9	One 1,300 h.p. Wright R-1820-56S	One 2,445 s.h.p. Lycoming YT55-L-9
Maximum Speed, at altitude, ft.	283 m.p.h./5,900	346 m.p.h.	352 m.p.h./18,000	360 m.p.h.
Cruise ... ..	190 m.p.h.	—	—	276 m.p.h.
Service Ceiling ... ..	24,000 ft.	37,000 ft.	—	—
Initial Climb Rate... ..	1,870 ft./min.	3,830 ft./min.	3,780 ft./min.	5,130 ft./min.
Range ... ..	920 miles (4)	1,060 miles	1,184 miles (5)	2,760 miles (6)

(1) Flaps down, less ailerons.

(2) The T-28C had a length of 34 ft. 4 in.

(3) For aircraft 51-4363 and subsequent this figure was 7,925 lb.

(4) For aircraft 51-3463 and subsequent this maximum range figure was 1,350 miles.

(5) Normal range at 203 m.p.h.

(6) Maximum ferry range.