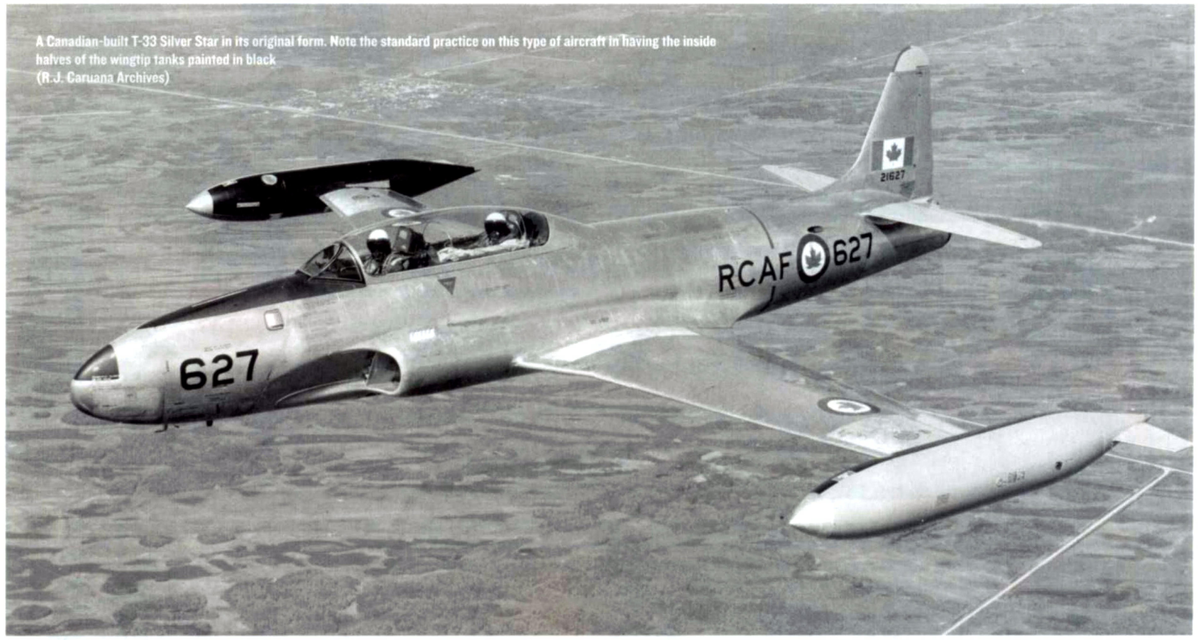


Canada's licence-built version went through a series of designation changes. Originally known as the T-33A-N (CL-30) Silver Star Mk 3 it had its designation eventually changed to CT-33A. 133455 belongs to No. 414 Squadron
(R.J. Caruana Archives)



A Canadian-built T-33 Silver Star in its original form. Note the standard practice on this type of aircraft in having the inside halves of the wingtip tanks painted in black
(R.J. Caruana Archives)

INTERNATIONAL TWETY BIRD – THE T-33

Developed as a training version of the Lockheed P-80 Shooting Star, the T-33 was to remain in service for a considerably longer time and was to see service with a large number of nations.

WRITTEN BY RICHARD J. CARUANA

America's jet age dawned on 10 June 1944 when Lockheed's XP-80A took to the air for the first time powered by a 'Whittle I-10' (Goblin) engine supplied by Britain. Within less than eight months four YP-80As were dispatched to Europe for combat testing though the end of the Second World War drew closer without the P-80s ever firing their guns in anger. However, mass production of this aircraft had already been taken in hand and it was only with the VJ Day that the massive orders for 4,3900 examples were cut down to 525.

The advent of a two-seat version of the Shooting Star' as the P-80 had become known, is often attributed to an effort to minimise accidents that had been experienced during the initial phase of this new fighter jet into service. Lockheed had, in fact, shown interest in a dual-control version at almost the same time as the conception of the XP-80 design itself, conscious of difficulties that would eventually be encountered by pilots converting from piston to jet-engined aircraft. Despite of its insistence with the Army Air Corps for the adoption of a jet-trainer officialdom dictated otherwise, considering Lockheed's proposal as a waste of much-needed fighter airframes. So pilot training at that time was conducted on T-6 Texans, followed by P-51 Mustangs and then about 25 hours in a P-80 firmly stuck on the ground!

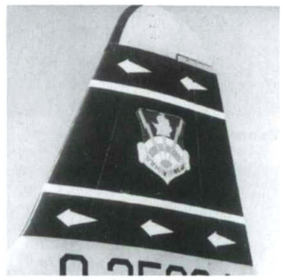
Convinced that sooner or later there would be a need for a jet trainer, Lockheed proceeded in March 1947 with its project as a private venture, taking F-80C S/No.48-356 off the production line to be suitably modified. The main change obviously required the lengthening of the forward fuselage, together with the air intakes, by 26.5in (67cm) just ahead of the wing leading edges to house a second cockpit, together with a 12in (30cm) extension behind the wings to restore the aircraft's centre of gravity. Both cockpits were fitted with flight controls and instruments, and enclosed by a single, clear 7-foot upward opening canopy.

The Air Force began to show some interest in Lockheed's project as conversion work on the prototype proceeded, prompted (maybe) by the appearance of the Meteor T Mk 7 in Britain. Jet pilot training had to be planned in a completely new way, and a contract was awarded to Lockheed for the production of 20 TF-80C two-seat trainers in January 1948. Apart from giving birth to one of the most widely-used aircraft of the post-war period, it also injected new life into Lockheed which, at that time, had no other valid project on which to base its future and that of its employees.

It had been planned to reduce the P-80's nose gun armament from six to two although, if necessary, the other four guns could also be fitted. Other changes included the fitting of a smaller fuselage fuel tank, use of nylon fuel cells and improved air conditioning. The prototype, designated Model 580-74-06 by Lockheed and TF-80C by the USAF flew for the first on 22nd March 1948 at Van Nuys (California) with Tony Le Vier at the controls. During the third flight, the canopy flew clear of the aircraft during a dive but thanks to Le Vier's skilled piloting the aircraft came back to the ground in one piece.

To further promote its belief in the two-seat jet trainer, Lockheed proceeded with a tour of USAF and USN bases in the United States. This paid off handsomely as both services showed their interest by placing substantial orders. The USAF decided that 128 examples (including the prototype) from its order of F-80Cs should be finished as TF-80s, and over the following ten years the parent company was to deliver close to 6,000 two-seaters that had, by that time, been designated T-33As.

Early TF-80C/T-33As featured the original rounded wingtips of the F-80 fighter, and also carried the latter's style of underslung wing tip tanks. Some even carried the fighter's 1,000lb bomb pylons beneath the wings.



Close-up of the 7272th Flying Training Wing from Wheelus Air Base, Libya, carried on 53-5824
(R.J. Caruana)

Fletcher type wing tip tanks became a standard feature on most of the T-33As produced after the initial batch.

Production T-33As were powered by an Allison J33-A-25 (later also J33-A-35) centrifugal-flow turbojet, rated at 5,400lb for take-off. Fuel capacity totalled 353 US gallons, housed in wing (outboard and inboard) tanks and fuselage cells, this being supplemented by an additional 230 US gallons in each of the wingtip tanks. The T-33 could attain a maximum speed of 524mph at 10,000ft, cruising speed being set at around 430mph.

NAVAL VERSIONS AND LICENCE PRODUCTION

Lockheed's production of the T-33 peaked off in 1959 at 5,771 examples, these including 699 trainers for the US Navy under the designation TO-2 (later TV-2 then T-33B). The T2V-1 (later T-1A) was a highly modified version, developed by Lockheed as its Model L-245, aimed at producing a carrier-qualified jet trainer, as the standard T-33B was considered unsuitable for such a role. Powered by an Allison J33-A-16A, the prototype flew for the first time on 15 December 1953. The first production T2V-1 named Sea Star was delivered to the Naval Air Advanced Training Command at Corpus Christi on 27 May 1957. 149 examples were built, the type being redesignated T-1A in 1962.



T-33A-1-LO, S/No.53-5824/TR-824 from the 7272th FTW of the USAF based in Libya, a frequent visitor to Luqa, Malta, during the early 1960s. Trim is in blue/white. See other photo for close up of the badge carried on the fin
(R.J. Caruana)

By mid-1944, Lockheed had already started to design a reconnaissance version of the P-80. YP-80A S/No.44-84988 was chosen to become the XF-14 prototype through the transformation of its nose area wherein it could carry an array of photo cameras. Two P-80As were then similarly modified and redesignated FP-80As, the first of 152 examples that were to follow, later known as RF-80s. This camera nose was married to the nose of a number of T-33s, converting them into high speed two-seat reconnaissance RT-33s.

Canada was the major foreign operator to obtain a production licence of the T-33. Designated T-33A-N (CL-30) Silver Star Mk 3, the Canadair version differed from the Lockheed model in its power plant. This consisted of a Rolls-Royce Nene 10 turbojet. At first Canadair built 20 T-33As from kits supplied by Lockheed, these bearing the designation of Silver Star Mk I. The Mk 2 consisted of another Lockheed airframe in which the Nene was experimentally fitted for trials. In all, 656 examples of this jet trainer were built in Canada, where in its final service life bore the designation of CT-133A.

Kawasaki built 210 T-33As for the Japanese Air Self Defence Force, 18 of which were completely supplied by Lockheed in knocked-down form. Most of the components for the balance of this order also came from the parent company.

Boeing took on the task of upgrading the T-33 in the 1980s by proposing a new version known as the Skyfox. Although about 70 percent of the original components were to be retained, it was to be fitted with a pair of Garrett TFE731-3A turbofans. The venture, however, fell through due to lack of orders and this is no wonder as far more modern and highly efficient jet trainers were available on the market by that time.

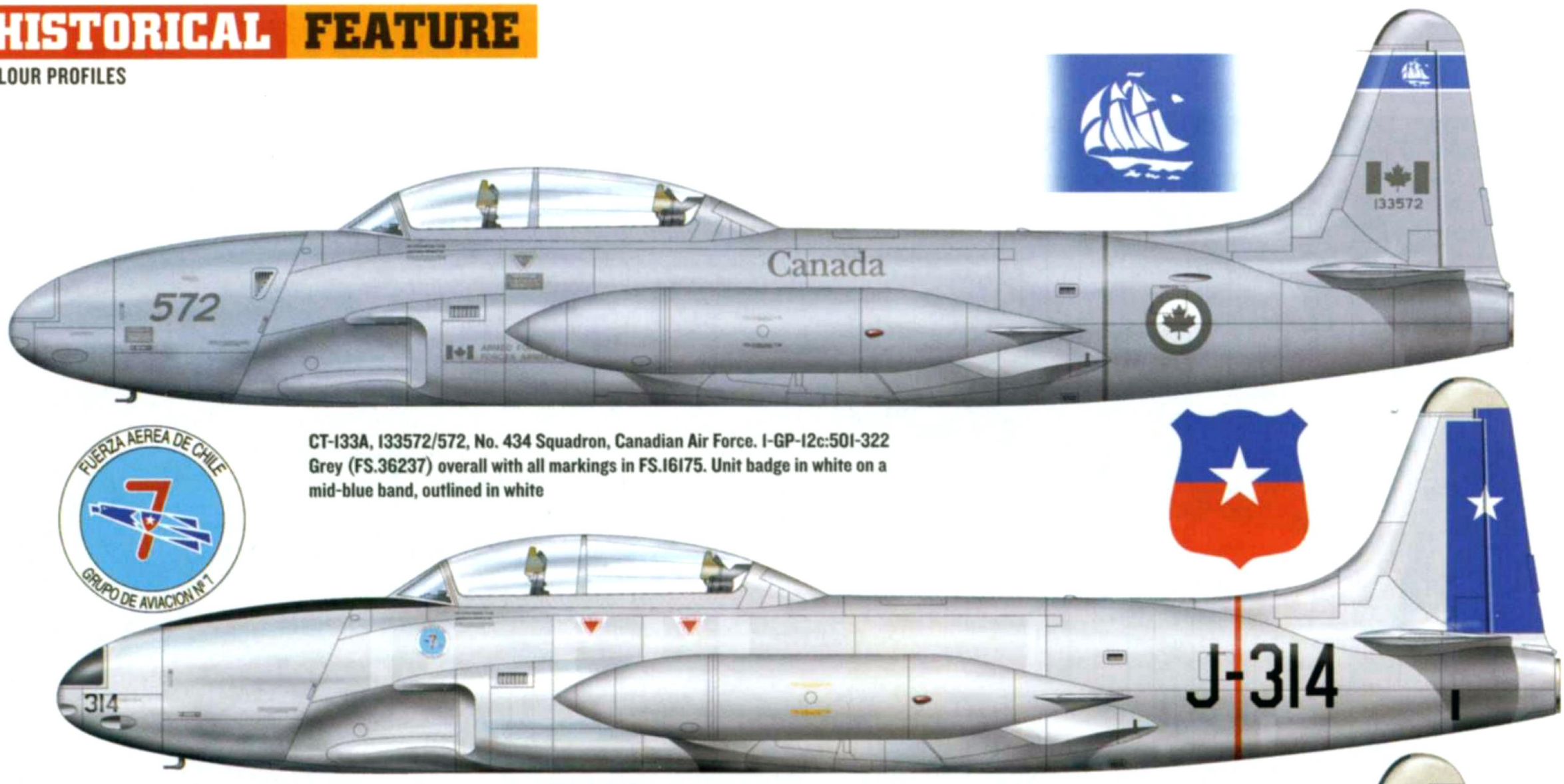


Last T-33s to visit Malta were those from the Belgian Air Force, including FT02, seen in June 1978
(R.J. Caruana)

FOREIGN OPERATORS

About 40 foreign operators flew the T-33 as an integral part of their air forces, these including most European air arms, and the type enjoyed (and still enjoys to some extent) a long service life in the South American continent. One would be tempted to exclude the RAF from the list of European nations, but readers might be surprised to know that No.45 Squadron (RAF) operated a specially equipped T-33A in 1967 from Tengah for medium altitude air sampling following China's first nuclear tests (see colour pages), though full USAF markings had been retained.

The T-33's longevity was also marked by a (literally) colourful career that not only saw the type carrying the national markings of so many nations but also such wide and varied colour schemes, sometimes linked to the type of service it was required to perform. Although in most cases this was principally in the training role, the type was also used in the interception role wherever needed. Thankfully the type still flies today, and many fine examples are to be found on the airshow circuit.



CT-133A, 133572/572, No. 434 Squadron, Canadian Air Force. I-GP-12c:501-322 Grey (FS.36237) overall with all markings in FS.16175. Unit badge in white on a mid-blue band, outlined in white

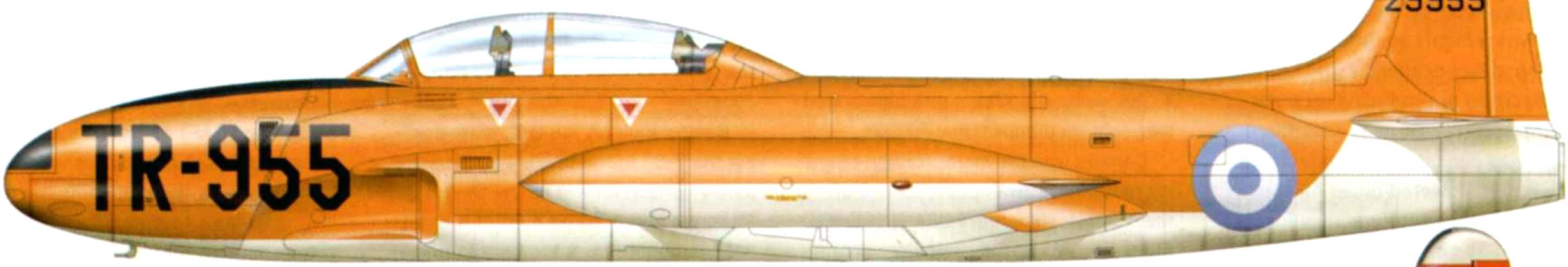
T-33A, J-314, Grupo 7, Fuerza Aerea de Chile, Los Cerrillos, late 1950s. Natural metal overall with black lettering and anti-dazzle panel; unit badge below windscreen, both sides. Blue fin flash with white star superimposed; national marking (red/blue shield with white star) carried above starboard and below port wings. J-314 repeated above port and below starboard wings in black



T-33A, T.33025 (52-9972)/025, Chinese National Air Force, Tapei (Formosa), 1959. natural metal overall with blue/white rudder markings; Anti-dazzle panel, inside faces of wingtip tanks and all lettering in black. Yellow/black checks on fuselage and fin, outlined in blue; national markings in six positions



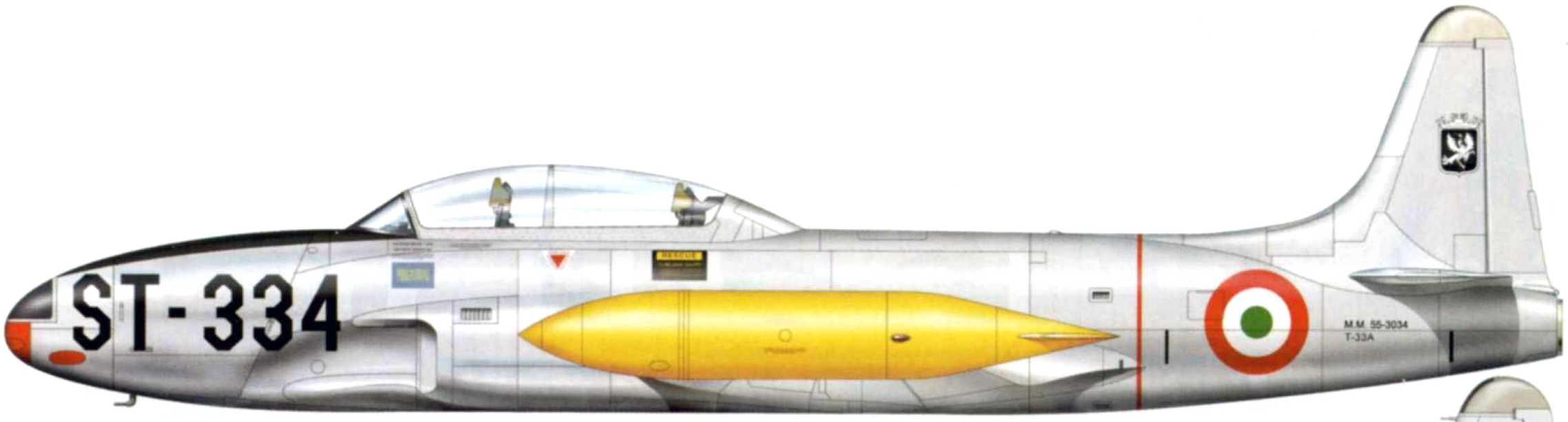
T-33A, 14349/314-UQ, 314 Groupement Ecole, Armèe de l'Air. Natural metal overall with orange areas to nose and fin; orange bands chordwise around wings and central area of wingtip tanks. Lettering in black; unit badge on fin. National markings in six positions



T-33A, 29955/TR-955, No. 115 Pterix, Hellenic Air Force, 1998. Orange upper surfaces with white undersides; black lettering and anti-dazzle panel. National markings in six positions

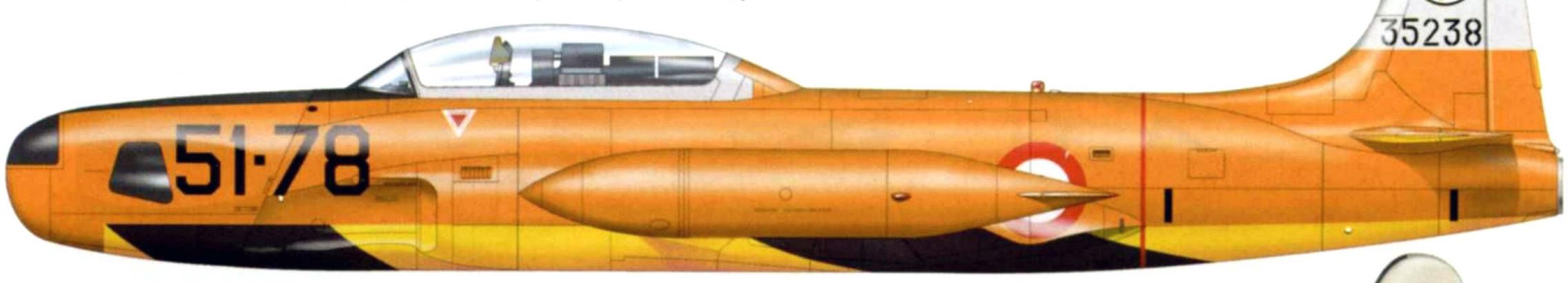


T-33A, 53077/6-99, 6° Aerobrigata, Aeronautica Militare Italiana. Natural metal overall with black anti-dazzle panel and lettering; red outer halves of wingtip tanks and tail unit. Inner halves of wingtip tanks in black; unit badge on fin



T-33A, MM.55-3034/ST-334, Scuola Aviogetti Amendola, Aeronautica Militare Italiana, 1960. Natural metal overall with black anti-dazzle panel and lettering; red nose tip and yellow outer faces of wingtips. Amendola flying school badge on fin (not handed on starboard side; light blue panel below cockpit carries pilots' names in yellow

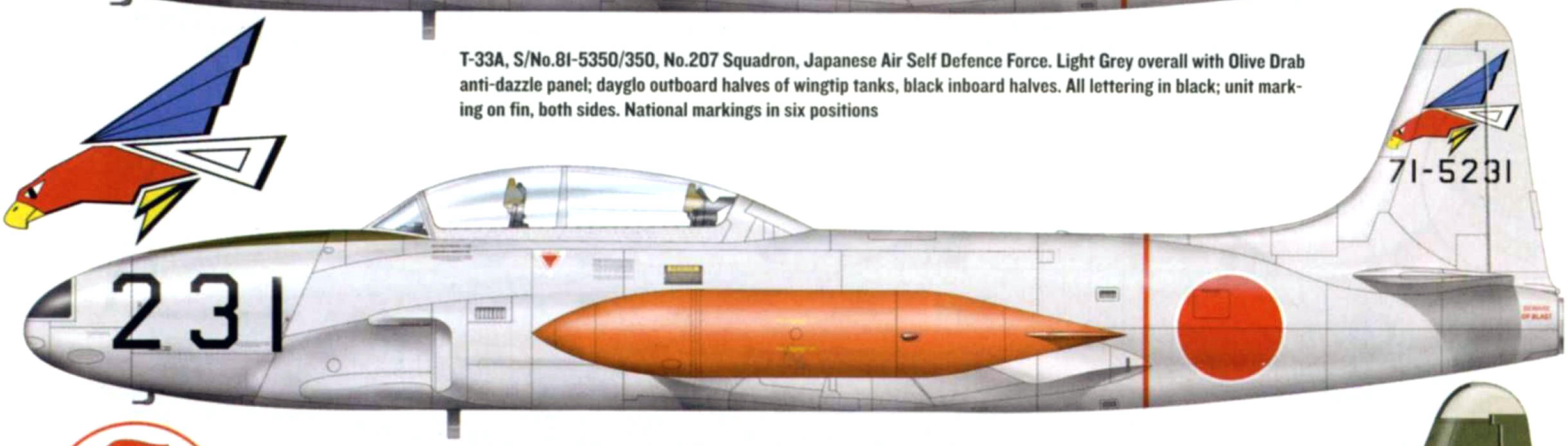




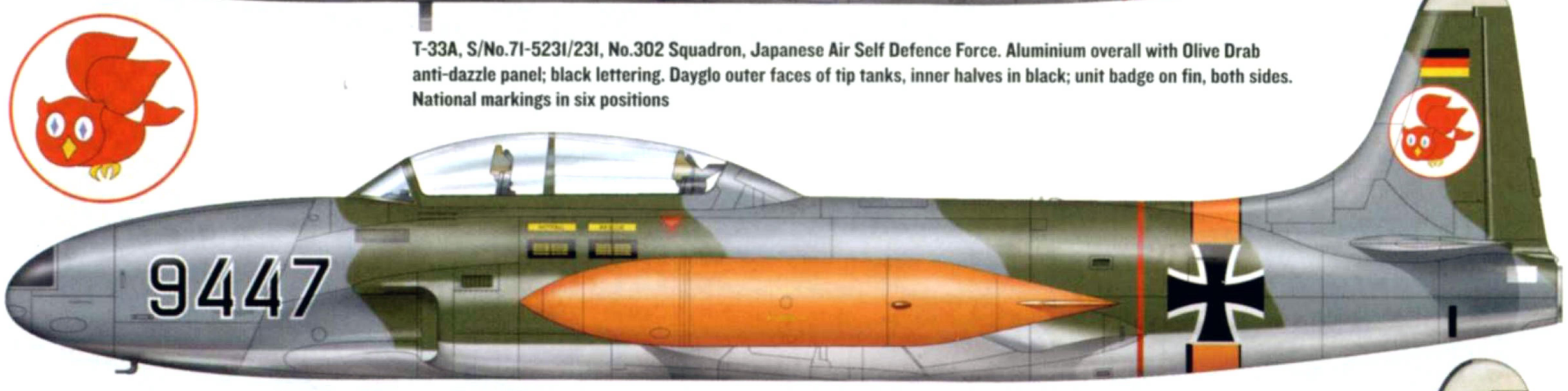
RT-33A, 35238/51-78, 651ª Squadriglia Collegamento e Bersagli, 51º Stormo, Aeronautica Militare Italiana, Istrana. Orange upper surfaces with undersides in yellow/black target tug bands; inner face of wingtip tanks and anti-dazzle panel in black. Natural metal top half of fin/rudder, and opening part of canopy frame; all lettering in black. Stormo badge on fin



T-33A, S/No.81-5350/350, No.207 Squadron, Japanese Air Self Defence Force. Light Grey overall with Olive Drab anti-dazzle panel; dayglo outboard halves of wingtip tanks, black inboard halves. All lettering in black; unit marking on fin, both sides. National markings in six positions



T-33A, S/No.71-5231/231, No.302 Squadron, Japanese Air Self Defence Force. Aluminium overall with Olive Drab anti-dazzle panel; black lettering. Dayglo outer faces of tip tanks, inner halves in black; unit badge on fin, both sides. National markings in six positions



T-33A, 9447, AG.51, Luftwaffe, Bremgaren, 1968. RAL7012 Basalt Grey/RAL6003 Yellow Olive upper surfaces with RAL7001 Silver Grey undersides; Orange wingtip tanks and fuselage band, the latter outlined in black. Codes in black, outlined in white; unit badge on fin (note that the '51' in yellow usually carried on the owl's body is missing on this particular machine)



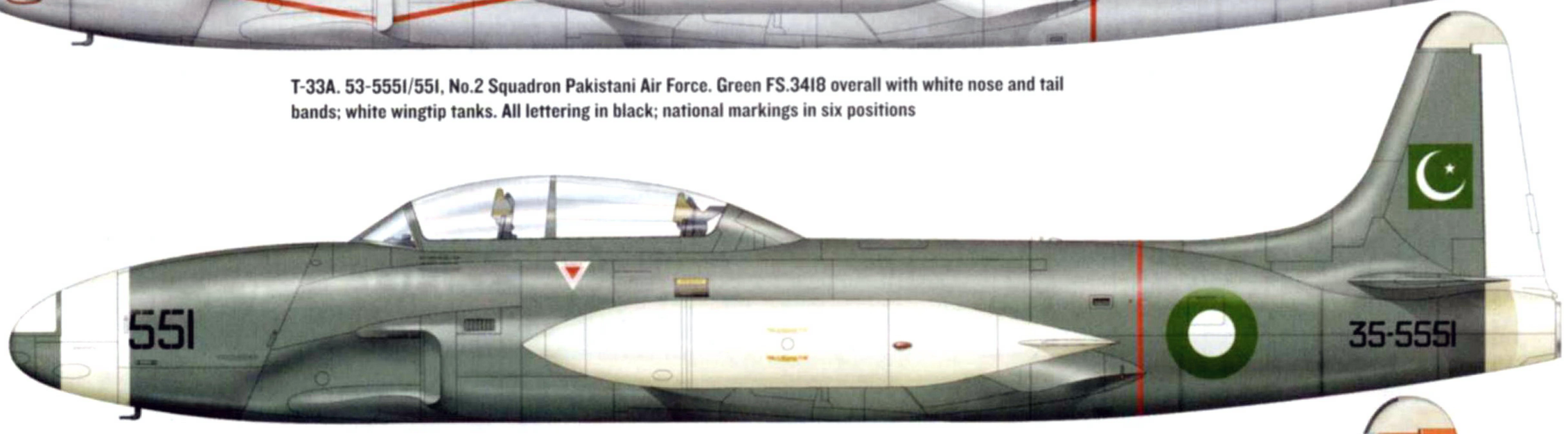
T-33A, 9491, JG34, Luftwaffe, 1975. RAL7012 Basalt Grey/RAL6003 Yellow Olive upper surfaces with RAL7001 Silver Grey undersides; Orange wingtip tanks and fuselage band, the latter outlined in black. Codes in black, outlined in white; unit badge below windscreen

COLOUR PROFILES

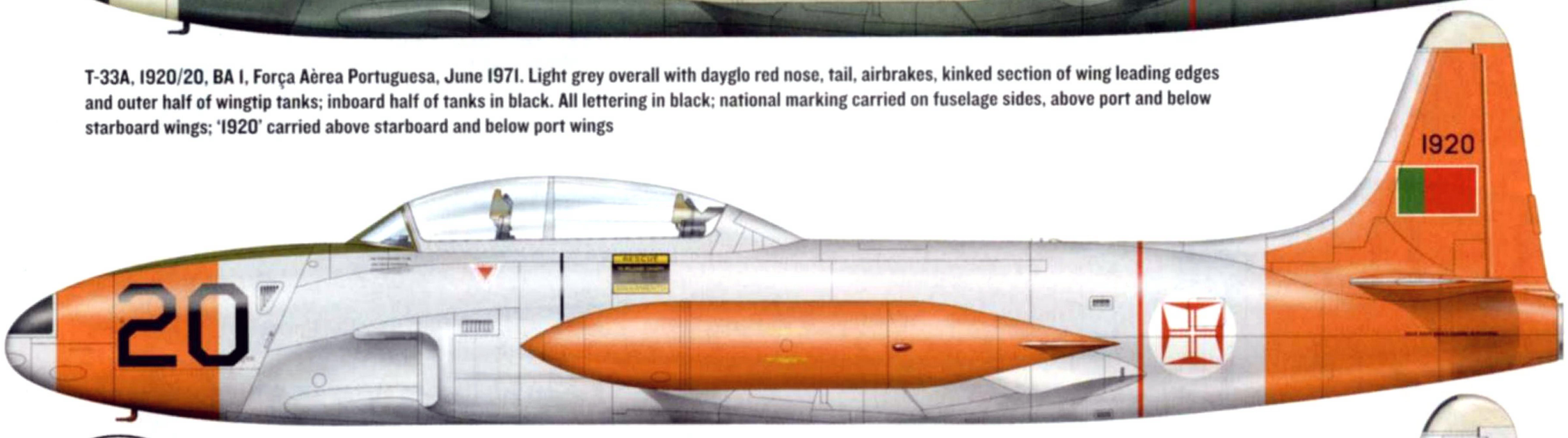
T-33A, 303, Fuerza Aérea de la Guardia Nacional, Nicaragua. Light grey overall with Olive Drab anti-dazzle panel; red/blue/white tail markings



T-33A. 53-5551/551, No.2 Squadron Pakistani Air Force. Green FS.34l8 overall with white nose and tail bands; white wingtip tanks. All lettering in black; national markings in six positions



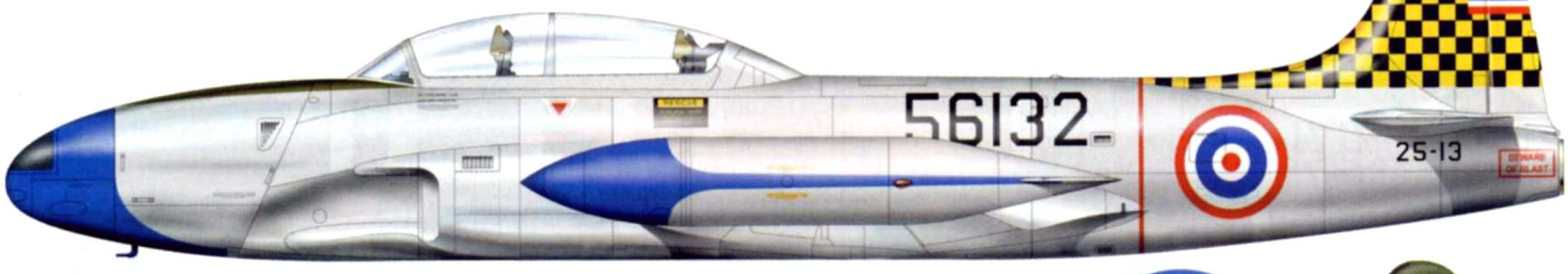
T-33A, 1920/20, BA 1, Força Aèrea Portuguesa, June 1971. Light grey overall with dayglo red nose, tail, airbrakes, kinked section of wing leading edges and outer half of wingtip tanks; inboard half of tanks in black. All lettering in black; national marking carried on fuselage sides, above port and below starboard wings; '1920' carried above starboard and below port wings



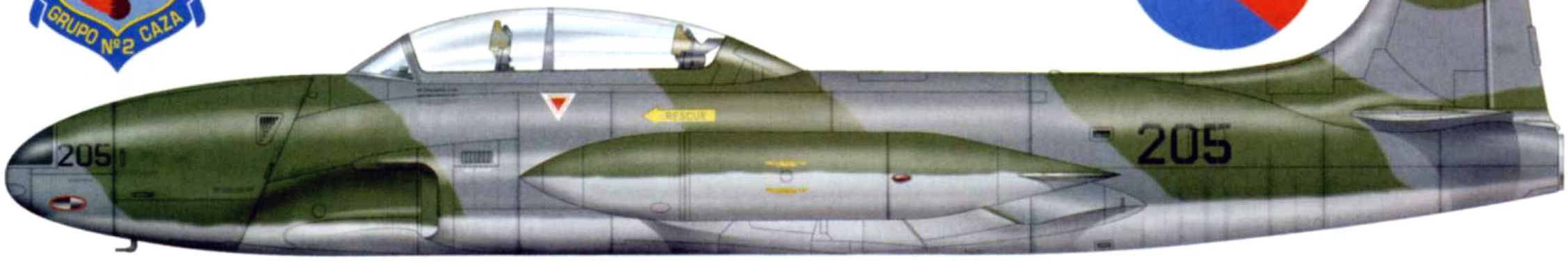
T-33A, E.15-51/41-8, Grupo 41, Zaragoza, 1982. Natural metal overall with black anti-dazzle panel, rudder cross and all lettering; unit badge on rear fuselage. National markings in six positions



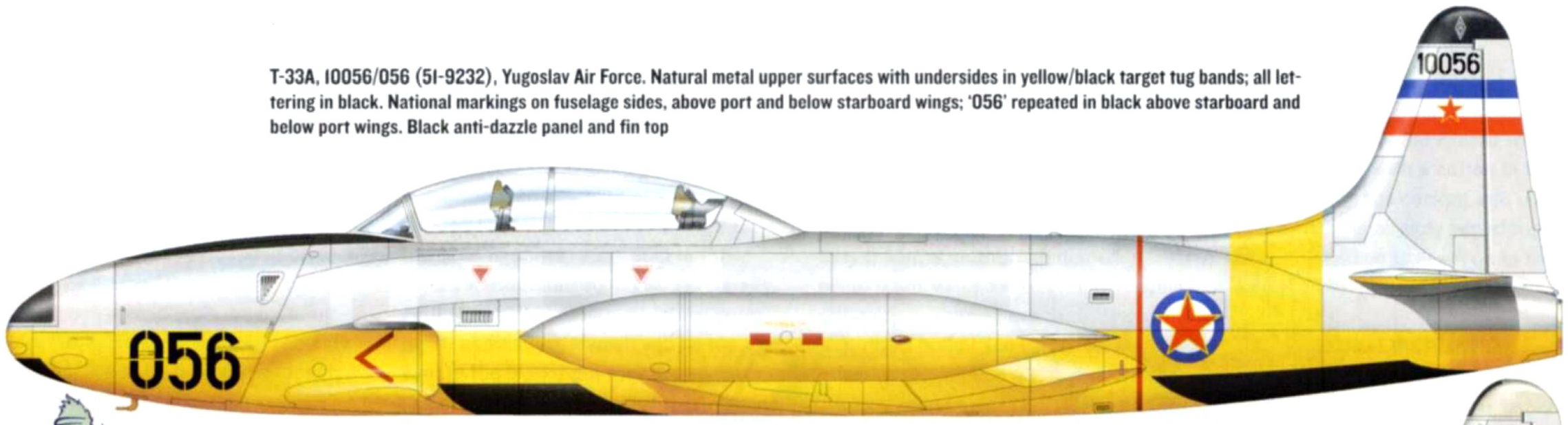
T-33A, 56132/25-13, No.561 Squadron, 56th Wing, Royal Thai Air Force, 1983. Natural metal overall with blue trim to nose and wingtip tanks; yellow/black checks on fin/rudder. Lettering in black; Olive Drab anti-dazzle panel



T-33A, 205, Grupo de Aviación No.2, Montevideo, Fuerza Aérea Uruguaya, December 1976. Dark grey/dark green upper surfaces with light grey undersides; black/white checks on top of fin. Fin flash on top of rudder; unit badge on fin. National markings in four wing positions; serial in black, repeated on nose; note nose gun position, outlined in red



T-33A, 10056/056 (51-9232), Yugoslav Air Force. Natural metal upper surfaces with undersides in yellow/black target tug bands; all lettering in black. National markings on fuselage sides, above port and below starboard wings; '056' repeated in black above starboard and below port wings. Black anti-dazzle panel and fin top



T-33A, S/No.57-0536/TR-536, 48th Tactical Fighter Wing, USAF Europe. Natural metal overall with orange outboard halves of wingtips; inboard halves and all lettering in black. Olive Drab anti-dazzle panel; Wing badge on fin



T-33A, S/No.53-5137/TR-137, 81st Tactical Fighter Wing, USAF Europe. Natural metal overall with Olive Drab anti-dazzle panel; red air intakes. Black lettering; Outstanding Unit Award below windscreen. Wing badge on fuselage sides



T-33A, S/No.56-1782, Air Force Communications Agency/AFCS, United States Air Force, August 1970. Light grey overall with lower nose, tail unit and flash on fuselage in Arctic Red, outlined in black; Arctic Red wingtip tanks with black tip. Black anti-dazzle panel and all lettering, except 'AFCS' which is white on black; US national markings on fuselage sides, above port and below starboard wings



T-33A, S/No.57-0694, operated by No.45 Squadron RAF, Tengah, seen at Malta in May 1967. Natural metal overall with Olive Drab anti-dazzle panel; all lettering in black. Used for low and medium altitude air sampling following China's nucelar tests; note air sampler pods under wings



T-33B, BuNo.137940/7V, Glenville Naval Air Station, US Navy, August 1974. Light Gull Grey overall with all lettering and anti-dazzle panel in black

