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ASIAN AIR ARMS NEWSLETTER 13

April/May 2019

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"Asian Air Arms SIG", a Special Interest Group of IPMS (UK)

ASIAN AIR
ARMS



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Aero **L-39**



Trainer—supreme!

Photo Copyright © Alexander Balykin

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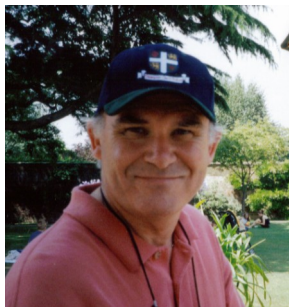
www.asianairarms.com

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UPDATES AT ASIAN AIR ARMS



1

After my appeal for some assistance in the last Newsletter, both Igor Kabic and Mick Skeels have very kindly offered to lend a helping hand and are busy correcting and updating the Aircraft Search facility on the website. However, there is still plenty of work to be done, so any more volunteers to help make the SIG even better would be much appreciated. Just e-mail me and we can talk about how you could help.

Remember, the SIG can only be as good as the members make it!

2

As a result of the above, the Newsletter will in future be produced every two months, rather than monthly. It's taking me about 10 days a month to put together and this seriously affects drinking, socialising, attending shows, modelling, painting the house and visiting family! Sorry about this but I hope you will understand. So, this Newsletter is the April/May issue, and the next will be June/July.

3

Asian Air Arms Modelling Competition!

Start your preparations for our annual modelling competition. This will be held at the IPMS ScaleModelWorld Show at Telford in November, so it's now time for you to start planning how to win the most prestigious trophy in the modelling world! There will be three classes: 1/144; 1/72; and 1/48 and larger, with lots of prizes donated by seven generous Sponsors.

So, get planning now!

4

We've had a whole pile of new members join us since the last Newsletter—21 in all! Read about them on **page 16**.

6

Remember this on the cover of Newsletter No.7? Well, Hasegawa is producing it in this wild scheme! Although in tiny, 1/200 scale, it looks to be a real show-stopper! Grab one while you can.



5

For those of you who are fans of pre-1941 Asian air arms, I'm producing a sheet of decals entitled "Chinese Warlords". This should be available by the early summer.





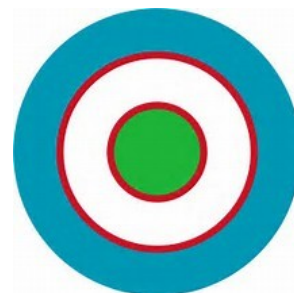
AERO L-39 ALBATROSS IN FORMER SOVIET ASIA—1



Kazakhstan Air Force: At the collapse of the Soviet Union, there were 16 L-39Cs in the country. By 1999 these had been added to by another 13, having been overhauled in Slovakia and the Ukraine. Six of these formed the Sunkar aerobatic team. In 2013 22 were operating in the Khazak Air Force.



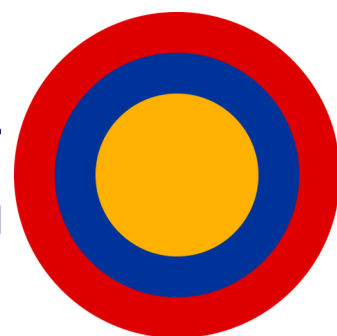
Uzbekistan Air Force operated eight L-39Cs on independence (1991). They were used for reconnaissance purposes against Tajik separatists. They then formed part of a Mixed Aviation Brigade with Su-25s and Mi-8s. In 2014, there were four remaining in service.



Azerbaijan Air Force: Out of 15 left in the country after the departure of the Russians, only four were serviceable. These were pressed into combat, alongside Su-25s and MiG-29s against Armenia during the Nagorno-Karabakh war, carrying bombs and rockets: one was shot down. Twelve refurbished a/c were received from the Ukraine in the late 1990s. Eleven are now used as lead-in trainers.



Armenia Air Force In 1995 Armenia receive two L-39Cs from Russia, undertaking training missions and border patrols. In 2003 they purchased another two L-39s from the Ukraine, for lead-in training for Su-25 pilots. In 2004 two more L-39s were obtained from the Ukraine to replace the original two airframes.



Georgia Air Force: After failing to prevent Abkhazia's breakaway in 1992, Georgia began to rebuild its air force obtaining 10 L-29s and several Su-25s from the Ukraine. In 2006 the L-29s were replaced by eight ex-Ukrainian L-39Cs. In the 2008 war with Russia three of the L-29s were destroyed in air strikes and one L-39 in an accident. Eight L-39s still remain in use as trainers.



Sources: Aviation Classics—Aero L-39; World Air Forces 2019 (Flight International)



AERO L-39 ALBATROSS IN FORMER SOVIET ASIA—2



Kyrgyz Air Force: On the break-up of the Soviet Union, Kyrgyzstan was left in possession of 72 Russian L-39Cs, many more than were required. So, in the early 1990s many were sold to Lithuania and the Ukraine, leaving just two in active service. However, increasing insurgent activities in the late 1990s and early 2000s resulted in a re-equipping with L-39s that went on to undertake air strikes. Twenty four remain in storage and are drawn upon for replacements when necessary. In 2005, nine were sold to US Air Inc.

No picture available. Anybody got one?

No picture available.

Tajik Air Force On gaining independence from the Soviet Union, twelve L-39Cs were left in the country by the departing Russians, but none were operational. Due to increasing insurgency activity, in 2004 three were made airworthy and flew border patrols but there have been no reports of them since 2006. In 2007 Russia delivered another four. Since 2012, some were grounded due to lack of funding but in 2019 four were reported to be still on charge.



Turkmen Air Force: With the departure of the Russians in 1993, equipment left behind included five L-39Cs, of which two were airworthy. They were used for lead-in training for MiG-21s and MiG-29s, until 1999. They were then transferred to the 31st School of Aerospecialists and were then overhauled in the Ukraine, flying until 2012. In 2019 none remained on charge.

No picture available. Anybody got one?



Abkhazia Air Force In 1992 the regional government of Abkhazia broke away from Georgia and was aided by a gift of four L-39Cs smuggled in from Chechnya. They carried out reconnaissance, patrol and ground attack missions with bombs and rockets against the Georgians. Not until two years later were the original Soviet markings replaced with Abkhazian insignia. Russia then supplied two additional a/c. Two have been modified to carry infra-red guided air-to-air missiles. Five a/c were reported to be still on charge in 2019.



Georgians. Not until two years later were the original Soviet markings replaced with Abkhazian insignia. Russia then supplied two additional a/c. Two have been modified to carry infra-red guided air-to-air missiles. Five a/c were reported to be still on charge in 2019.



Chechnya Air Force: Whilst fighting for independence in 1991, Chechnya endeavoured to form an air force with about 60 L-39Cs left behind by the Russians. A lack of spares reduced operational levels to about 15 (four of which were sent clandestinely to Abkhazia). War re-ignited in 1994 and the L-39s served in reconnaissance/strike roles. Two were shot down by Russian Su-27s, followed by an airfield strike that destroyed 30 L-39s. Last reported use was in 1995.



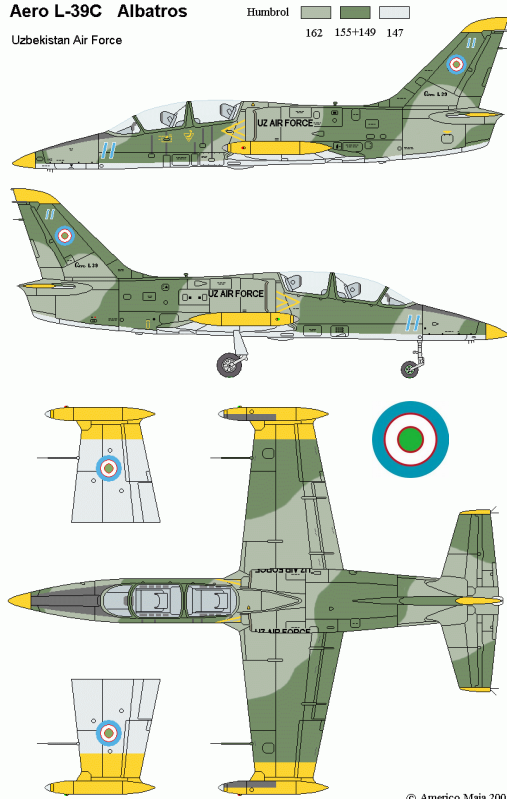


AERO L-39 ALBATROSS IN FORMER SOVIET ASIA -3

Aero L-39C Albatros

Uzbekistan Air Force

Humbrol 162 155+149 147

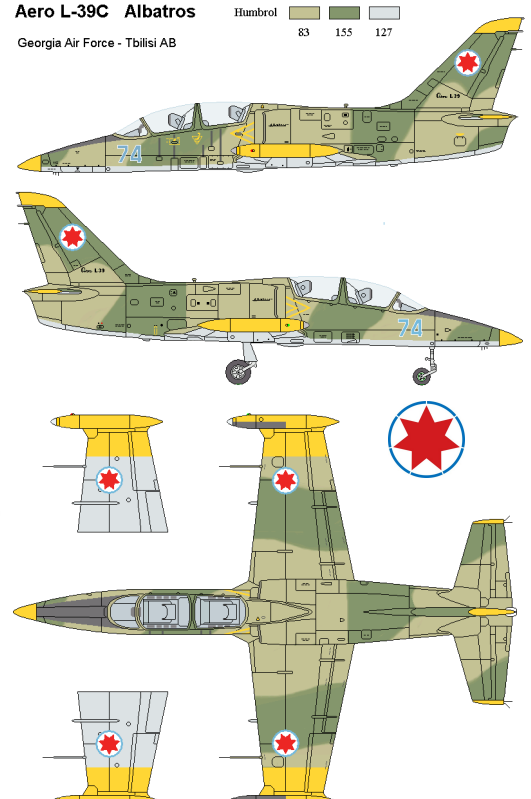


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Aero L-39C Albatros

Georgia Air Force - Tbilisi AB

Humbrol 83 155 127

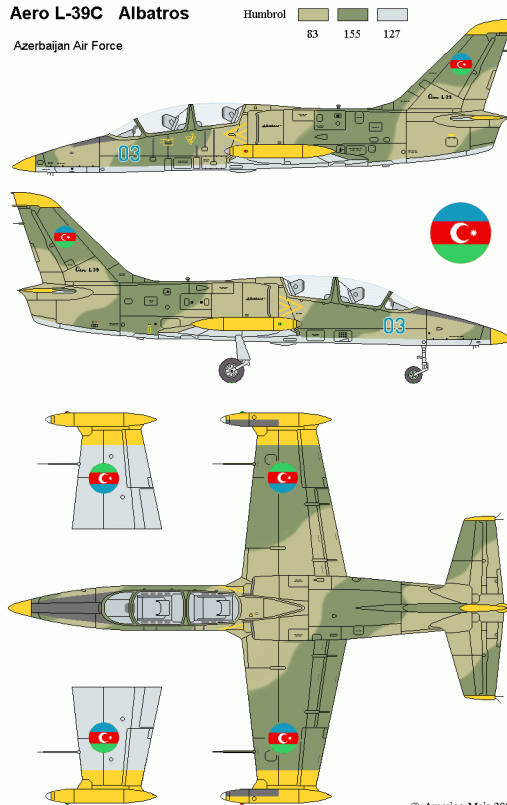


Americo Maia 2007

Aero L-39C Albatros

Azerbaijan Air Force

Humbrol 83 155 127

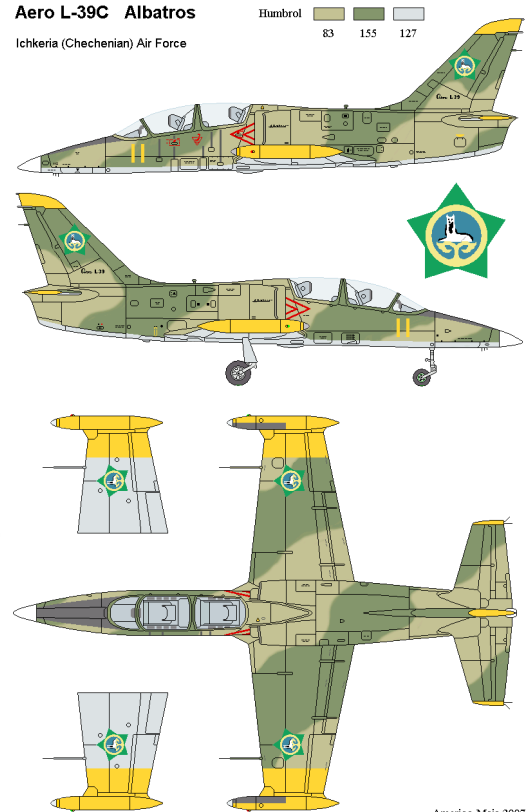


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Aero L-39C Albatros

Ichkeria (Chechenian) Air Force

Humbrol 83 155 127



Americo Maia 2007

Armenian Air Force



Abkhazian Air Force





KAZAKHSTAN'S SUNKAR (FALCON) AEROBATIC TEAM





AERO L-39 ALBATROSS IN WEST AND EAST ASIA—1

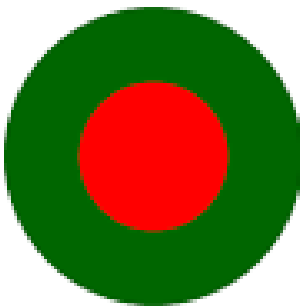


Royal Thai Air Force: Between 1993 and 1997, 40 L-39ZA/ARTs were upgraded by Elbit Systems in Israel and delivered to act as lead-in trainers for the new F-16 fleet and more recently to assist the transition to the Gripens.

[See superb video here](#)



Vietnam People's Air Force received its first 12 L-39Cs in 1980, followed by 12 more in 1981. After the collapse of the Soviet Union, Ukraine supplied another 10 overhauled L-39Cs. There are approximately 26 remaining in service.



Bangladesh Air Force: 1995 saw 8 L-39ZAs delivered, differing from standard ZAs in having "zero-zero" VS-2 ejection seats fitted at the BAF's request. They have acted as lead-in trainers for the MiG-29s and Chengdu F-7s, but are now being supplanted by Yak-130s.

[Click here for excellent video.](#)



Royal Cambodian Air Force operated 6 L-39Cs, with the first pair having been refurbished in the Ukraine and delivered in early 1995, followed at the end of the year by another two. It's believed the other two were delivered by Israeli Aircraft Industries, who obtained them from the Ukraine. They'd all been withdrawn by 2006.



Afghan Air Force: In 1977 12 L-39Cs were delivered for Soviet instructors to train Afghan pilots. They were pressed into combat against the Mujahedin in 1978, often manned by Soviet aircrew. In 1981 six more L-39Cs were delivered, followed three years later by a further eight. By the late 1990s, approximately five had been captured by the Taliban

who used them with limited success against government forces. None of the L-39Cs have been seen since 2009.



Sources: Aviation Classics—Aero L-39; World Air Forces (Flight International)

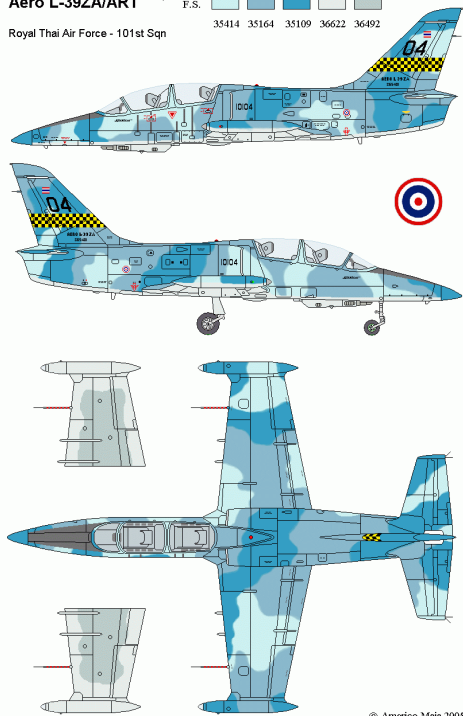


AERO L-39 ALBATROSS IN WEST AND EAST ASIA -2

Aero L-39ZA/ART

Royal Thai Air Force - 101st Sqn

F.S. 35414 35164 35109 36622 36492

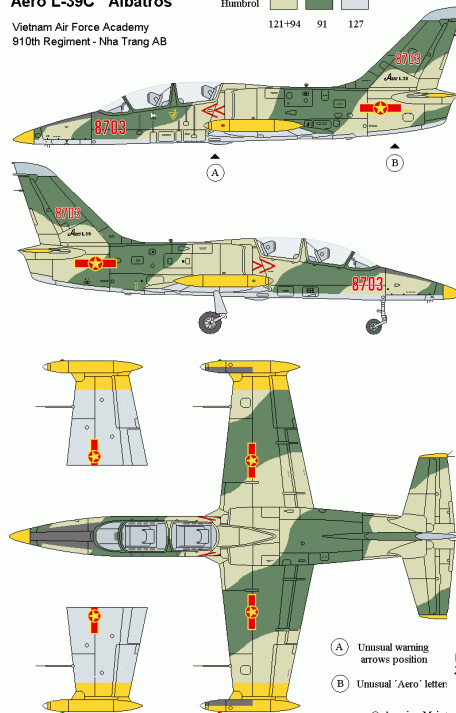


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Aero L-39C Albatros

Vietnam Air Force Academy
910th Regiment - Nha Trang AB

Humbrol 121+94 91 127

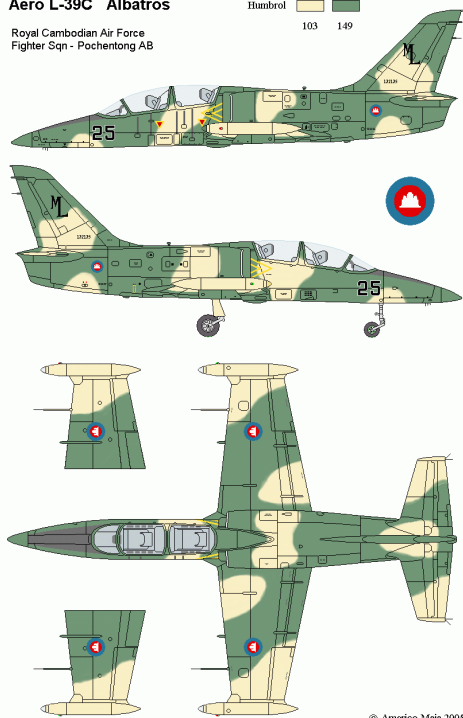


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Aero L-39C Albatros

Royal Cambodian Air Force
Fighter Sqn - Pochentong AB

Humbrol 103 149

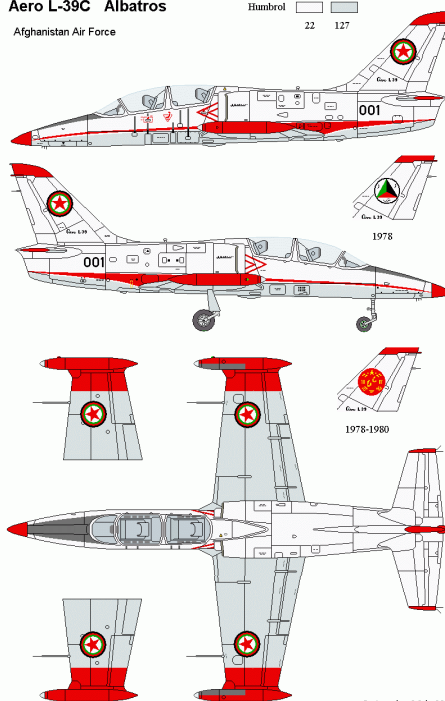


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Aero L-39C Albatros

Afghanistan Air Force

Humbrol 22 127

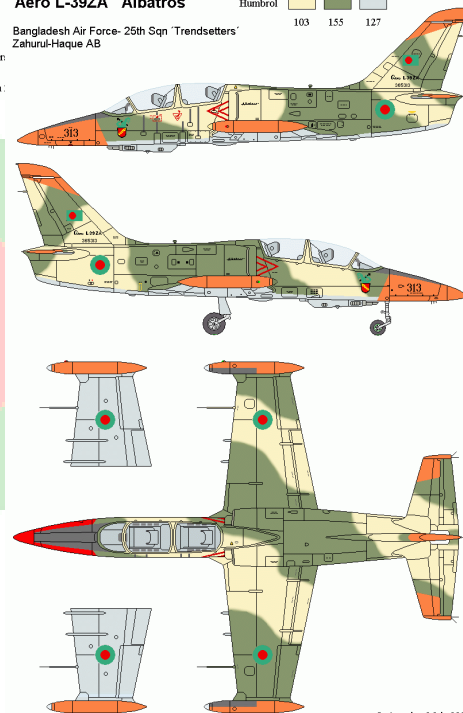


© Americo Maia 2005

Aero L-39ZA Albatros

Bangladesh Air Force- 25th Sqn 'Trendsetters'
Zahurul-Haque AB

Humbrol 103 155 127



© Americo Maia 2005



Now, let's make an L-39!

1/32



1/48



1/72



1/144



Linden Hill 1/72



CMK 1/48



Eduard 1/48



GEKKO GRAPHICS "ASIATIC MIG-19s" DECALS



I have used Gekko Graphics decals on a number of previous occasions to accurately finish several RNZAF "Skyhawks" but I didn't realise they had produced this sheet until I found it listed in the "Second Hand" section at Hannant's recently. Once spotted I just had to buy it!

The sheet covers four aircraft, all Shenyang J6/F6 which are Chinese built Mig-19 variants. Two from the PLAAF (J6) and two from the PakAF (F6). All four carry interesting colour schemes but the one that stood out for me was a green/white striped machine from 23 Sqn PakAF painted, along with a number of its fellow machines, to mark the retirement of the F6 in 2002.

The other three, although more colourful than the usual natural metal or white finishes found on these aircraft are less vibrant than the first one. The most striking of these is a brown/sand striped J6 with light grey undersides, followed by the second Chinese machine with a dark blue/light blue top surface and natural metal underneath. The final one, a Pakistani F6 from 15 Sqn, carries a dark green and light blue scheme on upper and lower surfaces respectively along with a large Cobra badge on the fin.

The Instruction sheets are clear and precise about colour demarcations and

decal placement, with four view drawings of each aircraft. Initially I felt the colour references were a little vague but then discovered that this information is made abundantly clear on the third sheet of instructions, where colours and suggested mixes are explained primarily using "Tamiya" paints. Also on this sheet, the manufacturer advises on a number matters when building the "Trumpeter" kit which will make the build both easier and result in a more accurate model.

All in all, I would suggest this is a worthwhile decal pack to search out if you have an interest in Mig-19s or J/F6s, either air force or differently painted aircraft. The decals themselves are clear and well printed, the instructions more than adequate and the build tips very useful. What's not to like?



David Thomas—Deputy SIG Leader

Click the image to see Eric's latest "walkaround" - RMAF Su-30.



And click [this image](#) to see the last flight of JASDF 302 Sqn F-4EJ



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Phil Camp's frustrated by the lack of kits covering Indian military aviation.

I do like the Indian Air Force and its aircraft. Yet there are several subjects that have never been produced in kit format, and others that have appeared as short run resin/vac-form only. Why is this? Is it a lack of basic info to get the shape and dimensions right? Lack of interest? Pre-occupation with producing 1946 Luftwaffe? Commercially unviable planes that appeared in blueprint only? Well it really is time for a change and I hope some mainline manufacturers or East European 'cottage industry' manufacturers see this article. There are a billion plus people in India and their Diaspora spreads around the world. In the last few years, interest in aviation has really taken off, with the first spring shoots of enthusiasts and modellers rising to the fore. So what would be on my ideal shopping list?



HAL Dhruv



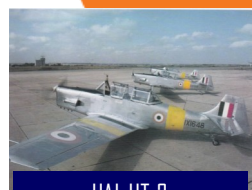
Sukhoi Su-30MKI



HAL HTT-40



HAL HJT-36



HAL HT-2



HAL Tejas



HAL Kiran

Sukhoi Su30MKI. For years people have been forced into converting the SU27UB.

Now at last Zvezda are issuing a Su30SM in 1/72, which can easily be converted into the MKI. With 272 being ordered and the chance of more on the way, we need this kit.

Hindustan Aeronautics Ltd Kiran 1 & 2. This basic jet trainer has never been done in kit form. Looking very much like a Jet Provost T4, almost 200 served with the air force and navy. Included in this number were the Surya Kiran aerobatic team in their tasteful red colour scheme.

Hindustan Aeronautics Ltd Marut. This has been produced by Warrior Model and Model Alliance, but you can't get them anywhere. A fighter-bomber, designed by Kurt Tank, it saw service in the 1971 war and about 129 single seaters were made, along with 18 dual trainers. We really do need a decent kit of this in 1/72 & 1/48.

Hindustan Aeronautics Ltd Dhruv. This helicopter, which is in current production, serves all four services of the Indian military. Over 200 have been delivered or are on order. It's based on the BK117 and I have seen a very good conversion of the Revell kit in 1/32. The Indian AF Helicopter display team, called the 'Sarang', use this helicopter in a very nice colour scheme.

Hindustan Aeronautics Ltd HPT32. This basic trainer, now withdrawn from service, saw production go to 142 units. Unlikely ever to be kitted as nobody outside India knows what it is or looks like.

Hindustan Aeronautics Ltd HT2. A basic trainer along the lines of a Chipmunk. Used by IAF, Ghana AF and civilian flying clubs in India. Unlikely to be produced.

HS748. Produced in India under licence by HAL. Kitted by Welsh Models and S&M as a 1/144 Vac Form; and S&M and Rug Rat as resins in 1/72. The S&M resin plastic was/is a good kit and is available from time to time: I made one and added an AWACS rotor dome. It used to retail for about £50.00 and is probably unlikely to be kitted by the mainstream manufacturers.

Percival Prentice. Used in vast numbers by the RAF after the war and assembled by HAL. 70 were used by the IAF and it appeared as a kit in resin by Dujin; in plastic by Skybirds; and in vac-form by Gerald Elliott. Because of its RAF heritage, it deserves better.

LCA or Tejas. Mk1 version and elongated Mk2 version due. Described to me as a poor man's Mirage 2000 and looks a bit like it. I once picked up a 1/72ish fibre-glass model outside the gates at Aero India. I hope that this won't be the only model I see of it. India's first squadron has just formed after 20 years of development. The prototypes have flown in a variety of tasteful colour schemes.

PC7 MK2. Scaleworx and Planet have done this in 1/72, and Anahuac in 1/48—all in resin. Aeroclub did it in vac-form in 1/72. Used by the SAAF and IAF in large numbers, we should have a mainstream kit of this.

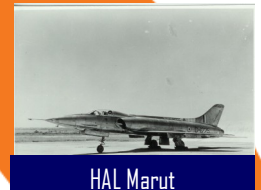
Prototypes. Of course India has had its fair share of prototypes that make interesting viewing. In recent years we have had the Intermediate Jet Trainer, HTT40 Trainer, Light Attack Helicopter, Saras light transport and Light Utility Helicopter, but it might be some while before we see any kits of these!

I could supply some drawings if anyone is interested in manufacturing these as kits.

Yours hoping!! Phil Camp



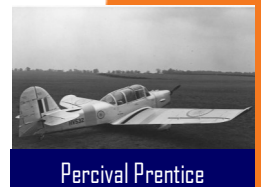
Pilatus PC-7



HAL Marut



HAL HPT-32



Percival Prentice



HAL Saras



HAL LCH

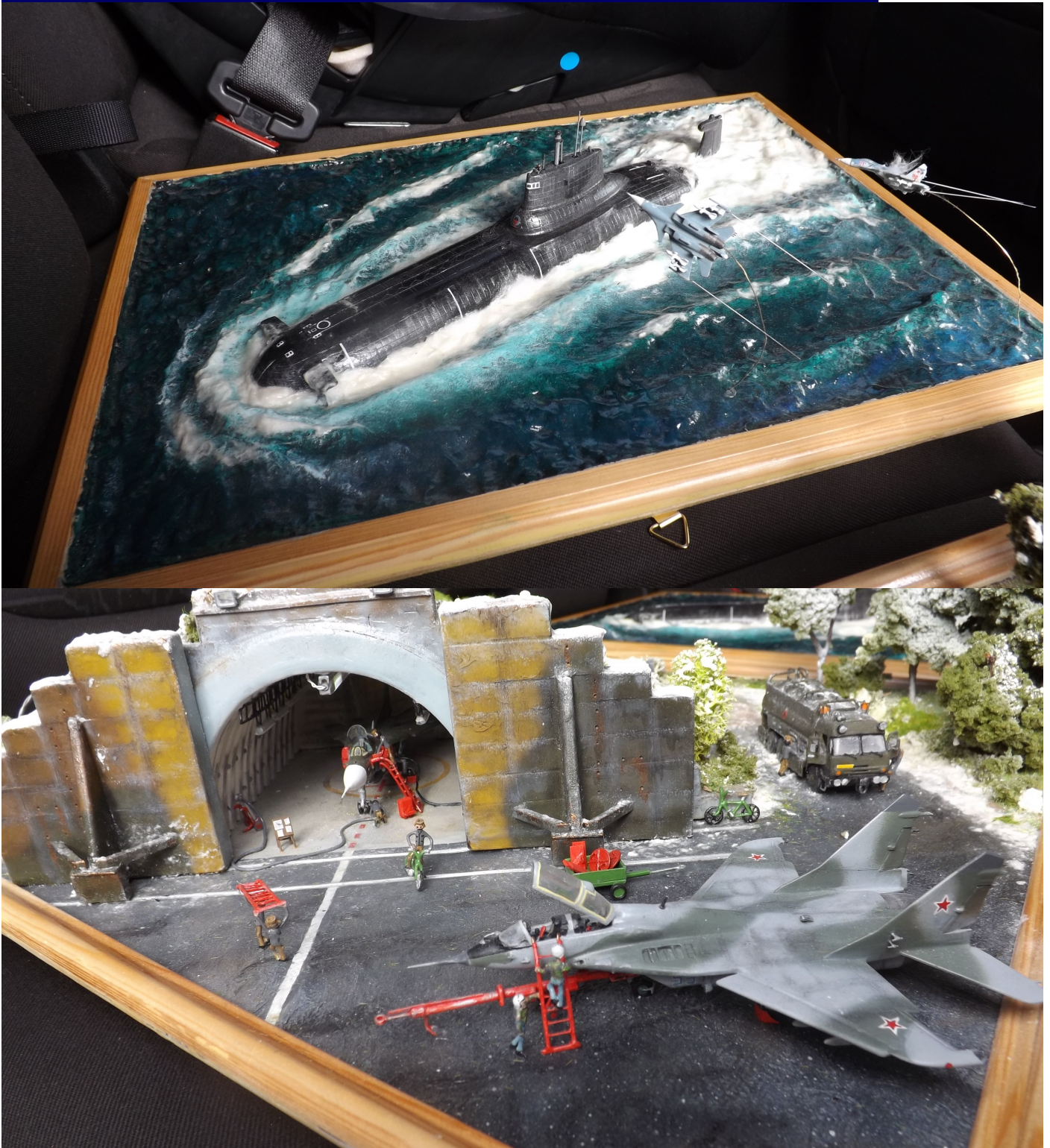


HAL (HS) 748



SCRATCH-BUILDING

Not Asian at all, but I thought you might be interested to see what new member Antonio Cruz can achieve. Just look at those Su-27s overflying the Russian sub! Now let's see him do something Asian!





WINGS OVER THE LAND OF A MILLION ELEPHANTS

Military Aviation in Laos 1949-75—Part 3

This article has been re-printed from Air Enthusiast March/April 1998 with kind permission from author Ken Conboy (See March Newsletter for Part 1)

three days later. Immediately, six Air America pilots (later reduced to five) were sent to Udorn for T-28 certification by *Waterpump*. All being former fighter pilots — one with the USAF, the rest with the US Marine Corps — they were declared ready later that day. On May 25, the Air America contingent, dubbed the *A-Team*, was put to the test. Five aircraft took to the sky and headed toward a key bridge off the eastern edge of the Plain of Jars. Racing over the structures they salvoed their bombs — and missed the target entirely. Worse, when the contingent returned to Wattay, two of the aircraft were found to have bullet scars on them.

Mindful of the diplomatic embarrassment that would arise should an American-piloted T-28 be downed, Ambassador Unger was reluctant about using them again. (Over the ensuing years, Air America pilots continued to fly T-28s under special circumstances, such as search-and-rescue operations. This programme was finally dropped in 1967.) Already, an alternative was in the works. Just like three years earlier, the RTAF had already agreed to provide a contingent of Thai volunteers. Codenamed the *Firefly* project, the first group of five Thai pilots arrived on May 27 at Udorn. Dropped from RTAF rosters for six months, they were certified by the *Waterpump* instructors by the end of the month.

On the morning of June 1, the five Thais flew to Vientiane. Accompanying them were two *Waterpump* advisors, who established a makeshift Air Operations Center (AOC) at Wattay. Four of the five Thais boarded T-28s and departed for the Plain of Jars. Two truck kills later, they returned from a successful baptism of fire.

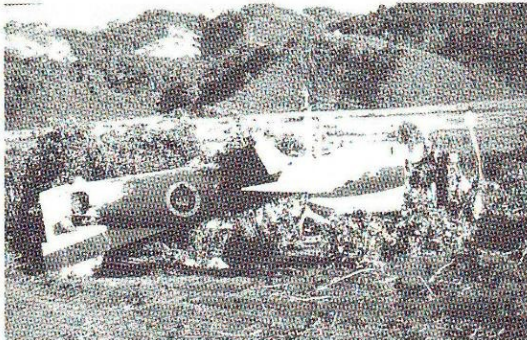
From this auspicious start, the *Firefly* programme became an important element in the government's arsenal. Quickly, a division of labour was established. Whereas the RLAF concentrated its attention in southern Laos (the RLAF headquarters had shifted to Savannakhet in mid-1961), the *Fireflies* handled all T-28 operations over northern battlefields. While the RLAF answered to a Lao chain-of-command, the *Fireflies* were controlled exclusively by the US-manned AOC, which took its targeting orders from the US Embassy.

In short order, the *Fireflies* suffered losses. On August 14, a Thai-piloted RT-28 was shot down by 37mm fire. Four days later, the senior RTAF liaison to the programme, Lt Colonel Tavashi Viriyapong, was downed while making a fact-finding tour of the battlefield. That same day, another Thai-piloted T-28 strayed over the North Vietnamese border and was shot from the sky.

War over the Trail

The northeastern section of the kingdom was not the only battlefield in Laos. In late August 1964, the US began to contemplate air strikes in southern Laos along the so-called Ho Chi Minh Trail. Actually an interlocking series of footpaths and dirt roads, the trail was the primary logistical corridor through the Lao 'panhandle' that linked North Vietnam to the fast-expanding war in South Vietnam. While Washington wanted the trail to be cut, election considerations made it necessary for the first strikes to be conducted by the RLAF.

In late September, Ambassador Unger presented the RLAF commander and the Lao Prime Minister with a list of trail targets to be hit by Lao T-28s. Both offered their consent to the plan. Accordingly, on the morning of October 14, three RLAF flights left Savannakhet for targets near the Mu



A Lao-marked T-28 wreck at the end of the Nakhang runway, 1965. At the controls was an Air America pilot who had been participating in a search-and-rescue operation over northeastern Laos; he emerged unscathed. (via Author)

Gia pass along the eastern Lao border.

After the T-28s returned, US reconnaissance jets flew post-strike analysis sorties. As they crossed the region, communist gunners fired back. Using this as a pretext, the administration of President Lyndon Johnson in early December approved retaliatory strikes from US aircraft to suppress anti-aircraft fire. With the consent of the Lao Government, the first US armed sweep was conducted on December 14. From that moment on, though the RLAF continued to periodically bomb the trail over the ensuing years, US air power would dominate aerial interdiction along the Lao panhandle.

Fits and Starts, and More Fits

The year 1965 opened with a bang. A few weeks after the New Year, an electric circuit on a T-28 gunpod at Wattay shorted out; the gun began to fire, sparking an explosion. The chain reaction destroyed most of the RLAF on the ground.

The destroyed aircraft were soon replaced from US stocks. There was a difference, however. From that point forward, a fixed amount of T-28s were now set aside specifically for use by the *Fireflies*. Shutling between Udorn and Wattay, these aircraft were not counted in the official RLAF inventory. Some of them were equipped with guide rails on the side of the fuselage which could accept placards with RLAF roundels. Increasingly, however, the Thai-piloted aircraft flew without any national insignia.

The Thais needed their own aircraft because the *Firefly* programme was fast expanding. By the spring of 1966, some 23 Thais were being contracted for six-month tours. During that time, they were required to fly at least 100 combat sorties. With these quotas over their heads, the Thais, when compared with the RLAF, flew more missions with fewer aircraft. In March, for example, the *Fireflies* flew an average nine aircraft a day, chalking up 289 sorties for the month. By comparison, the RLAF, with some 20 T-28s at its disposal, recorded just 172 missions.

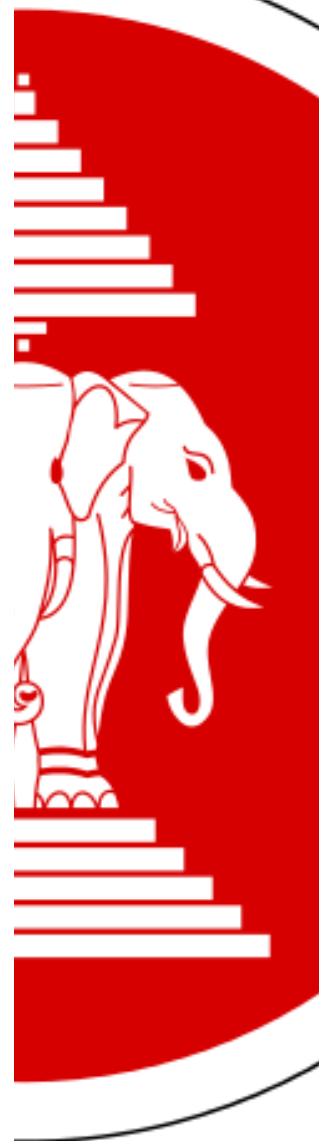
Not only were the *Fireflies* more active, but they were more accurate. This was because they were required to use either Forward Air Control (FAC) spotter aircraft or locals in the backseat of the lead fighter in order to direct their strikes. (Until the spring of 1966, the FAC aircraft were civilian aircraft — often belonging to Air America — which flew under contract with the US Embassy. In October 1966, the USAF began providing O-1s — the L-19 redesignated — for this purpose. While bearing RLAF markings, these O-1s flew with American pilots who went by the callsign *Raven*.) The RLAF, draping itself in a blanket of patriotism, refused foreign advice and insisted on using grid co-ordinates based on outdated intelligence.

The RLAF had other problems, chief among them its flamboyant commander, Thao Ma. Of mixed Lao-Vietnamese heritage, Ma had entered the ANL prior to independence. Impressing the French enough to earn a slot at the ANL Officer's Academy, he entered the army's airborne battalion upon graduation. Remaining with the paratroopers until 1957, he then volunteered for the aviation branch. After checking out in the L-19 at Wattay, he was sent for T-6 training in Morocco, then twin-engine instruction in France.

Returning to Laos in May 1960, Captain Ma initially flew transports. Because of his prior T-6 experience — and his loyalty to countercoup leaders then massing at Savannakhet — he was rewarded that December by being selected to lead the four-man group headed for T-6 gunnery instruction at Kokethiem. Upon his return in January 1961, the newly-promoted Major Ma was named the first commander of the new RLAF.



A USAF major prepares to board a T-28 at Wattay, July 1966. By that time, members of the US Air Attache's office had received permission to fly weather reconnaissance missions over northern Laos. During such sorties, they used the same T-28s allocated to the *Fireflies*, the only difference being placards with miniature USAF markings out on the sides of the fuselage.





WINGS OVER THE LAND OF A MILLION ELEPHANTS

Military Aviation in Laos 1949-75—Part 4

Almost immediately, he became problematic. During the first week of February, for example, he threatened a coup if the army carried out plans to move the RLAf headquarters from Wattay to Savannakhet, apparently out of concern that the air forces would become too far removed from the centre of power (the headquarters did move to Savannakhet by mid-year).

Later that year, after yet another promotion, Ma refused to co-operate with his US advisors, openly professing his wish that all foreigners — North Vietnamese as well as Americans — depart Laos. He was also decidedly unaggressive, rebuffing US suggestions for him to use his T-6 fleet against communist targets in the Lao 'panhandle'.

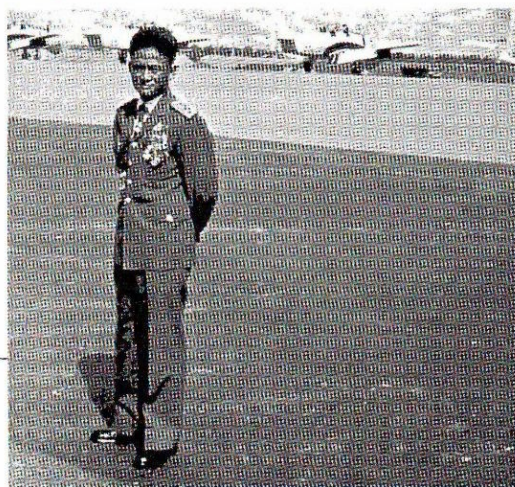
By 1963, however, Colonel Ma had undergone a complete transformation in character and political outlook. By the time the US delivered the first T-28s that August, Ma was fiercely pro-US and a tiger in the cockpit. Promoted to brigadier general in January 1964, he pioneered the first air strikes against the Ho Chi Minh Trail.

While proficient over the battlefield, Ma was ill-suited for skirmishes in the cut-throat world of Lao military politics. Sympathetic to fellow southern officers, he fell out of favour with the more powerful crowd of northern generals — all of whom began to plot against the aviator. On July 3, 1965, as he was leaving a party at the US Air Attaché's Vientiane home, the Jeep in front of him exploded after hitting a mine. When Ma blamed army rivals, most US officials agreed.

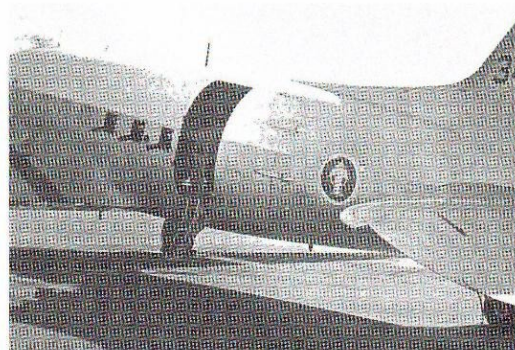
Relations further deteriorated in late 1965 when the General Staff ordered Ma to transfer three newly-delivered C-47s from Savannakhet to Wattay. Knowing they would be used to haul contraband, Ma refused. The generals struck back by limiting the next batch of RLAf promotions — which Ma doled out to keep the loyalty of his pilots — to just one captain and one lieutenant.

In early May 1966, the army hit again — this time paying off the RLAf chief-of-staff to stage a mutiny with several T-28 pilots. As the internal insurrection kicked off, Ma secluded himself in Savannakhet, refusing orders from the General Staff to come to Vientiane. Following this rebuff, the generals loudly charged the RLAf commander with insubordination. To ease tensions, Ma was visited on May 12 by US Ambassador William Sullivan, the finance minister, and the army commander. By then, the General Staff was insisting that the RLAf move its headquarters to Vientiane and Ma turn over control to the chief-of-staff. Backed into a corner, Ma reluctantly agreed to turn over temporary command to his disloyal chief-of-staff effective from June 5. He also agreed to shift some personnel to Wattay by the end of the month.

Despite these concessions, Ma was far from finished. That night, he began secretly plotting with several key southern officers. For five consecutive nights, they drafted plans for a show of force against Vientiane. According to their scheme, Ma would stage a rebellion at Savannakhet air base on June 4, one day before he was to relinquish command. As it was, the impatient Ma launched two days early. While one infantry regiment ringed the airfield in a show of support, the other conspirators remained silent. Losing



General Thao Ma, RLAf commander, poses at Wattay in 1966.
(via Author)



The first RLAf AC-47 arrives in September 1969. This aircraft, along with all subsequent gunships, was repainted in the standard USAF camouflage scheme. (via Author)

momentum, the insurrection fizzled out within 48 hours.

Following this, Vientiane was livid. The US Embassy was irritated, too. Without support, Ma agreed to divide the RLAf. Accordingly, he would be reduced to Tactical Air Force commander with the T-28s, while General South, the pre-1961 aviation commander, would take over as chief of the new Military Airlift Command. To further restrain Ma, Vientiane insisted that he leave his Savannakhet powerbase and temporarily go to Luang Prabang. Agreeing to this, he took a dozen T-28s and 30 of his most loyal pilots. From there, they began flying combat in the north, while the *Fireflies* handled sorties over the northeast.

Despite this rebuke, it was not long before Ma was plotting again with his fellow southerners. Their scheming took on a new sense of urgency in early October when the General Staff announced plans to further dilute Ma's position by making him commander of a proposed Combined Operations Centre — a Vientiane desk job that would deprive him of the T-28s.

Seeking a forceful response to this latest announced demotion, Ma and his co-conspirators found a window of opportunity during the third week of October. During that time, the army commander was set to spend the night in Savannakhet during a southern fact-finding tour. According to Ma's plans, his cohorts would kidnap the commander. Meantime, his loyal pilots would strike military targets around Vientiane. After that, a rebel infantry regiment would be airlifted from Savannakhet to the capital.

At dawn on October 21, Ma began his portion of the coup. Eight T-28s staged from Savannakhet toward Vientiane. At 0830 hours, they began dive-bombing the capital. Two ammunition depots were hit, as well as the army's regional headquarters and the General Staff building. Some 36 soldiers were killed and another 25 wounded.

As the strikes were taking place, Ma took to the radio from Savannakhet and announced that the army commander was in custody. However, this was not true. At the last minute, the others had backed out of the coup. Alone, Ma readied a second flight of T-28s to depart for the capital. Before they could leave, Ambassador Sullivan and his British counterpart flew to Savannakhet and counselled the rebel aviator against another attack. Reluctantly, Ma, 12 pilots, and several dozen RLAf technicians boarded a dozen T-28s and a C-47 and set off for Udorn. Taken into custody by Thai officials, they were kept in prison for eight months before being granted political asylum.

Painful Recovery

Back in Laos, the RLAf was never the same again. Once more appointed commander of air assets, General Sourith proved to be as lacklustre as ever. His headquarters was shifted to Wattay, from where his fellow generals were able to misuse RLAf transports by smuggling gold, opium, and paying passengers. So blatant was the abuse that Ambassador Sullivan in 1968 refused to supply five more C-47s already in the pipeline for delivery.

The RLAf T-28s were having trouble, too. After the Thao Ma coup, the *Fireflies* had resumed responsibility for air support throughout northern Laos. In late 1967, however, one of their aircraft accidentally struck a government outpost that was under attack. Following this, the army refused further close air support from the Thais. To compensate, the RLAf scrounged seven T-28s from southern Laos and deployed them to Luang Prabang. To assist, US advisors were assigned to an AOC at that air base. However, the Lao fighter pilots insisted on striking target boxes instead

MARCH/APRIL 1998 No.74

See June/July Newsletter for next part.

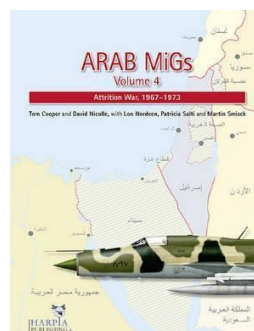
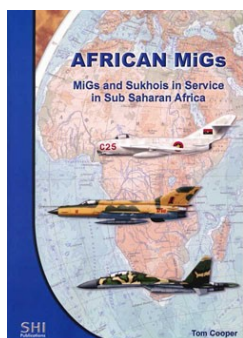


MEMBER SPOTLIGHT—TOM COOPER

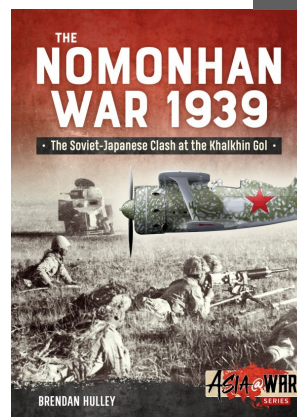
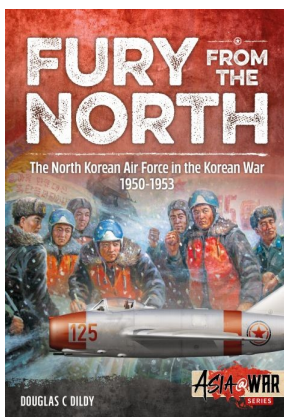
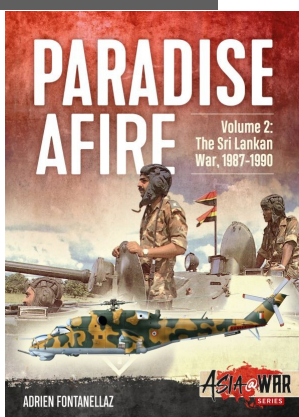
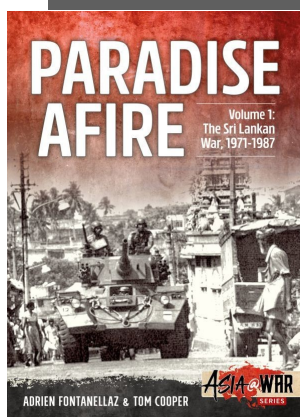


Tom Cooper is an Austrian aerial warfare analyst and historian. Following a career in worldwide transportation business – during which he established a network of contacts in the Middle East and Africa – he moved into narrow-focus analysis and writing on small, little-known air forces and conflicts, about which he has collected extensive archives. This has resulted in him acquiring a specialism in Middle Eastern air forces (including Egypt, Iran, Iraq, and Syria), and various African and Asian air forces. Some of his early works include the two-part volume “African

MiGs”, and the magnificent six-part volume “Arab MiGs”. He hosts the ACIG forum which is unsurpassed as a source for contemporary military aviation information. As well as authoring and co-authoring more than 40 books and over 1000 articles, and working as a regular correspondent for multiple defence-related publications, Tom has played a crucial role in envisaging, organizing and realising numerous major research projects about the operational history of military aviation in Africa, the Middle East, Southern Asia, and the Far East. Since 2017, he has been working as series editor for the [Africa@War](#), [Asia@War](#), [Europe@War](#), [Latin America@War](#) and Middle [East@War](#) book series, for Helion & Co. in the UK.



And here's a small selection of Helion's @War series, edited by Tom.



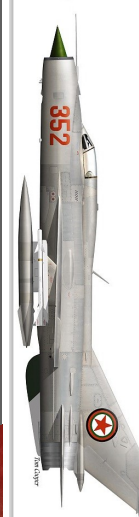
A small sample of Tom's many thousands of aviation artworks



DNAAF MiG-17 003



DNAAF MiG-17 102



DNAAF MiG-17 352



CHANGE ALLEY (Members' Wants)

**Looking for a particular "hard-to-find" Asian aircraft kit or book?
Let me know your needs and I'll put an advert for you here.**

Stephen is looking for a 1/72 kit of the Pilatus PC-7. The Planet Models kit is rather too pricey for him and he can't get hold of an Aeroclub one. As a result, he's toying with the idea of scratch-building one. Does anyone have a reasonably priced 1/72 kit for sale or a set of drawings that he could borrow?

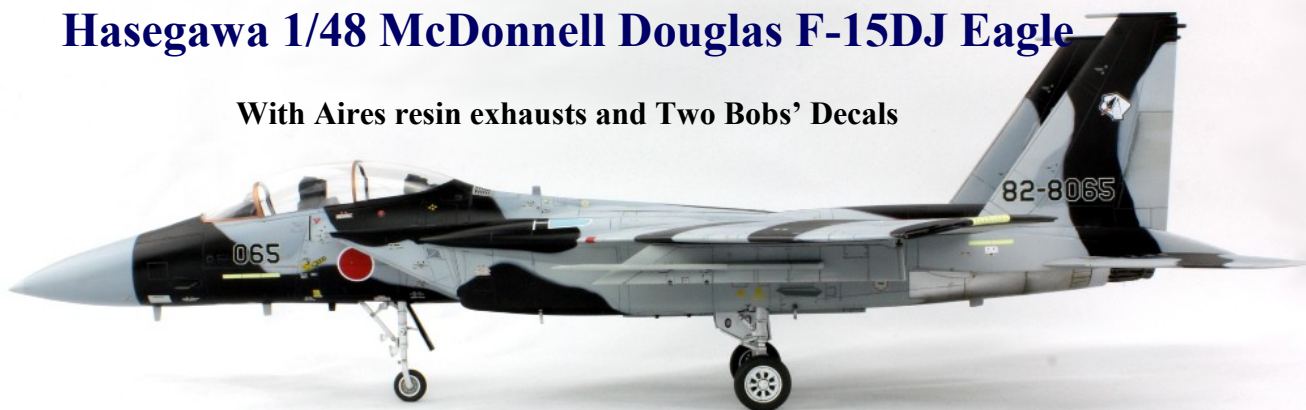


**If you have any of the items requested, please contact me and I'll put you in touch with the advertiser.
PLEASE NOTE: This section is for aircraft/books connected with Asian aircraft/air forces only.
It is NOT for commercial organisations. Please contact me for details to advertise your products/services.**

Click the image for an amazingly detailed build by member Jon Bryon

Hasegawa 1/48 McDonnell Douglas F-15DJ Eagle

With Aires resin exhausts and Two Bobs' Decals



Poole Show 13th April

Milton Keynes ModelKraft 28th April



NEW MEMBERS

We welcome the following 21 new members: Asrar Ahmad from Malaysia; Greg Greene, Greg Kozak, Sean McKee and Phil Pignataro from the USA; Gerard Gielis from the Netherlands; Hizkia Steven from Indonesia; Gary Markham and Paul Dunne from Australia; Pranay Kumar from India; Knut Erik Hagen from Norway; Duc Duy Nguyen from ?; Tan from Singapore; Gary Madgwick, Huw Morgan, Robert Stinchcombe, Roger Penny, Marcus Camfield, Antonio Cruz, Sorin Iacob, and Kevin Klumpje from the UK. **This gives us a total of 259 sign-ups!**



RF/5E ROCAF

Modelled in 1/48 by Sheng Fong



mdp
mr decal paper



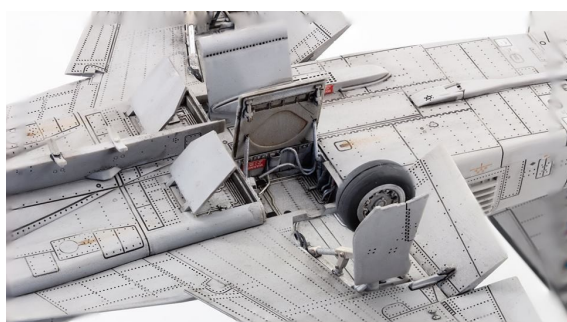
The kit I used was AFV's 1/48 RF-5E. The two-tone paint job was achieved by giving a base layer of Tamiya XF19, then masking off parts of the camouflage that is of a darker grey. I then applied a coat of the following mix: 4 parts of XF-2 mixed with 1 part of XF19. Panel lines were achieved by applying Tamiya black accent panel lining and removing excess with cotton swab soaked in enamel thinner. The whole model is covered in multiple layers of Tamiya clear gloss before applying decals and finally a few

layers of Mr Hobby's Mr Super Clear Matte. I replaced the kit's clear plastic HUD with clear plastic film cut-out to achieve the thin glass look. I heated up spare plastic sprues to create the plumbing seen in the wheel wells and cockpit. I used masking tape to replicate the belts and buckles.



I didn't come across many difficulties in this kit. They were limited to: dashboard cover between the controls and the HUD has a

tiny gap that needs filling. The left and right halves of the fuselage pieces are hard to align and glue together, the result often requires sanding and putty at the nose area, where lots of riveting details is going to get lost in the process and will need to be re-riveted. The trailing edge of the wings, the vertical and horizontal stabilisers look too thick and need to be sanded thin. **Sheng Fong**



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A Pictorial History of MiGs in Indonesia Part 4—MiG-21 Fishbed

A Series by Mick Burton



The Angkatan Udara Republik Indonesia went double-supersonic in 1964 when 18 MiG-21F "Fishbed-C" fighters arrived from Czechoslovakia for use by 14 Squadron, 300 Wing, of the AURI, this perhaps being both the pinnacle and finale of the country's aviation aspirations of the Sukarno era. The acquisition was as a counter to the Hawker Hunter F.6's operated by the Dutch Air Force in Borneo and they were supplied with a number AA-2 "Atoll" (K-13A) air-to-air missiles. Some of these aircraft were apparently used by the naval air arm, but to date, as with the MiG-17's and MiG-19's, no photographic evidence has been seen to date. Surprisingly no two-seater MiG-21U "Mongols" were delivered. The AURI's use of the MiG-21 was fairly short-lived as the last flight took place in 1967; although a few aircraft were preserved mounted on pylons and there is at least a single airframe in the force's museum, most of the aircraft were apparently sent to the USA in exchange for P-51D's and B-26B's.

The MiG-21's were operated in their delivery natural metal scheme with the standard practice of wearing the red and white pentagon on the upper wings, lower right wing and behind the wings. The legend AURI occupied the left lower wing (at right angles to the direction of flight contrary to what has been drawn in published profiles and on decal sheet instructions) and the serials carried on the front fuselage with the letter "F" behind the fuselage pentagon. Some aircraft received some decoration in the form a red lightning bolt along the fuselage (2160 being one of them), and, although not seen on service aircraft so far, squadron markings on the fins around the national marking flash. Serial 2167 has been depicted in drawing and decal form with a pale grey upper surface with a yellow trim to the number. One aircraft, 2158, was given a camouflage in pale blue, light stone and grey, but most likely it had been withdrawn from use at the time, and now is mounted on a pylon in country carrying a much darker combination of these colours.

Known serials are 2153, 2155, 2156, 2157, 2158 (preserved), 2160 (Museum exhibit), 2161, 2164 (preserved), 2166, 2167 (preserved), 2168 and 2170.

This concludes the history of Mikoyan and Gurevich aircraft in service in Indonesia, but there are many gaps, especially of their use by the Indonesian Naval Air Arm, so if anyone can enlighten this author with further information please contact the Editor.





Flying the Helio Stallion—Part 1

By Gene Smith - Reprinted from Air Progress Magazine

Powered by a Pratt & Whitney PT-6A-27 680 shp turbine, the AU-24s cost the government \$292,000 each in 1972. Since then, the cost of engines has jumped by \$50,000. Unlike the one-off civilian certificated Stallion, which had a certificated gross weight of 5,100 pounds, the AU-24s were flown by the military at 6,300 pounds gross at a 3G load. There are over 300 minor modifications to the military bird, mostly to fit it for a spotter/ground attack role. That's why it took Davis over a year to get the airplanes re-certificated in the standard category. During that time, I flew the AU-24 twice, once from the right, and once from the left seat, and found much that was familiar. The business office is almost identical with the civilian H-550A, a gray panel with torque-meter, tachometer and flowmeter prominently displayed. There is the same machined aluminum "T" handle on the power lever, a hefty bangalore torpedo-shaped affair hefty enough to chin yourself on. The stick was purely military, a great curved club with a shaped grip, festooned with buttons to control radios, guns, bomb and rocket releases.

Starting involves fuel transfer pump off, fuel shut-off (red knob) on, starting control on full increase, generator switch off, battery on, boost pump on, and at least 5 psi on the fuel pressure gauge. At that point you flip the combination starter-ignition switch on, watch the tach wind and the battery drain and when the PT6A has stabilized for five seconds on at least 12 percent, move the starting control to low idle.

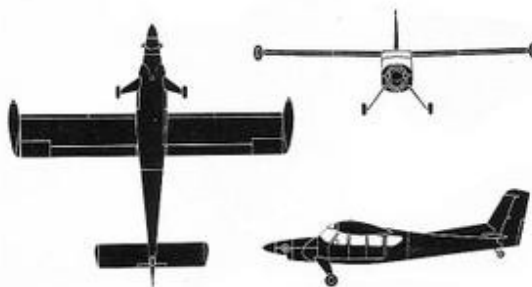
The ignition switch must be held "on" after light-off until the tach stabilizes at low-idle, roughly 35 percent. Max allowable starting ITT temperature is 1090° C, and should decrease promptly as the engine begins to idle. Finally, cut-in the generator at 65 percent rpm to recharge the battery, because starting takes a lot of juice. And you're in business.

Actually, starting is simple; it just sounds complicated. Davis contends it's easier to start than a piston engine, and if you boil it down to switch-flipping and button-pushing, it is. But the Helio ancillary systems get more frequent use than normal airplanes, and there are a lot more gauges to watch. Different ones, anyway. There's some retraining required. The big three-bladed paddle prop out front moves lazily around, slowly picking up speed as the turbine lights off, and by the time the engine has stabilized, the prop blades have come out of feather and gone to work. Fortunately cabin soundproofing is excellent, because outside, close-up, the pervasive whine of the machine is almost unbearable.

The droop snoot slopes away ahead of you, the massive windshield wraps around and over you and, since your eye level is nearly nine feet in the air, the effect during taxi is like riding in a space-age elephant howdah.

At the far end of the runway, the before take-off checklist consists of mainly scanning the forest of instrument faces. Basically the Stallion is a very simple airplane. The beauty of a turboprop is, you set the prop governor for desired rpm (generally 2,000-2,100) and forget it. From then on, you do all your flying by advancing or retarding the power lever.

To me, there has always been a curious lack of feel to the Stallion, both on the ground and in the air, and the military version is no different. I remarked that, although just about any pilot could check out and fly the plane in an hour or two, it would probably take 50 hours before he would. Davis quickly agreed, but he added a couple of exceptions: "Any competent tail-dragger pilot," he said. And he put the learning period at about 100 hours. Davis should know. At this moment, he probably knows more about the AU-24 than any other single man in the world. Not only did he engineer the design changes needed to make them suitable for civilian use (including the tip tanks and a 700-pound increase in allowable gross weight) he also flew the test program, which was extensive, exhausting sometimes a bit hairy and involved one forced landing. "One is enough though," he declared three weeks after finally obtaining the airworthiness certificate, "I wouldn't care to go through it again. It was an awful long project." We pulled onto the active, locked the tail-wheel, set 20 degrees of flap and advanced the power lever. The percent power meter, which had been hovering at 80, leaped frantically up the scale, reaching for 100. The engine whine reached a hellish crescendo, and you could feel the airplane fighting to move. The Stallion has excellent, powerful brakes—but even with them locked, you can almost skid the wheels on dry-paving. On wet paving, it's a cinch. I released the brakes and the airplane lunged forward. We rolled about 100 feet and jumped off the ground like a frog off a hot rock. Unlike the frog, we kept going. We weren't trying to set any records—climb angle was only about 15 degrees, and the Stallion is cleared for a max continuous deck angle of 34 degrees—but, with only two aboard and 1,000 pounds of fuel, we registered a sustained 2,800 fpm climb rate at 90 knots. I flew the original 550A half a decade ago, and as the AU-24 pulsed in my hands it all came flooding back to me.



Just watch this baby get airborne—wow!

Asian Aircraft Markings A History

19. Indonesia



1946-49



1949-54



1954 to date



1954 to date



1954 to date



Lo-viz current

20. Philippines



1945 to date



Lo-viz current

21. Hong Kong



Royal Hong Kong Auxiliary Air Force

1946-1970



1970-1997



Government Flying Services
1997 to date

Ref: Military Aircraft Insignia of the World—Cochrane/Elliott



Flying the Helio Stallion—Part 2

By Gene Smith - Reprinted from Air Progress Magazine

N9991F was just like N9950A with a few new instruments and tip tanks. There was the same peculiar lateral response to control inputs—wiggle the stick rapidly to and fro, a foot each way, and the big bird barely quivers in the air. But slam the stick over and hold it there, and the AU-24 will roll so fast it'll leave your eyeballs hanging in space. That's because the Stallion, like all Helios, uses a combination of conventional ailerons and retractable spoilers, and the latter, deploying after the ailerons, are what really do the number.

There was the same iron-jawed brute feel to the elevator, a result of the Houdaille viscous damper (which resists rapid control movements and any reach toward the travel limits) and of the stick force augmentation system. The SFAs provides up to 55 pounds forward push at 42 knots IAS; sometime up to 100 under certain conditions—and leaves a newcomer to the Stallion feeling he's been suckered into an arm-wrestling match with King-Kong.

There was the same need to keep the controls coordinated. The Stallions are rudder airplanes. The wing spans 41 feet and the bird is 39 feet, seven inches long and the fin and rudder are eight feet high. That's a lot of mass moving in the sky, and at low speeds and with the PT6A pumping torque into the 101 inch prop, you can get yourself in an awful mess unless you fly the rudder just right.

In fact, if you fly the Stallion really in the STOL mode—right on the bottom fringes of performance parameters—you are going to be a very busy man. It will require every bit of your concentration. And you will get an awful lot of healthful exercise. It's significant that the Stallion pilot notes, as written by Helio, says: "It should be emphasized here that the Stallion, during take-offs and landings, must be masterfully controlled by the pilot," and goes on to say that any incipient swing demands "immediate corrective action."

However, it's amazing that the airplane is not much harder to handle than it is. A Stallion pilot can expect to go from 680 hp to zero hp to minus something on any trip—which should do weird things to directional control in all three axes. In fact, there's a surprising lack of torque effect in any axis or flight mode to me. Not everyone has felt this way.

Helio claims its airplanes won't stall. And they won't; not really. But you can get some hellacious sink rates. And you can just about run the Stallion out of rudder in the air, holding the nose up under power until it finally swings leftward despite full right rudder.

In 91F you can work the airplane down to 38 KIAS at 60 percent power (450 hp) but at that point it becomes extremely unstable in the roll axis. Hold it there and work the nose just a tad higher and it will finally fall off on a wing.

The FAA defines the stall in these types as the point where they become elevator limited. In both the AU-24 and original 550A, this is about 38 knots, or 45 mph, clean; 36/42 with flaps down.

We didn't do it, since this was a private-venture airplane and not a factory demonstrator, but I knew what Davis was talking about when he says at the break he was almost at the top of a hammerhead. I recalled a similar experience in the 550A. Davis also says with more throttle, you can end up in what amounts to a vertical torque roll, with the airplane tailsliding, corkscrew fashion back down its own flight path. The Stallion is tough, but it's not designed to do aerobatics.

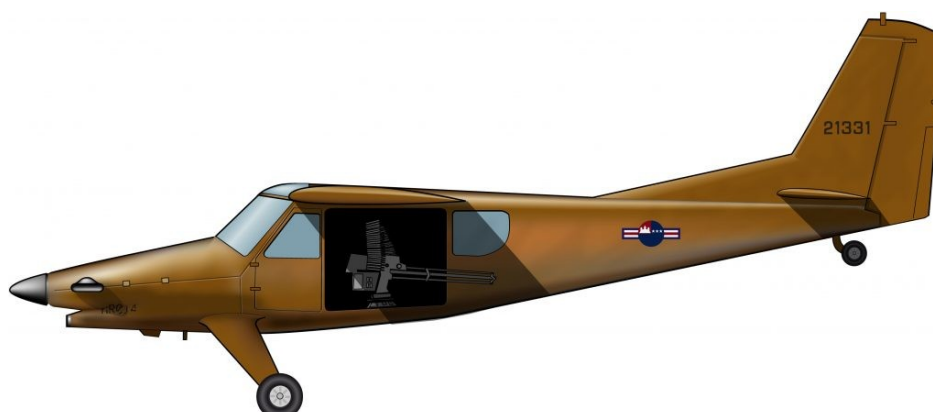
We also tried a maximum performance ground attack, involving a wingover into a 50-degree dive with the prop in deep beta once, but we dropped that because it made Davis nervous about the prop and because he said in practice it wasn't used much in combat due to lateral snaking. We were indicating 80 knots and descending 3,600 fpm.

That's the beauty of a turboprop. Back off the power lever to 30 percent at 100 mph and the prop blades actually begin holding you back. It's like throwing out the anchor.

You don't have to fly the Stallion down at the hairy end of the performance envelope, of course. If you fly it like a normal airplane, that's what you've got. And one with a satisfyingly high degree of performance. This is the way the military flew it, using the STOL ability simply to fly heavy loads safely out of high, hot areas. On the other hand, fly it light and you get impressive speeds. Davis recalls in his flight test program "I've hit 225 knots (260 mph) easy on the deck on a cool day. It'll accelerate to that." He recalled a series of five runs at 50 feet AGL (approximately 1,000 MSL) on a 50-degree day. The plane was timed at 205-210 knots (236-242 mph) on every run, and he added, "Yesterday (July 9, 1978) at 12,500 MSL, I was truing 214 mph on a very hot day during a cross-country over Arkansas. And we've had it to 379 TAS, coming out of 24,000 MSL, indicating 235 knots in about a 30-degree dive, full throttle" during the test program.

Normal cruise is considered to be 206 mph (75 percent power) to 160 mph (60 percent). That's not bad for a single-engine eight-place airplane with a 2,800-pound useful load. And, among other changes, Davis got the official ceiling upped from 20,000 to 24,000 feet and suspects it will go to 30,000 feet. He notes he was still getting 800 fpm rate of climb at 5,800 pounds and 20,000 feet. It's really cheap to fly, too. Fuel costs \$35 per hour, and Davis figures a sinking fund of \$10 per hour on the engine. "You have less maintenance per hour on this airplane than you do on anything else.

Ugly or not, AU-24 or civilian 550A, the Helio Stallion is a thoroughbred performer. And it's a shame that production has stopped. But, if you just can't live without one—well 91F is for sale. And the price? Only \$287,000, a bargain. The first airplane sold for over \$300,000!





Helio Stallion—Close Up





ASIAN HOT SPOTS—1: KOREA AND JAPAN

COMBAT FLEETS



KPAAF

F-5 (Shenyang)	106
F-6	97
F-7	120
H-5	80
MiG-21	26
MiG-23	56
MiG-29	36
Su-7	18
Su-25	34
An-24	1
P-750	3
MD500	84
Mi-2	47
Mi-8	41
Mi-14	8
Mi-24	20
Mi-26	4

ROKAF

F-4E	71
F-5E	158
F-15K	59
F-16C	118
F-35A	(36)
FA-50	60
737 (AEW)	4
Falcon 2000 (EW)	2
Hawker 800 (Recce)	8
A330 MRTT	(4)
C-130	16
CN-235	18
Bell 412	3
CH/HH-47D	9
H215M/AS332	3
Ka-32	7
MD500	25
S-70/HH/UH-60P	28

ROKA

AH-1J/S	76
AH-64E	36
BO-105	12
CH/HH-47D	33
MD-500	251
S-70/UH-60L/P	69
Surion KUH-1	92 (153)
UH-1H	75

ROKN

Surion MUH-1	1 (38)
707 (P-8A) (MPA)	(6)
P-3C/CK	16
AW-159	8
Lynx 99/A	24
S-70/MH-60R/UH-60P	8 (10)
SA-319	10
UH-1H	7

JASDF

F-2A	61
F/RF-4EJ	72
F-15J	155
F-35A	9 (33)
767 (AEW)	4
C-1 (EW)	1
E-2C/D (AEW)	13 (13)
Hawker 800 (SAR)	27
YS-11 (EW)	4
767 (KC-767J)	4
C/KC-130H	15
C-1	17
C-2	6 (14)
Gulfstream IV	5
CH-47J	17
S-70/UH-60J	47 (28)

JGSDF

AH-1S	71
AH-64D	12
Bell 412 (UH-X)	150
CH-47J/JA	63 (2)
MD-500	92
MV-22	(17)
OH-1	36 (112)
S-70/UH-60JA	37
UH-1J	130

JMSDF

EP-3/OP-3C/P-3C	73
Learjet 36 (Recce)	4
P-1 (MPA)	15 (55)
US-2 (SAR)	5
AW-101	12
S-70/SH-60/UK-60	112 (1)

Source: World Air Forces 2019 (Flight International)



Asian Air Arms

encourages you to join

IPMS

THE INTERNATIONAL PLASTIC MODELLERS' SOCIETY

But, why?

IPMS covers not only the UK but also the whole world!

Over 80 clubs in UK (including 2 on-line clubs) plus 55 overseas branches in over 50 countries (from Malta to Venezuela, Russia to Brazil, Australia to China).

Contact these branches for foreign advice!

Like to concentrate your modelling on particular topics?

IPMS has over 70 Special Interest Groups (SIGs) covering every possible subject, such as:

"Battleship", "Formula 1 & Motorsport", "Harrier", "Landing Craft", "Sci-Fi & Fantasy",

"Splash—Flying Boats and Amphibians", "Leopard Main Battle Tank", "Aerobatic Display Teams" etc., etc!

There is a SIG just for you!

And it's free to members!

Like to keep informed about what's going on in the modelling world?

IPMS Magazine is published six times a year with all articles written by IPMS members and is posted directly to your home.

And it's free to members!

Want technical advice on your modelling themes?

There is a Technical Advisory Service for all topics including aircraft, figures, shipping and military vehicles.

And it's free to members!

Hunting for that elusive decal sheet?

IPMS Decal Bank has thousands to choose from—just ask and they'll start searching for you!

And it's free to members!

Lost an instruction sheet and don't know how to proceed?

The Instruction Sheet Library will put you back on the right path.

And it's free to members!

Wish you could attend the biggest modelling show in the world?

IPMS Scale Modelworld event in November covers three huge halls, welcoming thousands of visitors from all over the world to see the very latest releases and enjoy club displays from UK, Europe and beyond.

And it's free to members!

And what will all this set you back?

About one pint of beer a night for 8 nights a year!

Or to put it another way, less than filling your car's tank just once a year!

Adult membership in the UK from just £22! Equivalent to 42 pence per week or 6 pence per day!!

For this you get:

- * **Free** fellowship with the whole international modelling fraternity wherever you travel!
- * **Free** access to all Special Interest Groups and Technical Advisory Services
- * **Free** weekend entry to the biggest model show in the world!
- * **Free** access to IPMS Decal Bank and the Instruction Sheet Library!
- * **Free** IPMS Magazine posted to you six times a year!

And all this for just 6 pence per day!

Asian Air Arms strongly recommends that you join IPMS.

Join here today! <http://ipmsuk.org/membership/membership-prices/>