



Antonov An-2 Colts of the HRZ i PZO 1991-1997



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AIR FORCE SPECIALS

Air Forces of Former Yugoslavia 1991-1997 – Part 1
Croatia & Bosnia

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1. UTVA-75

Serial no. unknown, BiH Army Air Force, undergoing maintenance in Croatia, 1992. Whether this aircraft was returned to BiH forces is unclear. Colour scheme was Light Green and Olive Drab camouflage on upper surfaces with Light Blue undersurfaces. The Bosnian government fleur-de-lys insignia is carried on starboard upper and port lower wings, as well as both fin surfaces.

Air Forces of Former Yugoslavia 1991-1997 Part One Bosnia-Herzegovina, Croatia & Herceg-Bosna

*An Insignia Air Force Special
with 1/72 scale decals*

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Introduction

The break up of Yugoslavia in 1991 into five independent republics led to the creation of eight separate air forces. This book forms the first part of a study of the types of aircraft and camouflage used by these newly created air arms.

All but one of the newly independent states had to attempt to create their air forces from the limited quantity of military and civilian machines that were left in their countries by the departing Federal Yugoslav authorities. The task was made much harder by the United Nations imposed arms embargo that covered the whole of former Yugoslav territory, and a variety of means were used to circumvent this, including the acquisition of aircraft on the arms black market and the hasty conversion of civilian types to carry weapons.

Part 1 covers the aircraft of Bosnia-Herzegovina, Croatia and the Croatian statelet of Herceg Bosna. Part 2, due for release in 1998, will feature the air forces of the Bosnian Serb *Republika Srpska*, Serbian Krajina, Macedonia, Slovenia and Federal Yugoslavia (Serbia and Montenegro).

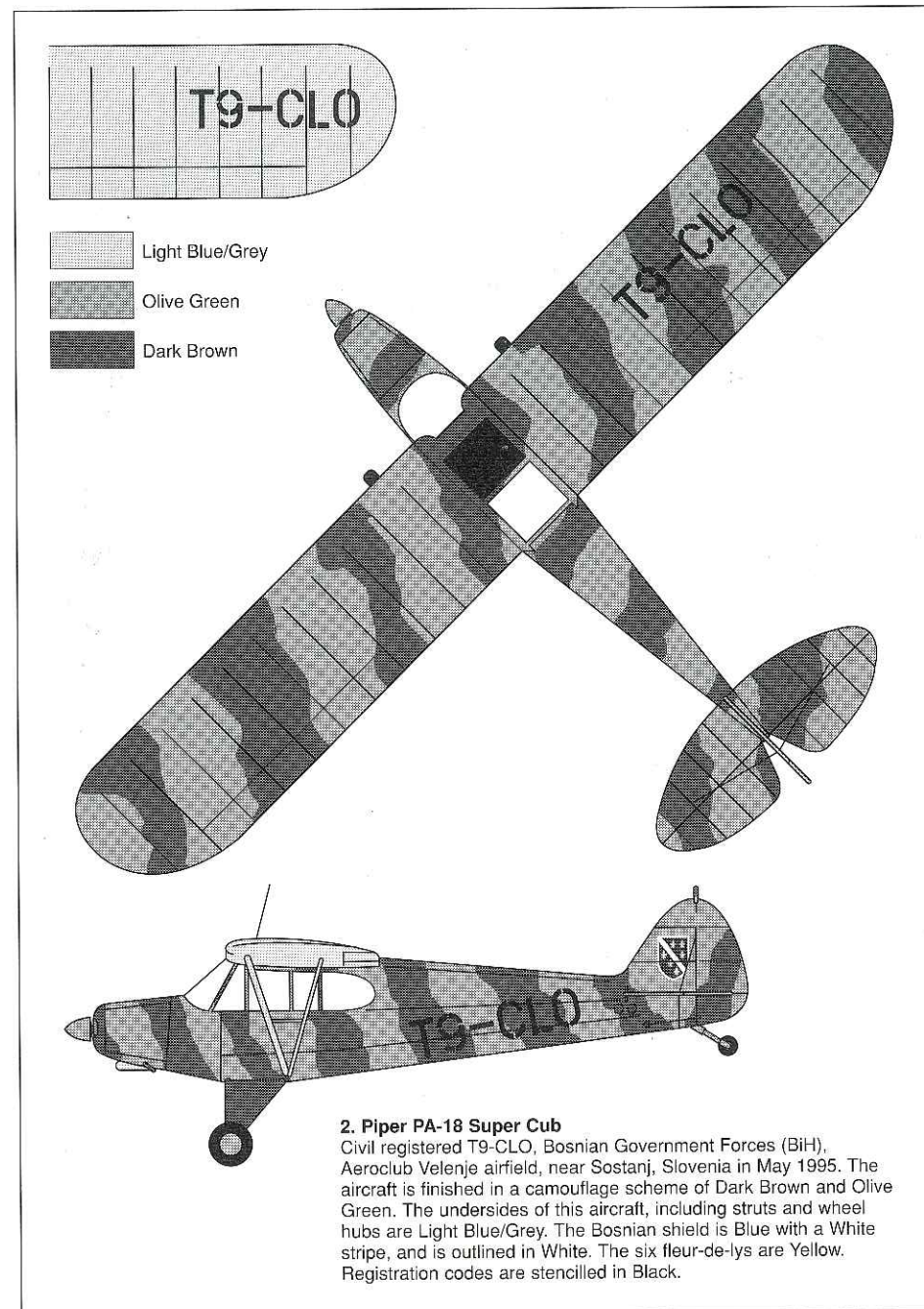


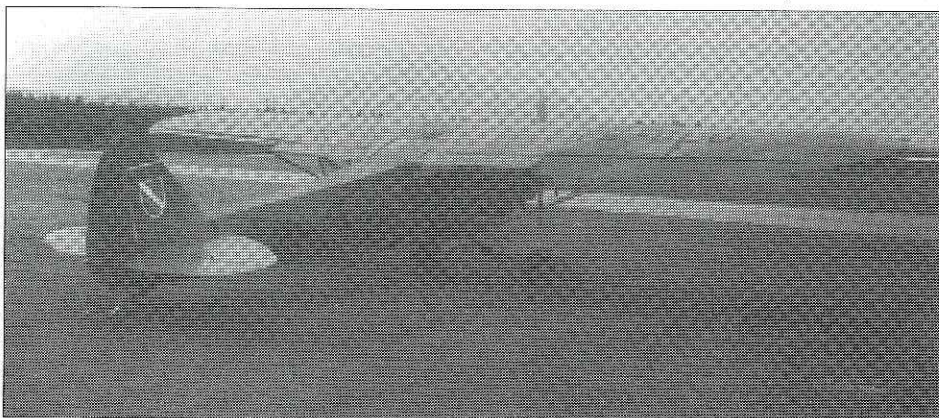
A Bosnian Government Army (BiH) Piper PA-18, with the civil registration T9-CLO, at the Aeroclub Velenje airfield, near Sostanj, Slovenia in May 1995. The Super Cub had been in storage there for the winter of 1994-95.

Bosnia-Herzegovina Army Air Force

The start of the war in Bosnia in April 1992 saw the mainly Muslim BiH Army with virtually no aviation assets. In the early part of the war, during 1992-1993, the Croatian Air Force provided air support for both Muslim and Croat forces. Isolated Muslim pockets such as Tuzla and Bihac also managed to operate aircraft on their own. A Bosnian Army CASA 212, in cooperation with Croatian Air Force Antonov An-2s supplied the Serb besieged Bihac pocket from Pleso Air Base in Croatia during this time, until repairs were needed in Germany. The subsequent Muslim-Croat fighting and the rebellion in Bihac by Fikret Abdic's *Republic of Western Bosnia* led to the cessation of these relief flights.

The BiH Army began acquiring transport helicopters in late 1992, via Slovenia. The first two of these, a pair of Mil Mi-8s, left Zagreb-Lucko Air Base in February 1993 for Visoko and Tuzla. Some large transport aircraft were also acquired in 1995-1996 in Islamic countries, but so far these have not made an appearance in Bosnia, or even gained Bosnian identities. Other aircraft left behind on independence were also





Another view of T9-CLO, showing the camouflage scheme of Dark Brown and Olive Green. The undersides of this aircraft are in Light Blue.



A BiH Army Air Force UTVA-75, shown hangared in Croatia during 1993-94. This aircraft is illustrated in colour on the inside front cover of this book.

utilised, including the ubiquitous UTVA-75 and several sporting/leisure types. A defecting pilot also brought a former Bosnian Serb Gazelle helicopter.

Aircraft known or believed to have been operated by the BiH Army Air Force are detailed in the accompanying table.

The Dayton Peace Agreement of November 1995 saw Bosnia-Herzegovina split into two

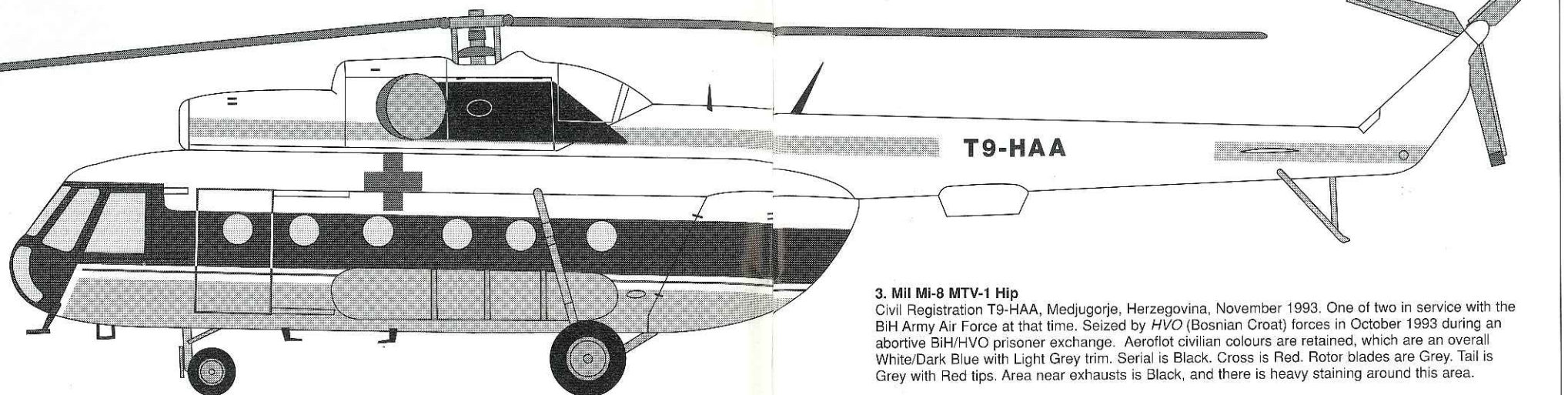
'entities' – the Serb held *Republika Srpska*, and the *BiH Federation*, composed of the Muslim and Croat held areas. The NATO implementation force (IFOR), introduced to oversee the agreement, temporarily halted all BiH Federation military air activity in July 1996 upon the discovery of a Bosnian Mil Mi-8 carrying arms and ammunition to Gorazde instead of its authorised 24 passengers.

Aircraft of the Bosnian Government (BiH) Army Air Force 1992-1997

Type	Serial/Reg.	Colours/Notes
Antonov An-2	–	Retained civilian colour scheme
Bell UH-1H	See notes	Supplied from former US Army stocks, these machines left the USA in November 1996. Their current status is unknown. Serials are as follows: 65-9723, 65-9801, 65-9934, 65-10120, 65-10129, 66-1121, 66-1184, 66-1208, 66-17104, 66-16613, 67-17198, 68-15482, 68-15574, 68-16296, 68-16627.
Bell UH-1V	68-15678	See notes above.
CASA 212	F-GHOX	Retained French registration and overall White colour scheme
Cessna Citation	T9-BIH	Reserved for VIP and government use.
Mil Mi-8	–	Retained civilian colour scheme – carried traces of its former Russian civil registration RA-27085.
Mil Mi-8MTV-1	T9-HAA	Retained civilian colour scheme. This example was captured by Bosnian Croat (HVO) forces at Medjugorje in western Herzegovina in October 1993.
Mil Mi-8MTV-1	–	Retained original Soviet 'Shamrock' colour scheme with Soviet markings painted out. No Bosnian national insignia carried. A total of up to 8 Mil Mi-8 and 17s are believed to have been operated by BiH forces.
Mil Mi-17	–	Retained civilian colour scheme
Motorised glider	–	Type and further details unknown.
Piper PA-18 Super Cub	T9-CLO	Olive Drab and Light Green camouflage on upper and side surfaces with Light Blue undersurfaces
Soko Gazelle	–	Reportedly acquired for the BiH military by a pilot defecting from Bosnian Serb forces. No further details known.
Soko J-20 Kraguj	–	Known locally as <i>The Vampire of the Night</i> , this aircraft has alternatively been identified as a low wing agricultural aircraft of unknown type. No further details are known.
UTVA-66	–	Small Yellow, Green and Dark Brown patches over original pre war scheme of Overall PRU Blue. A former JRV machine, the serial number was 51112.
UTVA-66	–	No further details known.
UTVA-75	–	Small Yellow, Green and Dark Brown patches over original UTVA-75 pre war scheme. This former JRV aircraft was serialised 53194.
UTVA-75	–	Olive Drab and Light Green camouflage on upper and side surfaces with Light Blue undersurfaces
Zlin 526	–	Impressed sporting aircraft.

A quantity of Bell UH-1H and UH-1V helicopters were offered by the USA to the BiH Federation created after the Dayton Peace

Agreement of November 1995, but their current status since leaving the USA at the end of 1996 is at present unknown.

**3. Mil Mi-8 MTV-1 Hip**

Civil Registration T9-HAA, Medjugorje, Herzegovina, November 1993. One of two in service with the BiH Army Air Force at that time. Seized by HVO (Bosnian Croat) forces in October 1993 during an abortive BiH/HVO prisoner exchange. Aeroflot civilian colours are retained, which are an overall White/Dark Blue with Light Grey trim. Serial is Black. Cross is Red. Rotor blades are Grey. Tail is Grey with Red tips. Area near exhausts is Black, and there is heavy staining around this area.

**4. Mil Mi-8 MTV-1 Hip**

Registration number unknown, Zagreb, June 1994. This BiH Army Air Force Hip retains the original Aeroflot civilian colour scheme of overall White/Dark Blue with Light Grey trim. The original Russian civil registration RA-27085 is still partially visible – the RA part of the serial was a sticker which was removed, though an outline is visible. The remainder of the serial has been partially overpainted in Grey. The fuselage cross is Red. Rotor blades are Grey. Tail is Grey with Red tips. Area near exhausts is Grey, and there is heavy staining around this area. The legend 'MI-8 MTV-1' in Cyrillic characters is present in Black under the cockpit.



A BiH Army Air Force Mil Mi-8 MTV-1 Hip in full Soviet-style camouflage at Rijeka, Croatia in February 1994. This aircraft, with the Russian c/n 95822, remained in this colour scheme until shot down over Slunj on 28th May 1995, killing 7 (including the Bosnian Foreign Minister). Colours are Olive Drab, Sand and Light Brown with Pale Blue undersurfaces.

Croatian Air Force

With the declaration of independence by Croatia in late June 1991, the Homeland War (*Domovinski Rat*) against Federal Yugoslav forces began in earnest, after sporadic fighting had begun in early 1990.

Aware of the importance of air power, the Croatian military urgently planned the creation of an air force. During the months of June, July and August, the only aircraft available to the Croats were a few Police helicopters which functioned in medical evacuation and transport roles. During the summer of 1991, Croatian airmen and personnel who deserted from the Yugoslav Air Force (JRV) were quickly incorporated into Independent Air Units (*Samostalni zrakoplovni vod – SZV or SZO*). A military inventory of Croatian aircraft in September 1991 showed that the embryo air force would have to rely upon an assorted mixture of agricultural and light aircraft types, as the departing JRV had withdrawn its equipment. By the end of 1991, the Croatian armed forces had amassed a total of 41 military aircraft.

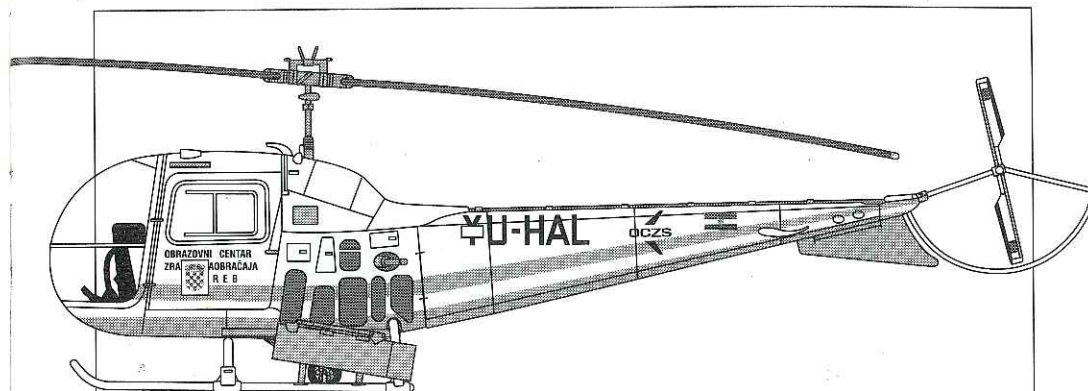
Desperate measures were considered, with ultralights and even vintage museum pieces prepared for service. An Agusta-Bell 47 J-2 helicopter from the Zagreb Technical Museum

was restored to flying condition, and attempts were made to repair a WW2 vintage Republic F-47D Thunderbolt, which was overhauled in the field and repainted in camouflage colours.

Maintenance facilities were available to the Croatians at the ZMAJ depot at Velika Gorica near Zagreb (subsequently renamed ZTC Zagreb).

Initially, aircraft that were gathered into the Independent Air Units were assigned to the command of Croatian Army (HV) or National Guard (ZNG) groups for the purposes of close support and transport. Later, the liberation of the main air bases at Zagreb, Pula and Split gave the newly formed Croatian Air Force (*Hrvatsko ratno zrakoplovstvo – HRZ*) secure bases.

Making up the bulk of the first line Croatian air units during the early months of the war were the venerable Antonov An-2 biplanes (formerly used for agricultural and sporting purposes) and the locally designed and produced UTVA-75 (a reliable primary training type in use with the Yugoslav military and local Aeroclubs). Other types, such as the Piper PA-18 Super Cub, Cessna 172, Cessna 188 and Piper Pawnee, alongside small numbers of more obscure aircraft, performed valuable second line tasks throughout the vital early months of the conflict.

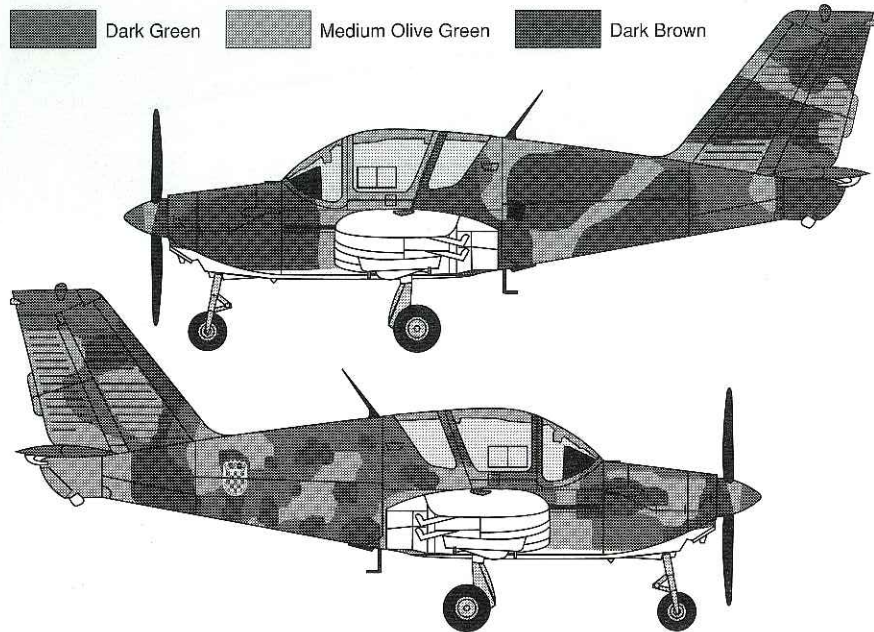


5. Agusta-Bell 47J-2a

This machine (c/n 2091) is shown as it appeared in March and April 1992, after it had been restored to flying condition after years of display in the Zagreb Technical Museum. A locally produced rocket pod capable of carrying 6 'Mighty Mouse' rockets has been attached to the port landing structure for firing trials. The helicopter is finished in an overall White scheme with Light Blue trim. The pre-war markings remain in Black, and consist of the former Yugoslav civil registration YU-HAL and the legend 'OBRAZOVNI CENTAR ZRACNOG SAOBRAĆAJA ZAGREB' (*Education Centre for Air Transport, Zagreb*). The fuselage also carries an OCZS logo. Croatian shield and flag stickers have been applied to the cabin door and tail boom to show the helicopter's new status. A photograph also exists of this machine devoid of all markings, except the Light Blue trim on the tail boom, whilst hanged at the eastern town of Osijek's Aero-Club.

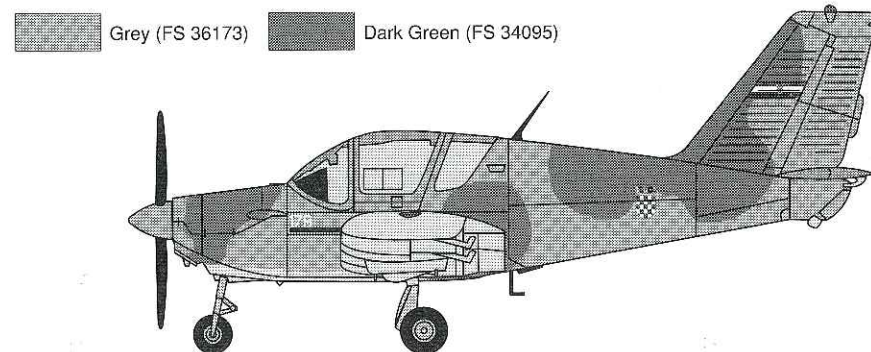


An UTVA-75 of the HRZ whilst hanged at Grobnik Aero-Club near Rijeka during 1992-93. This machine, serialised '169', was camouflaged in a similar style to aircraft of the Federal Yugoslav Air Force. Colours are Dark Grey and Dark Green, with PRU Blue undersurfaces. The serial number has been derived from the former JRV code 53169. The civil registration YU-DGH was also formerly carried. A side view drawing of the similarly marked '179' can be seen on page 13.

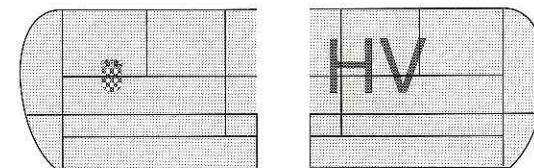


6. UTVA-75

Formerly registered YU-DHF (shared JRV serial 53191), this UTVA-75 is shown as it appeared while being operated by Croatian Army (HV)/Croatian Air Force (HRZ). Hastily camouflaged in the field, this aircraft has a different pattern on both fuselage sides. Colours used are indicated on the key above. Undersurfaces for this machine remained in the pre-war Gloss White scheme normally applied to these training machines. Before the outbreak of war, YU-DHF belonged to Slavonski Brod Aeroclub, and it is likely that this machine saw most of its action on the Eastern front. The unofficial HV sticker (illustrated on page 47) is only present on the starboard fuselage. Other colouring details applicable to all the UTVA-75s in HV/HRZ service are as follows: Propeller blades – rear surface is Black, front is Aluminium Grey with White/Black/White tips; cockpit interior is Dark Grey; nosewheel leg and wheel discs are Aluminium, unless noted otherwise; cockpit instrument coaming is Dark Green (FS 34108).

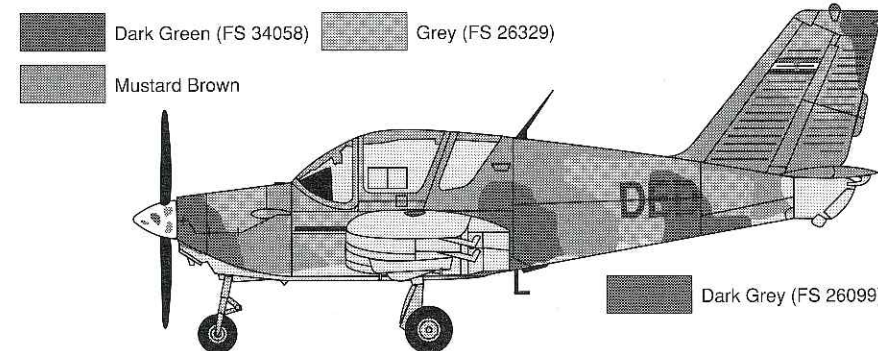


Scrap view of lower surfaces of '169', showing Red 'HV' (Hrvatska Vojska) and Croatian shield



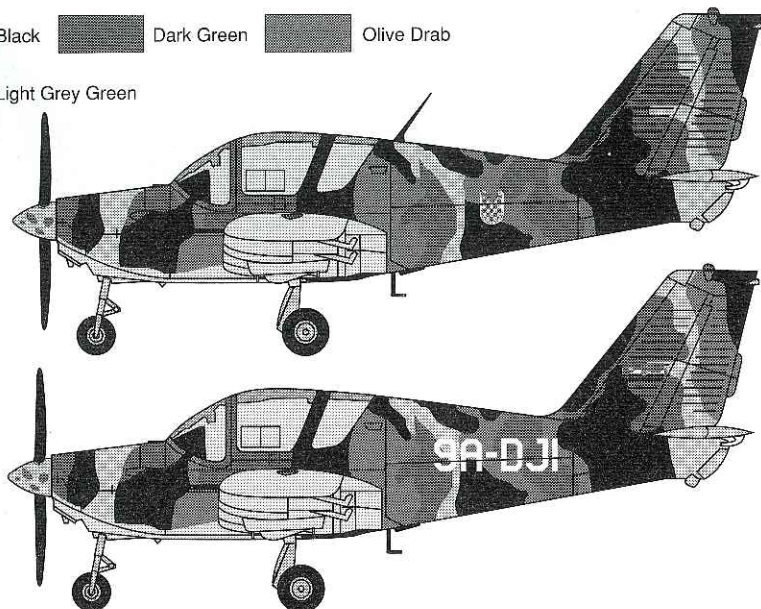
7. & 8. UTVA-75

Shown above and on the bottom of page 12 are two UTVA-75s based at Grobnik Airfield (near Rijeka), in May 1992. These two aircraft were formerly registered as YU-DGB (JRV serial 53169) and YU-DGS (53179) and were based respectively at Rijeka Aeroclub and Otocac Aeroclub. Their White military serials worn in 1992 reflect the original JRV serials. Undersurfaces are Blue (FS 25190). Croatian interim insignia, consisting of the Croat shield on the fuselage, and a national flag tail stripe, are carried. Both these aircraft currently remain in service with the HRZ, and have been repainted in civilian style training colours.

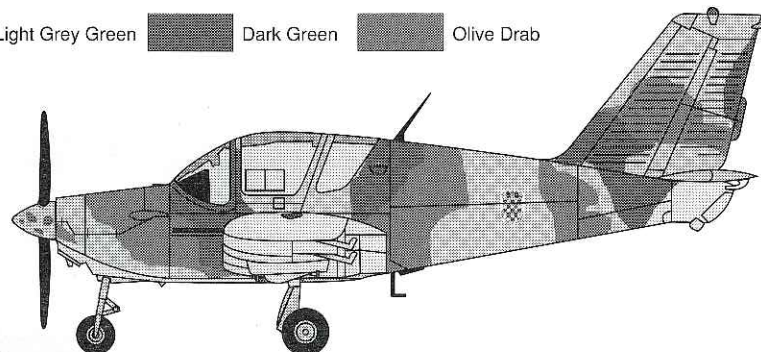


9. UTVA-75

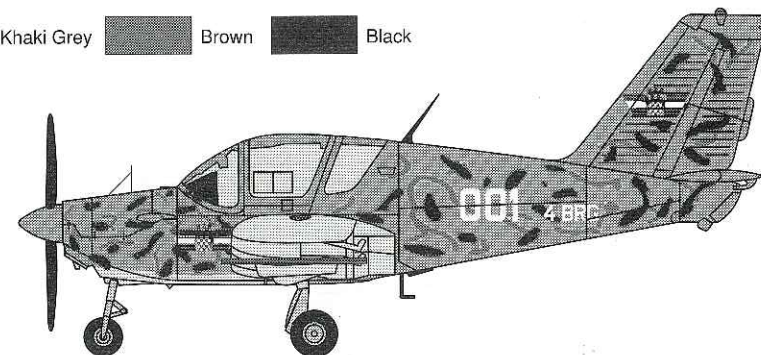
This UTVA-75 is depicted as it appeared whilst undergoing maintenance at ZTC (formerly ZMAJ) near Zagreb. Formerly belonging to Zagreb Aeroclub, the aircraft carries a three colour camouflage scheme as indicated above, with a fourth colour used in a panel on the lower nose. Undersurfaces are variously reported as Pale Blue or Light Grey. The undersurface colour is also used on the fuselage area below the tailplane. The spinner is White with mottle camouflage using the Dark Green, Grey and Mustard scheme shown. The plane carried a Yugoslav registration of YU-DED (JRV serial 53107), part of which remains on the fuselage in a Dark Blue shade (FS 25183). A Croatian flag is worn on the tail.

**10. UTVA-75**

Osijek Aeroclub in Eastern Slavonia utilised this UTVA-75, formerly YU-DJI (JRV serial 53224). This machine features an elaborate four colour camouflage scheme. Undersurfaces are Pale Blue. The 'HV' sticker used on this aircraft is peeling, a not uncommon occurrence on these heavily used machines. After its use on the front, this UTVA was allocated the provisional Croatian civil registration of RC-DJI, which subsequently became 9A-DJI. The second view shows 9A-DJI wearing its civilian registration, but prior to being repainted.

**11. UTVA-75**

YU-DIH (JRV serial 53206) from Cakovec Aeroclub in Northern Croatia was one of the aircraft of the Croatian National Guard (*Zbor Narodne Garde – ZNG*) that formed part of the *Cakovec Light Combat Aircraft Squadron*. YU-DJI shown above also served with this unit, alongside an Antonov An-2 and a Cessna 188 Ag Truck. This machine is finished in some of the same colours as the aircraft above. The ZNG Squadron was commanded during 1991-92 by Major Dean Ciglaric.

**12. UTVA-75**

This UTVA, carrying the serial number '001', is one of two belonging to the SZV (*Samostalni Zrakoplovni Vod – Independent Air Unit*) attached to the 4th Brigade of the Croatian Army based in Split. This machine, and its companion '002' originally carried the civil registrations YU-DGH (JRV serial 53177) and YU-DLD (JRV serial 53239). An unusual airbrushed camouflage scheme is carried, provisionally illustrated above. Undersurfaces are Pale Blue. A provisional HZS 'Shield and Bars' insignia is used on both '001' and '002' (illustrated on page 47). This aircraft was repainted after the end of hostilities in 1992/93, in a more complex spray pattern. It should be noted that '001' and '002' have been fitted with OSA (Hornet) anti-tank rocket launchers under the wings, together with sighting devices on the forward fuselage. These aircraft were successfully used on combat missions in Dalmatia during the Homeland War.



Undergoing maintenance in the ZTC workshops near Zagreb, this UTVA-75 that served with the *Cakovec Light Combat Aircraft Squadron* shows the temporary application of civil registrations that occurred after the end of the initial bout of hostilities. The full military markings applied to this aircraft can be seen in the profile opposite on page 14.

The first aircraft of the HRZ/HZS 1991-1992					
Croat Military Serial	Current Croat Civil Reg.	Former Civil/Mil. Identity	Aircraft Type	Original c/n	Unit/ notes
–	–	YU-HAL	Agusta-Bell 47J2-A	2091	Flown in rocket firing trials.
–	–	YU-DLR	Air Tractor AT-400	–	Named 'Skalic'
–	9A-DKG	OE-ERP	Air Tractor AT-401	400-0353	
–	9A-DKJ	OE-ETP	Air Tractor AT-401	400-0372	
–	–	–	Avid home-built amphibian	–	2nd line duties
006	–	D-FOKA	WSK/Antonov An-2	1G86-48	SZV Split, 4th Brigade HV
–	–	YU-BFO	WSK/Antonov An-2	1G99-12	SZV Split, 4th Brigade HV. Crashed near Sinj 26/1/92.
–	9A-BFT	YU-BFT	WSK/Antonov An-2	1G99-16	
–	9A-BHT	YU-BHT	WSK/Antonov An-2	1G135-43	
–	9A-BHV	YU-BHV	WSK/Antonov An-2	1G135-45	
5	–	YU-BKA	WSK/Antonov An-2	1G167-05	SZV Osijek
–	9A-BMA	YU-BMA	WSK/Antonov An-2	1G181-46	
4	9A-BKC	YU-BKC	WSK/Antonov An-2	1G167-07	SZV Osijek
–	–	YU-BKB	WSK/Antonov An-2	1G167-06	
–	–	YU-BOP	WSK/Antonov An-2	1G222-37	Shot down 2/12/91 near Vinkovci, killing 4 crew
–	9A-BOW	YU-BOW	WSK/Antonov An-2 TDP	1G223-57	Cakovec Light Combat Aircraft Squadron
–	9A-BOF	YU-BOF	WSK/Antonov An-2	1G223-56	
–	9A-BLA	YU-BLA	Cessna A.188B AGTruck	2943	
–	–	YU-BIE	Cessna A.188B AGTruck	1073	Cakovec Light Combat Aircraft Squadron
–	–	YU-DMA	Reims-Cessna F.172M	1515	SZV Split, 4th Brigade HV
–	9A-DFH	YU-DFH	Reims-Cessna F.172N	1880	
H-101	–	12271	Mil Mi-8	–	Captured at Sisak 22/9/91 and named <i>Stara frajila</i> (Old Maid)
101	–	17133	Mikoyan MiG-21bis K	N2119	Shot down over Bosnia on 24 June 1992, killing pilot Anton Radan

Croat Military Serial	Current Croat Civil Reg.	Former Civil/Mil. Identity	Aircraft Type	Original c/n	Unit/ notes
102	–	17235	Mikoyan MiG-21bis	N2741	1st Fighter Squadron – named <i>Osvetnik Dubrovnik</i>
103	–	17167	Mikoyan MiG-21bis K	N4051	1st Fighter Squadron – named <i>Osvetnik Vukovara</i>
–	–	YU-DBM	Piper PA-18-150 Super Cub	18-75090013	
–	–	YU-DCI	Piper PA-18-150 Super Cub	18-7809155	
–	9A-DBU	YU-DBU	Piper PA-18-150 Super Cub	18-7809169	
–	9A-DBR	YU-DBR	Piper PA-18-150 Super Cub	18-7809172	SZV Osijek
–	9A-BDJ	YU-BDJ	Piper PA-25-235 Pawnee	25-3260	
–	–	YU-BDH	Piper PA-25-235 Pawnee	25-3876	
–	9A-BLS	YU-BLS	Piper PA-36-300 Brave	36-7860087	
–	9A-BLT	YU-BLT	Piper PA-36-300 Brave	36-7860088	
–	9A-BNP	YU-BNP	PZL M-18 Dromader	1Z012-37	
–	9A-BNR	YU-BNR	PZL M-18 Dromader	1Z012-38	Operated by SZV Osijek
8025	–	YU-8025	Unidentified ultralight	–	Flown by S Bellan in combat trials
–	–	–	Unidentified ultralight	–	Attempts to arm this machine with rockets failed
107	–	YU-DED/53107	UTVA-75	–	
169	–	YU-DGB/53169	UTVA-75	–	
001/002	–	YU-DGH/53177	UTVA-75	–	SZV, 4 Brigade Croatian Army
179	–	YU-DGS/53179	UTVA-75	–	
–	–	YU-DHF/53191	UTVA-75	–	
–	9A-DIH	YU-DIH/53206	UTVA-75	–	Cakovec Light Combat Aircraft Squadron
001/002	–	YU-DLD/53239	UTVA-75	–	SZV, 4 Brigade Croatian Army
–	9A-DJI	YU-DJI/53224	UTVA-75	–	Cakovec Light Combat Aircraft Squadron
227	–	YU-DJL/53227	UTVA-75	–	Flown from Pula.
–	–	YU-DJD/53215	UTVA-75	–	

The An-2s of the Independent Air Units were used effectively, albeit on a limited scale, as night bombers by SZV *Osijek*, where they were equipped with locally built bombs produced from 80 litre domestic boilers. The attacks, on JNA positions around the besieged town of Vukovar, ceased when one of the An-2s was shot down in December 1991 by a SA-6 missile. UTVA-75s of SZO *Split* were converted to carry four OSA anti-tank missile launchers, performing

offensive operations over inland Dalmatia and around the Serb held stronghold of Knin in the Krajina region. A Cessna 188 Ag Truck was even equipped as a bomber by the *Cakovec Light Combat Aircraft Squadron*, and used alongside their UTVA-75s and Antonov An-2s.

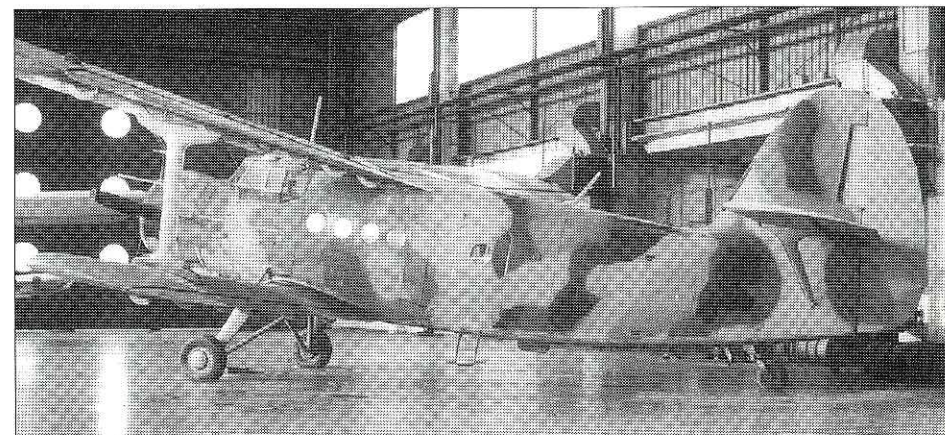
The Antonov An-2s, as related earlier, were mainly former agricultural aircraft, and had been used for a variety of purposes, including crop spraying. As attrition set in, further examples



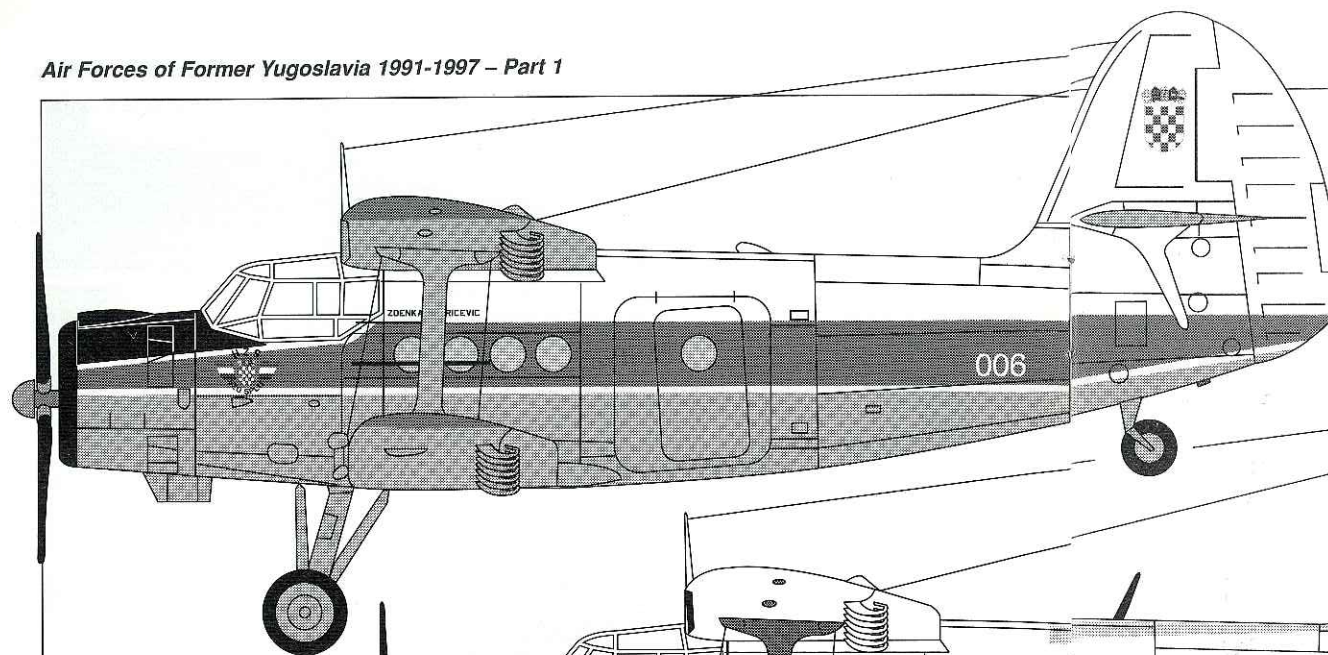
Two views of an Antonov An-2 in 1992/93. This aircraft served with the *Cakovec Light Combat Aircraft Squadron* in 1991 in the colours shown here – White, with Red cheat lines and Grey undersurfaces. The civil registration partially remains, the 'YU-' having been painted out. A non-standard Croatian shield has been applied. During its wartime service, this aircraft was photographed carrying Red Cross medical markings. The lower photograph shows the test installation of electronic equipment post-hostilities.



Antonov An-2 wearing the temporary civil registration RC-BOF shortly after the end of hostilities in 1992. As YU-BOF it flew with the private company *Privredna Avijacija Zagreb*, before being impressed into the mixed transport squadron based at Lucko, near Zagreb. This machine, seen here undergoing maintenance at the ZTC workshops, retains its pre-war colour scheme of White with Red cheat lines and Grey undersurfaces. A Croatian flag (but without the shield) has been applied to the fin. This aircraft was subsequently registered as 9A-BOF in the Croatian civil register.

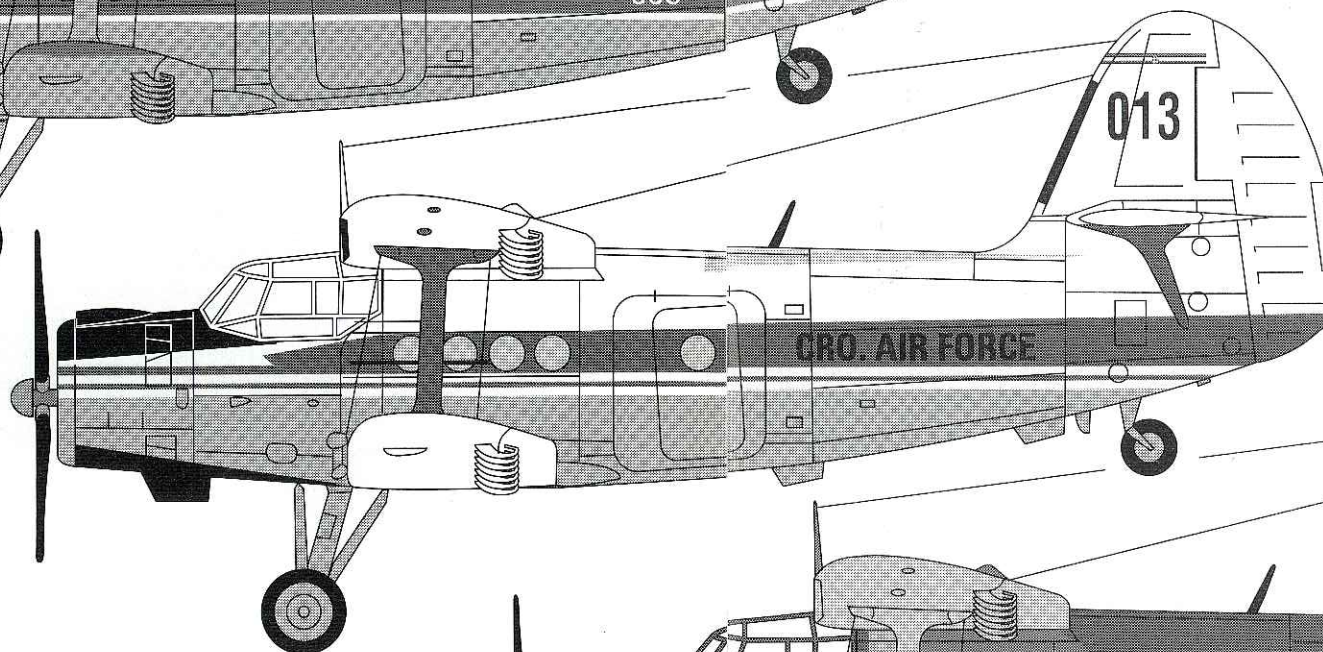


Also shown at the ZTC workshops in this camouflaged Antonov An-2, formerly YU-BMA on the Yugoslav civil register. Pre-war this aircraft belonged to the Zagreb Aeroclub *Slavoljub Penkala*, but was impressed by the Croatian military for more warlike activities, acquiring a paint scheme to match. Finished in a four colour camouflage pattern of Dark Green, Olive Drab, Mid Grey and Pale Grey-Green, this aircraft carries no national identification markings at this time. Serving with the *Cakovec Light Combat Aircraft Squadron*, it will be noted that the paint scheme bears similarities to those of that unit's UTVA-75s and Cessna 188 Ag Truck. This machine was assigned the temporary Croatian civil registration of RC-BMA in July 1992, subsequently becoming 9A-BMA.



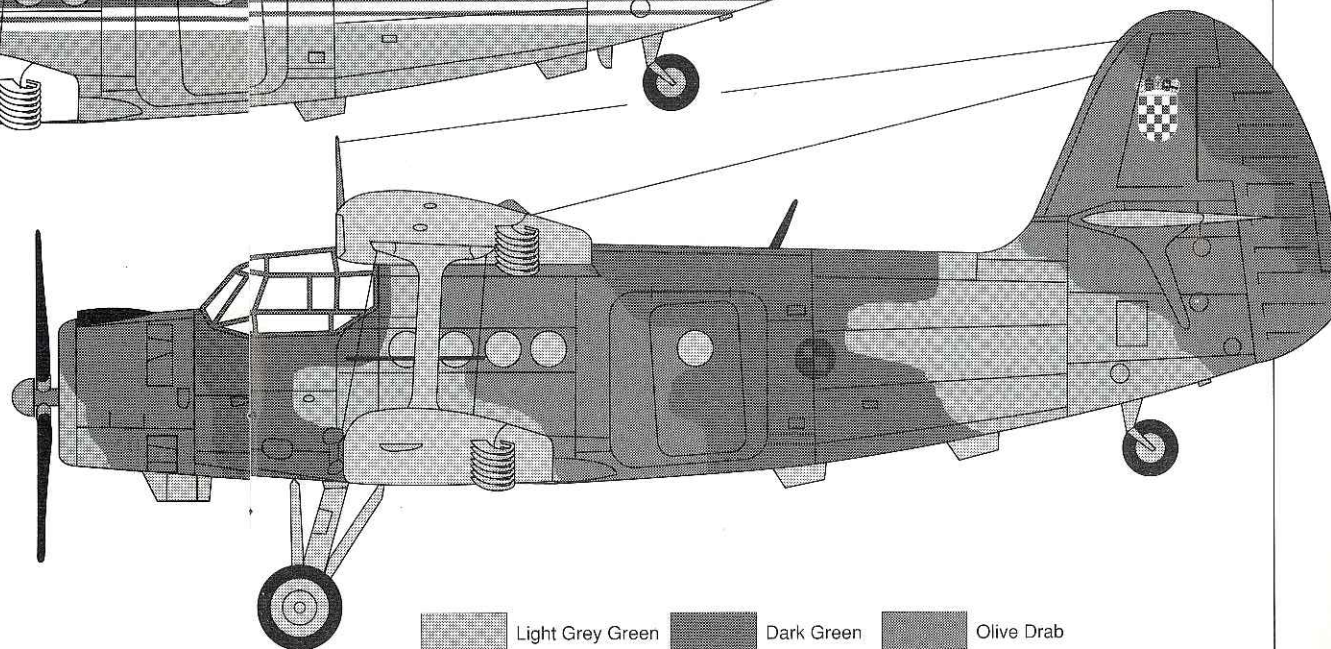
13. Antonov An-2

Serial no. 006, *SZV Split*, 4th Brigade *Hrvatska Vojska*, 1992/93. Formerly registered D-FOKA, this An-2 was purchased by Croat emigrés to replace another An-2 lost in an accident. The aircraft remains in a civilian colour scheme of Red, White and Light Grey. The Croatian shield appears on the fin, and a badge is used under the cockpit featuring the unofficial title 'HZS' (*Hrvatske Zračne Snage* – Croatian Air Force) and the legend 'SZO SPLIT'. The donor of the aircraft, Zdenka B Petricevic, has her name inscribed in Black on the port fuselage behind the cockpit. The serial number '006' is in White.



14. Antonov An-2

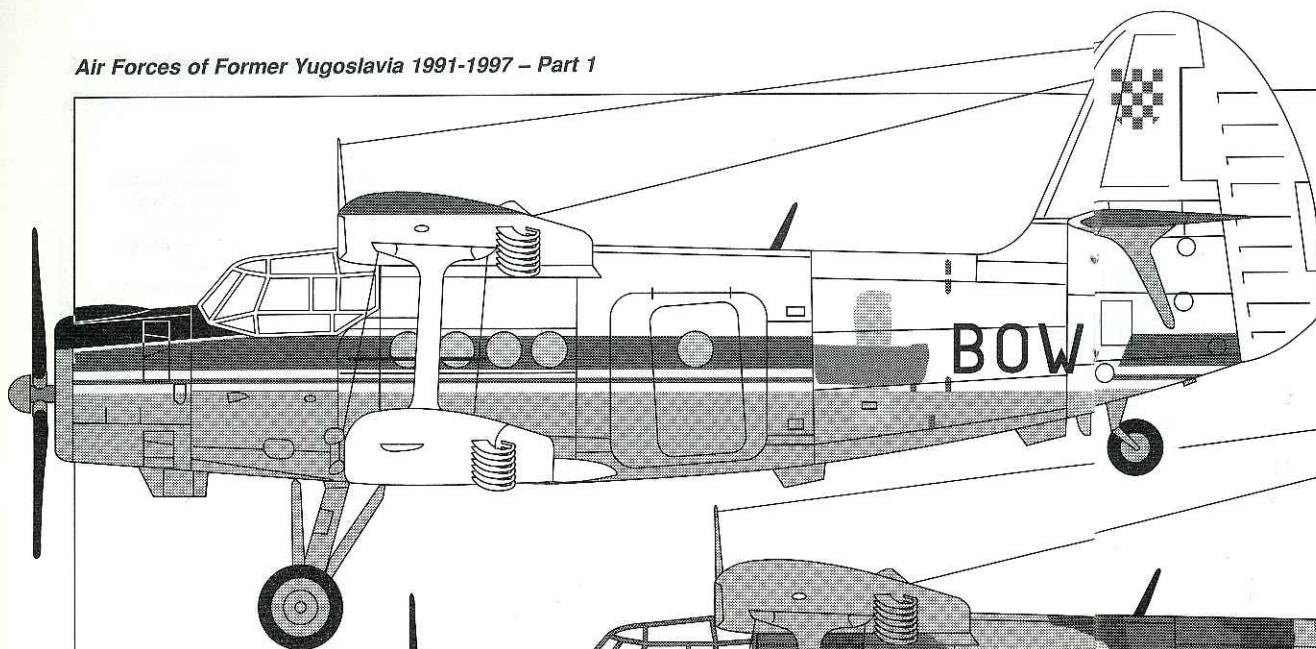
Serial no. 013, *HRZ i PVO*, Lucko Airfield, May 1995. This machine is one of two that remains in HRZ service. The aircraft retains a civilian colour scheme of Dark Blue, White and Light Grey. A small Croatian shield appears on the long strip in national colours on the fin, and the title 'CRO. AIR FORCE' appears in Black on the Dark Blue cheat line. The forward fuselage upper and undersurfaces are Black. Note also the Yellow stripes on the top of the rear fuselage. The serial number '013' is in Black. Also of note are the Black leading edges on the wings, tail and fin.



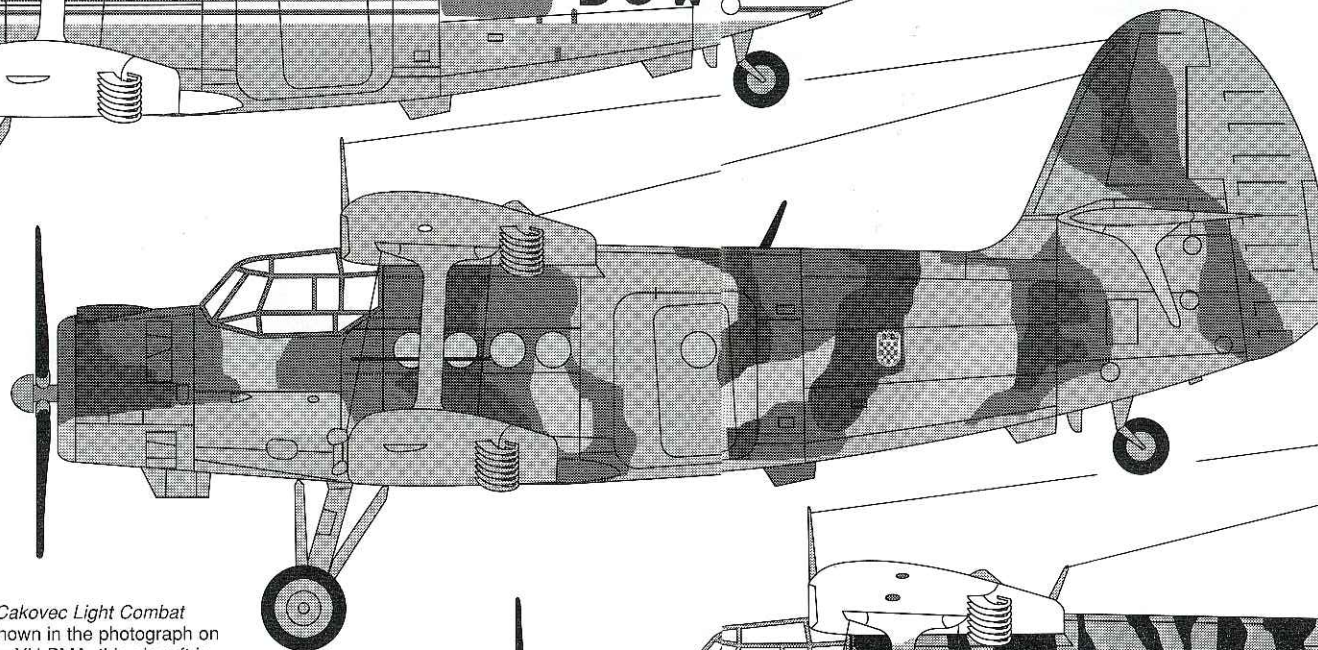
15. Antonov An-2

Serial no. unknown, *HRZ i PVO*, Lucko Airfield, May 1995. In addition to scheme no. 14 above, the HRZ operates this camouflaged An-2. The aircraft wears a three colour camouflage scheme of Light Grey Green, Olive Drab and Dark Green, with Light Grey undersurfaces. A Croatian shield appears on the fin, and Croatian roundels (introduced in August 1993) in Blue and Red appear on the fuselage sides and the port top and starboard lower wing surfaces. No visible serial number is displayed.



**16. Antonov An-2**

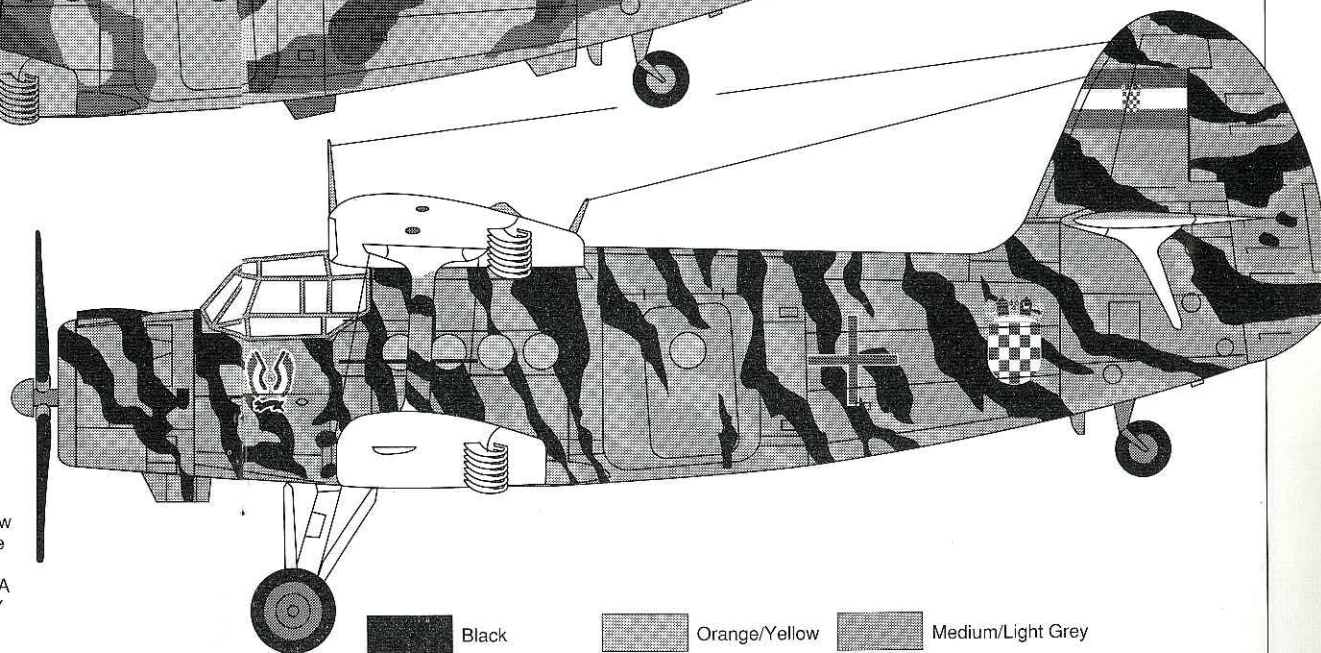
Retaining traces of its former registration YU-BOW, this An-2 is shown as it appeared during 1991/92 whilst serving with the *Cakovec Light Combat Aircraft Squadron*. The aircraft is finished in its original civilian colour scheme of Red, White and Light Grey. A non-standard Croatian shield appears on the fin. Portions of the Red cheat line have been repainted, and Red wing crosses are present on this machine, indicating its use for casualty evacuation. A Light Grey vertical stripe could also indicate the earlier presence of a fuselage 'Red Cross'. Two further photographs of this aircraft can be seen on page 18.

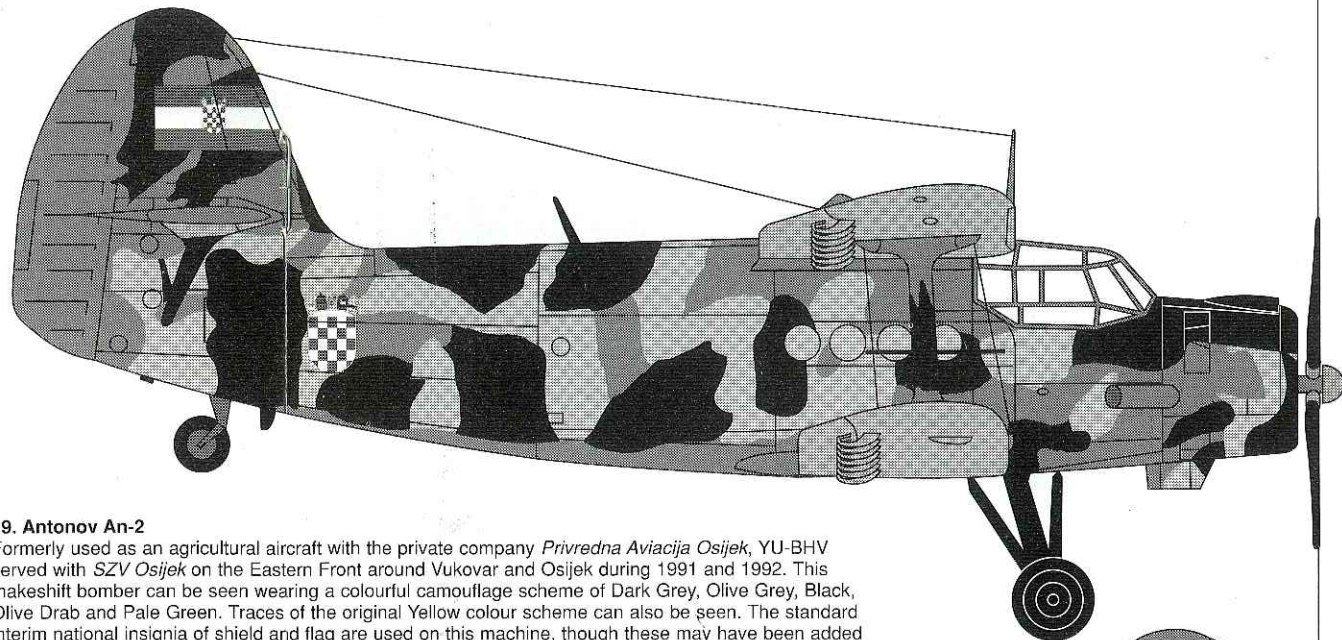
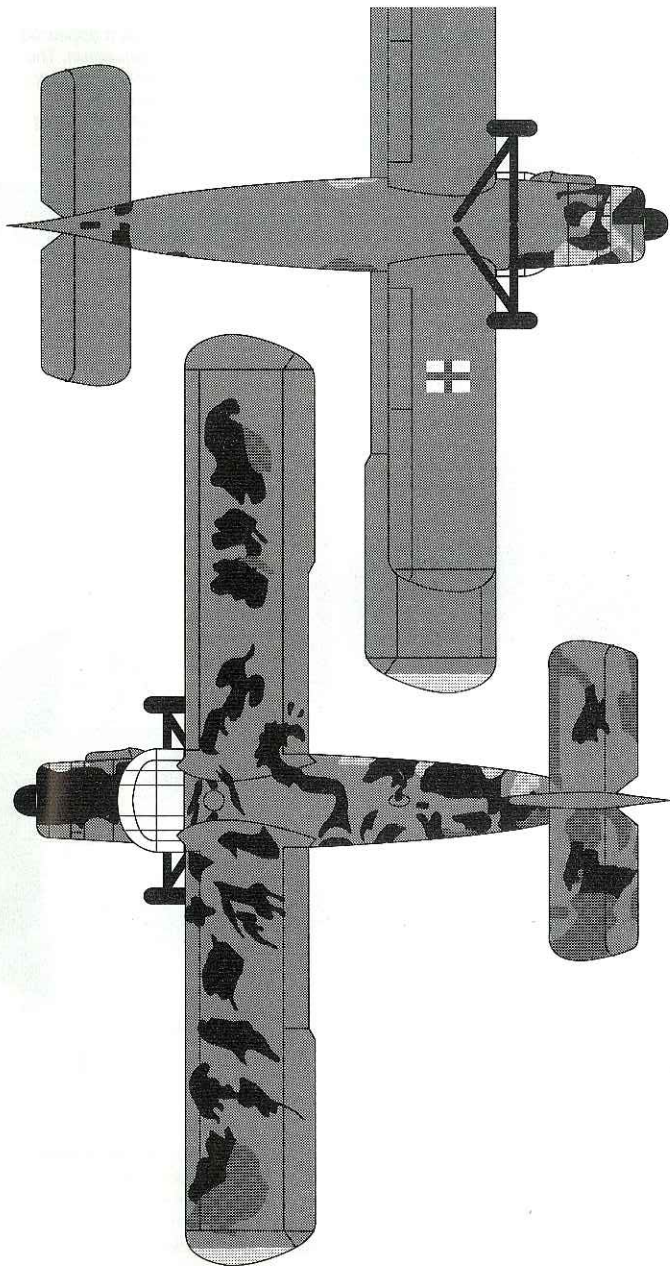
**17. Antonov An-2**

This An-2 also served with the *Cakovec Light Combat Aircraft Squadron* in 1991 (as shown in the photograph on page 19). Formerly registered as YU-BMA, this aircraft is finished in a four colour camouflage scheme of Dark Green, Olive Drab, Light Grey Green and Pale Grey. No identifying national markings were carried during its operational service as a bomber, apart from an unofficial 'HV' sticker as applied to the same unit's UTVA 75s.

18. Antonov An-2

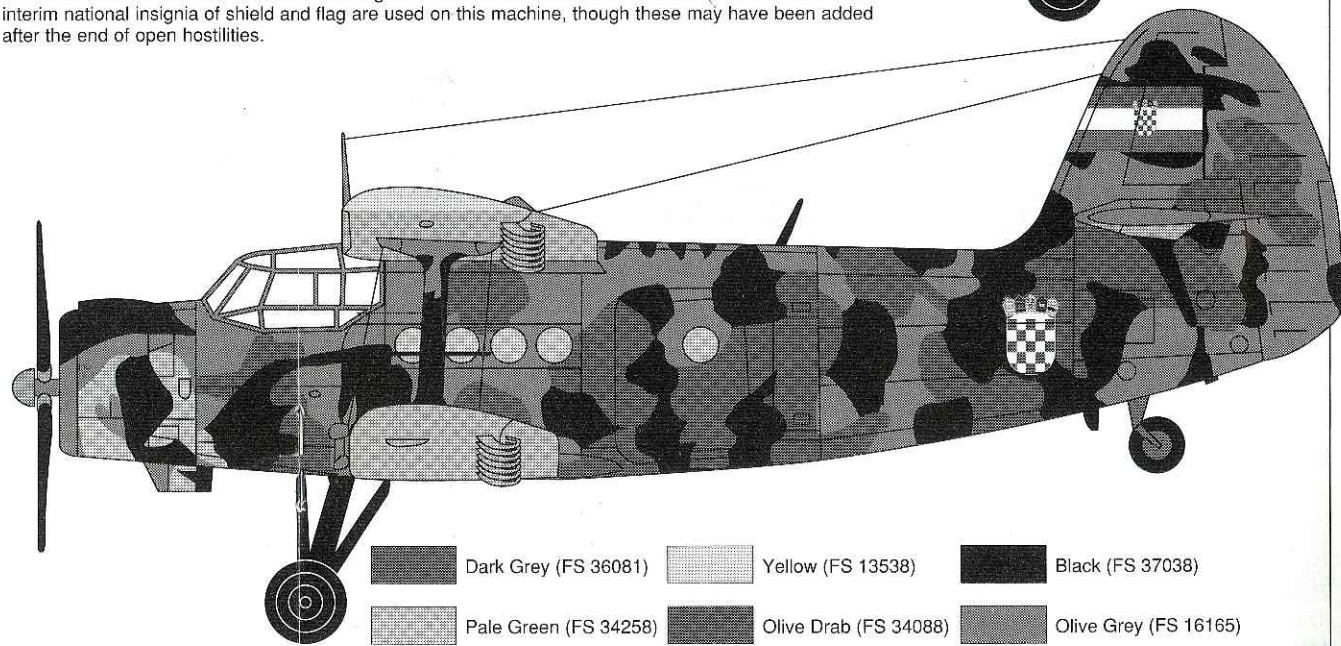
YU-BKA served with *SZV Osijek* during the early fighting of 1991. After the first phase of hostilities it received this colourful 'Tiger' style camouflage scheme in Black, Orange/Yellow and Medium/Light Grey. The undersurfaces retained their original civilian White finish. The scheme shown included White outlined Red fuselage crosses, and Red crosses on the upper and lower wings, worn whilst serving as a paratroop trainer in Vrsar, Istria in 1993. A Croatian shield is worn on the fuselage, with a Croatian flag on the fin. The badge of *SZV Osijek* (illustrated in colour on page 47) featuring the Black Marten of Slavonia, is visible under the port cockpit.






19. Antonov An-2

Formerly used as an agricultural aircraft with the private company *Privredna Aviacija Osijek*, YU-BHV served with *SZV Osijek* on the Eastern Front around Vukovar and Osijek during 1991 and 1992. This makeshift bomber can be seen wearing a colourful camouflage scheme of Dark Grey, Olive Grey, Black, Olive Drab and Pale Green. Traces of the original Yellow colour scheme can also be seen. The standard interim national insignia of shield and flag are used on this machine, though these may have been added after the end of open hostilities.



- | | | |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
|  Dark Grey (FS 36081) |  Yellow (FS 13538) |  Black (FS 37038) |
|  Pale Green (FS 34258) |  Olive Drab (FS 34088) |  Olive Grey (FS 16165) |



Two views of Antonov An-2, now allocated the post war civil registration of 9A-BHT. Compare the later top view with the line drawing on pages 22 and 23.

were acquired from Croatian emigrés abroad, who funded these aircraft. Two Antonov An-2s remained in service with the HRZ by 1995, as noted in the accompanying photographs and drawings.

Other agricultural and light aircraft were utilised, as can be seen in the photographs and drawings on the following pages showing crop sprayers such as the Cessna 188, Piper Pawnee Brave, PZL M-18 Dromader and Air Tractor in highly warlike camouflage schemes. Most of these hastily impressed aircraft were to receive civilian registrations once the first phase

of hostilities was over (*Interim Croatian civil registrations used the letters 'RC-' as a prefix, but this was replaced shortly afterward by the current internationally recognised '9A-' prefix*). They subsequently returned to their original peacetime roles, but cash constraints ensured that they retained their wartime paint finishes long enough to be documented.

Other light aircraft used for observation and reconnaissance included the Cessna 172 and the venerable Piper PA-18 Super Cub, several examples of which served over the dangerous Slavonian front.



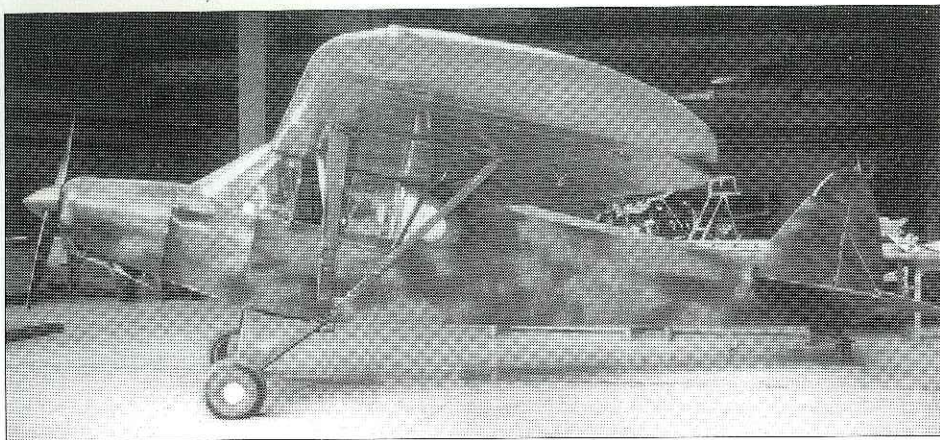
Antonov An-2 9A-BKC, formerly aircraft no. '4' with SZV Osijek during 1991, wearing a multi-coloured camouflage scheme. The Red Cross indicates use on casualty evacuation missions.



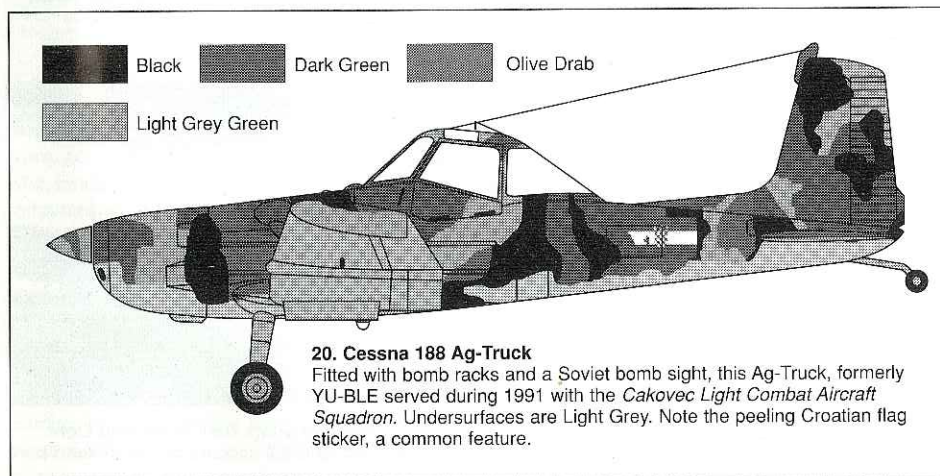
Another SZV Osijek Antonov An-2, undergoing maintenance at ZTC near Zagreb. This aircraft wears a complex seven colour camouflage scheme of Sand, Dark Grey, Dark Blue Grey, Black, Light Grey, Dark Brown and Olive Drab. No national markings are carried and the original identity of this machine is unknown.



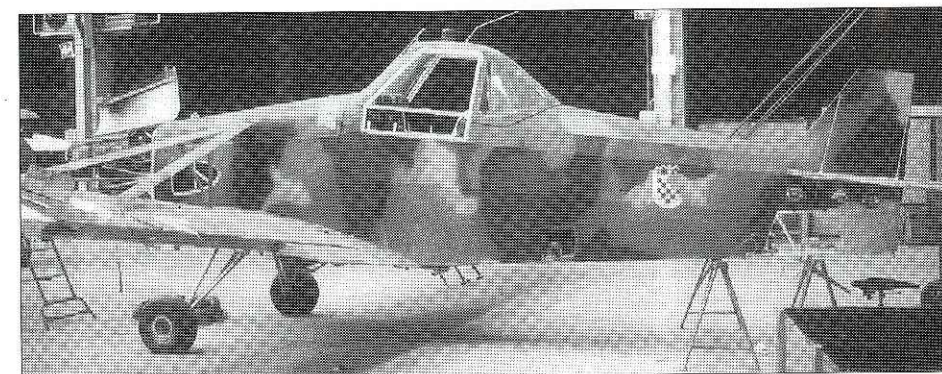
An-2 9A-BFT also served with SZV Osijek and can be seen here wearing a Tan, Dark Green and Light Grey camouflage scheme, with Light Blue undersurfaces. The name OSIJEK appears on the forward port fuselage in White.



One of the four Piper PA-18-150 Super Cubs that served with the SZV units during 1991 seen undergoing maintenance at the ZTC depot near Zagreb. The Brown, Green and Black mottled scheme is applied to upper surfaces only, undersurfaces being painted Light Blue. No national markings were carried.



Cessna 188 Ag-Truck (formerly YU-BLE) undergoing maintenance at the ZTC workshops. The impressed agricultural and sporting aircraft that formed the majority of Croatia's early air force were camouflaged and maintained here at ZTC, after the facility was abandoned by the Yugoslav Air Force.



Another agricultural type used during 1991 was the Piper Pawnee shown above. This aircraft was camouflaged in Light Grey, Dark Grey, Sand, Tan, Chocolate Brown and Dark Green with White undersurfaces. Note also the tatty Croat *Hrvatska Vojska* stickers on this example, seen at ZTC.



Wearing the newly applied civil registration of 9A-BLS is this Piper PA-36-300 Pawnee Brave. The aircraft wears a typical ZTC-applied camouflage scheme in Light Grey Green, Dark Green, Olive Drab and Chocolate Brown with Light Blue Grey undersurfaces. A Croatian flag sticker is worn on both sides of the fin, and a Piper logo remains visible on the top of the rudder. Formerly belonging to the civilian *Privredna Avijacija Zagreb*, this machine carried the former Yugoslav registration of YU-BLS, becoming RC-BLS in May 1992. The 9A- prefix was added two months later in July when the new registrations were introduced.

Croatia's first combat aircraft was acquired when a *JRV* Mil Mi-8 helicopter was shot down in September 1991, captured and later repaired. This machine was serialised H-101, and continues to serve in the HRZ. Given the name *Stara frajila* (Old Maid), the helicopter initially remained in its Yugoslav colours of Dark Green and Blue, but over the years has been repainted several times. Further Mil Mi-8 helicopters arrived to supplement H-101, these being

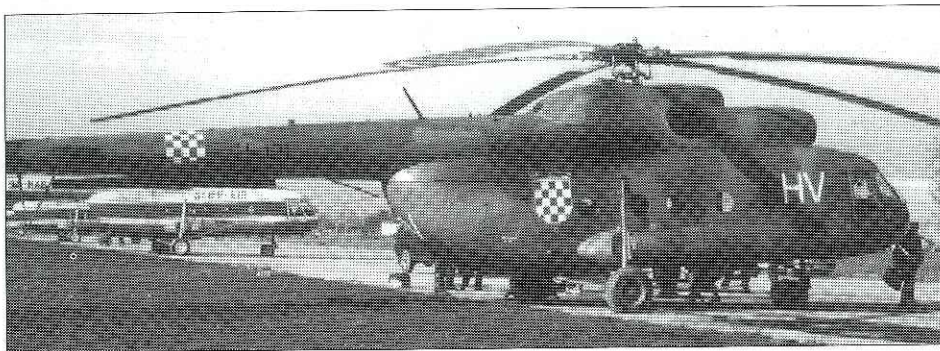
purchased from mainly covert sources. In the summer of 1992 deliveries began of up to twelve Mil Mi-8 and Mi-14 helicopters purchased via Hungary from surplus Eastern European civilian stocks. These initially entered service with serials but without military insignia in their original Aeroflot Blue, White and Grey civilian colour schemes. A further 26 Mil helicopters arrived in Croatia via the same sources over the next three years.



This Air Tractor AT-400 unusually wears a gloss Dark Green finish on its upper surfaces, the undersides remaining in the original crop dusting scheme of Yellow. A Croatian shield is carried on both fuselage sides. This machine, formerly YU-DLR, also wears the name *SKALIC* under the port nose. As with most of the post war pictures in this book, it is shown here undergoing maintenance in the ZTC workshops.



Two PZL M-18 Dromaders also served in the *Domovinski Rat* during 1991. This example has been added to the civil register as 9A-BNP, but it still retains its wartime camouflage of Brown and Black sprayed lines on a Dark Grey background. A Croatian flag and shield is carried on the fin and rudder, but this was probably not carried during hostilities. This machine and its companion 9A-BNR were purchased from Poland in 1984, and both served with *SZV Osijek* in Eastern Slavonia.



Formerly serving with the Yugoslav JRV until forced down and captured by Croatian forces on 22nd September 1991, this Mil Mi-8 Hip was used intensively during hostilities for casualty evacuation and transport duties. This Hip became the first operational Croatian helicopter, and was serialled H-101 (and also acquired the nickname *Stara frajila* (Old Maid)). Originally serving in the original JRV colours of Olive Green and Light Blue, it was subsequently repainted in a Croatian devised scheme of overall Blue Grey with Sand, Medium Green and Brown patches. Croatian national markings consisted of fuselage shields and a wrap around checkerboard on the tail boom. Large White HV markings were also carried on the forward fuselage and clamshell door. The bottom photograph, taken at Lucko airfield in May 1995, shows H-101 wearing the new Croatia roundel introduced in August 1993.

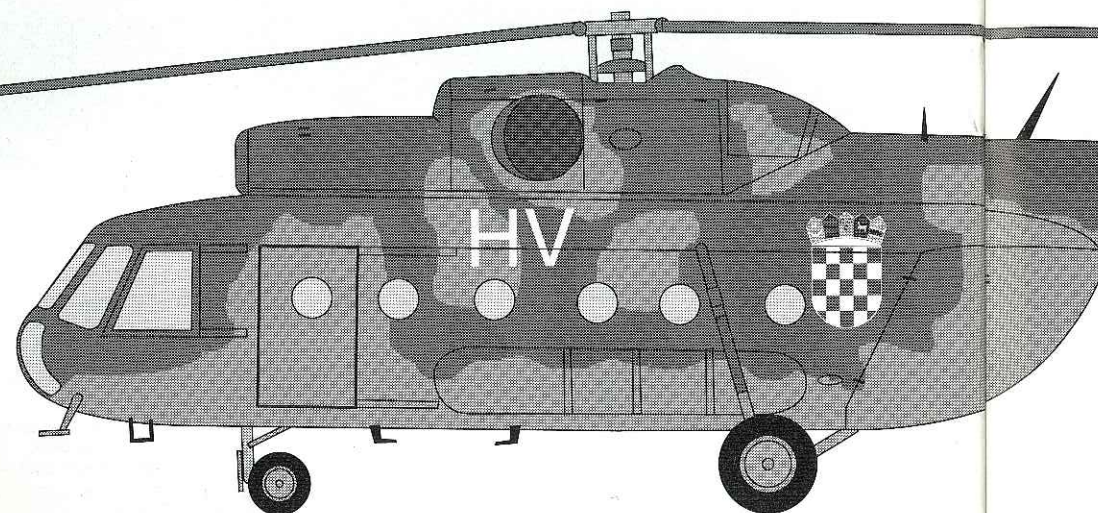


Seen here shortly after delivery in the summer of 1993 are several Mil Mi-8 MTV-1 helicopters acquired from surplus civilian stocks. The aircraft in the foreground of the picture come from the Czech airline Slov-Air (provisionally given hasty civilian registrations of 9A-HAA and 9A-HAB). These retain the airline colour scheme of Grey, White, Red and Black. In the rear of the picture is an example from Aeroflot, serialled H-201 (see overleaf for more details on this machine). Some of these machines served until 1995 in their Blue, White and Grey livery.



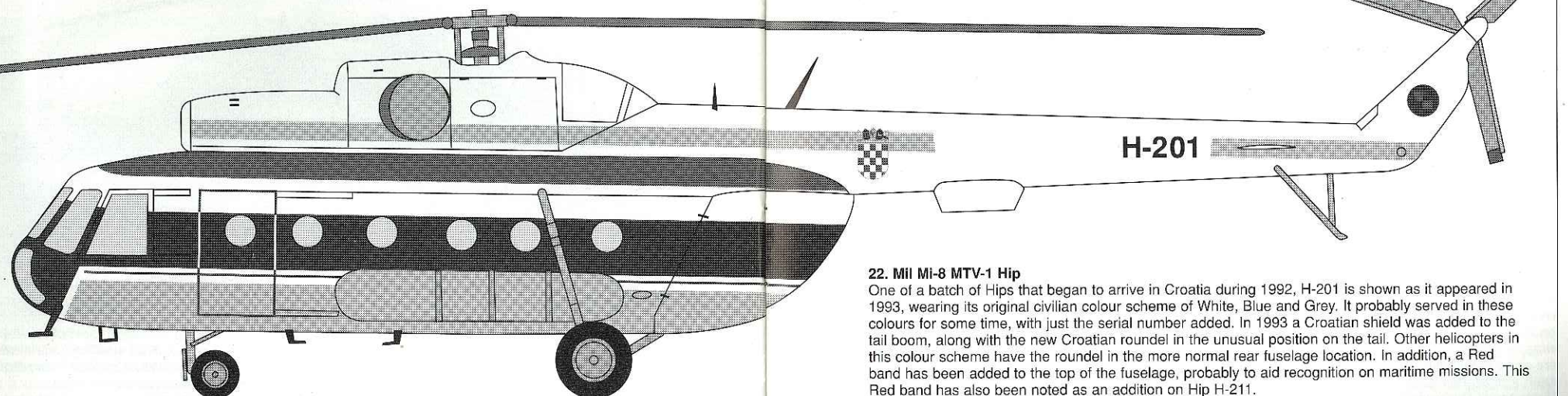
On June 7th 1993, this recently delivered HRZ Mi-8 MTV-1 arrived in the Istrian holiday resort of Rovinj to take the baroque church spire statue of St. Euphemia to Zagreb for renovation. With a military serial of H-211, but lacking national insignia, the helicopter still bore the Blue, Grey and White civilian livery from its previous service with Aeroflot. Since 1993, most of these Mi-8s have been given camouflage schemes, and in many cases, unit badges. They have also had the new Croatia national insignia applied. This machine went on to acquire a Red band and several variations of roundel application (see overleaf).

Medium Green
 Sand Brown
 Blue-Grey



21. Mil Mi-8

Serving with the Croatian Army from September 1991, this Hip is shown as it appeared during 1992, after its Yugoslav paint scheme had been removed, but prior to the application of its serial number H-101. The camouflage consists of Sand Brown and Medium Green patches over a base colour of Blue-Grey. Croatian identity is emphasised with large Croatian shields on the fuselage and a wrap around checkerboard on the tail boom. Large White 'HV' markings are also applied on the fuselage sides and rear clamshell door (see photograph on page 32 for a clear view of this). H-101 has subsequently continued to serve with the HRZ, in the process acquiring at least two different badges, and more recently has had new Croatian insignia applied.



22. Mil Mi-8 MTV-1 Hip

One of a batch of Hips that began to arrive in Croatia during 1992, H-201 is shown as it appeared in 1993, wearing its original civilian colour scheme of White, Blue and Grey. It probably served in these colours for some time, with just the serial number added. In 1993 a Croatian shield was added to the tail boom, along with the new Croatian roundel in the unusual position on the tail. Other helicopters in this colour scheme have the roundel in the more normal rear fuselage location. In addition, a Red band has been added to the top of the fuselage, probably to aid recognition on maritime missions. This Red band has also been noted as an addition on Hip H-211.

Croatia gained its first jet aircraft in the form of Mikoyan Gurevich MiG-21bis fighter bombers due to the defection of Croat personnel from the JRV, along with their aircraft. The first MiG acquired by the Croatians would appear to be that given the provisional serial '101' and flown from Bihac in Bosnia-Herzegovina by its pilot Captain Danijel Borovic in January 1992. Two more machines, serialised 102 and 103 by the Croats, were gained in May 1992 when pilots Ivan Selak and Ivica Ivandic flew their machines to Split from the JRV base of Ponikve.

A further pilot, Rudolf Peresin, flew his MiG-21MF to Austria where it was impounded. Peresin, however, returned to Croatia to take his place in the HRZ's first fighter unit. One MiG-21, serialised 101, was lost on June 24 1992 when it was shot down by Serbian forces over Bosnia-Herzegovina. The body of pilot Anton Radan was found dead in his aircraft.

Initially based at Pleso near Zagreb, great care was taken to ensure that the first few MiG-

21s were not detected by Serb forces.

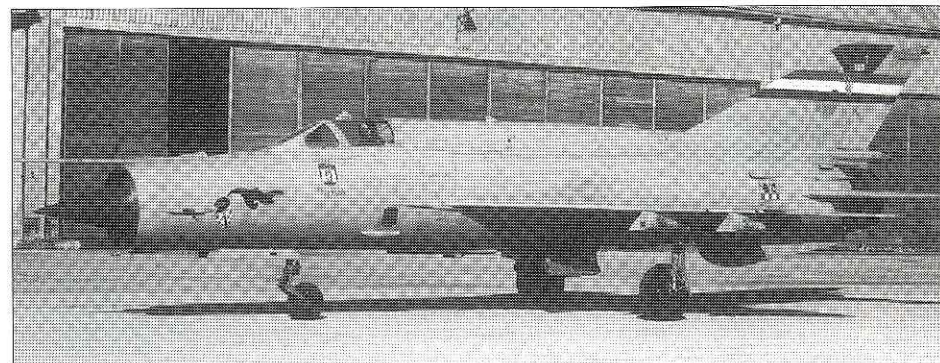
The start of hostilities in Bosnia-Herzegovina in April 1992 led to an expansion of the HRZ's theatre of operations. The Croats gave logistical and air support where they could to the hard pressed Bosnian government forces (*BiH Armija*) and the the Bosnian-Croat military (*HVO*), at that time allied with BiH forces against Serb separatists.

New aircraft were acquired from a variety of covert sources, including the arrival of a further batch of 25 former Ukrainian MiG-21 bis fighters. These were flown into Poland, where they were crated and shipped to Croatia via Slovakia and Hungary. A further 15 MiG-21 bis fighters soon arrived to bring the total in HRZ service to 40.

An initial batch of Mil Mi-24V gunships, which were initially unarmed and marked with Red Crosses to circumvent the then current arms embargo to former-Yugoslav territory, were also delivered.



Shown after June 1992, these are the two surviving Mikoyan Gurevich MiG-21bis fighter bombers in the Croatian Air Force's fighter unit, serialised 102 and 103. 101 was shot down by Serb forces on June 24th over Bosnia. The aircraft remain in the Air Superiority Grey colour formerly used by the JRV, and wear the interim style of Croatian insignia. Croatian shields appear on the fuselage, upper port wing and lower starboard wing on both aircraft. These have been stencilled on, unlike most other aircraft illustrated in this book, and are somewhat cruder than the commercially produced stickers they replace. Aircraft 103 wears a Croatian shield and colours covering the whole width of the tail, whilst 102 wears a Croatian flag on the fin. Serial numbers are carried in White at the top of the fins on each aircraft. The starboard upper wing of 103 carries the numbers '167', a reminder of its JRV serial number of 17167. Both these aircraft are serving with No. 1 Fighter Squadron, and wear that unit's badge on the forward fuselage. In addition, each aircraft has been named, and wears an appropriate badge. 102 has become *Osvetnik Dubrovnik* (Avenger of Dubrovnik), with 103 becoming *Osvetnik Vukovara* (Avenger of Vukovar. Further details of these badges can be seen in the drawings on pages 38, 39 and 47.



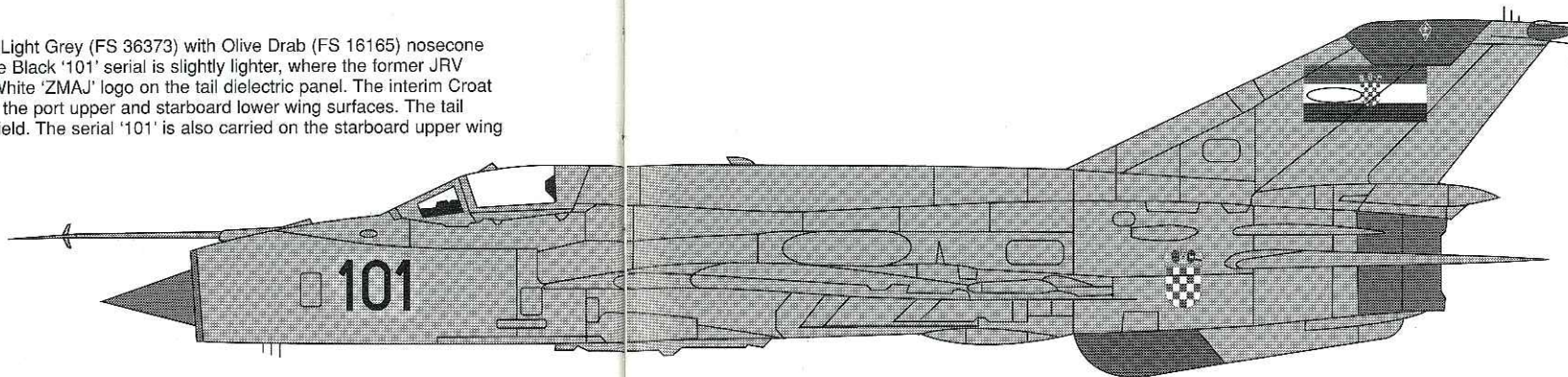
Two further views of Croatia's surviving MiG-21bis fighters during 1992. At the top is aircraft 102, with 103 below. For more colour information see pages 38, 39 and 47.



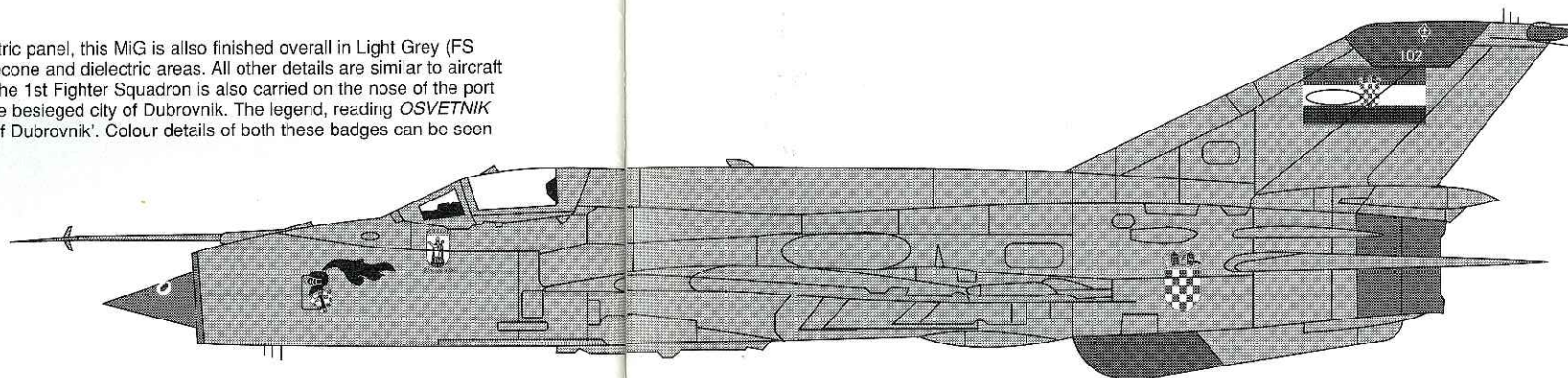
Part of a line up of 12 MiG-21bis fighters at a parade to celebrate four years of independence, at Pleso Air Base near Zagreb in May 1995. All the aircraft are part of the 1st Fighter Squadron, which was shortly afterwards reconstituted as the 21st Fighter Squadron. These aircraft are camouflaged in a Soviet style Green and Brown scheme with Light Blue undersurfaces. Some aircraft wear a similar scheme, but use locally applied Croatian colours which are lighter in tone. In some instances, other colours such as Grey-Green and Ocean Grey have also been used. The finalised style of Croatian insignia has been applied to all the aircraft (see page 39 for more details).

23. Mikoyan Gurevich MiG-21bis

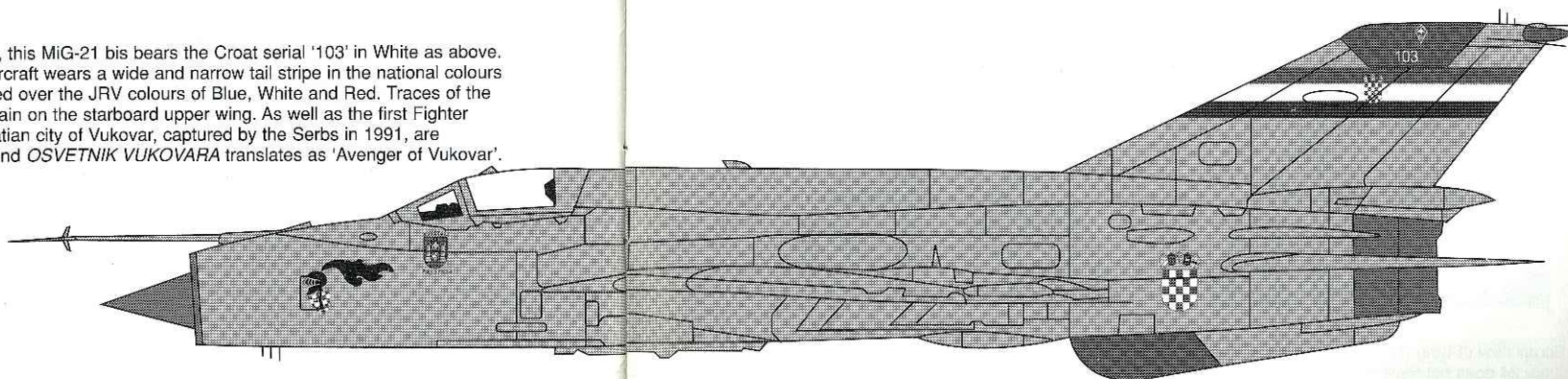
Croatia's first MiG-21, finished overall in Light Grey (FS 36373) with Olive Drab (FS 16165) nosecone and dielectric areas. The area around the Black '101' serial is slightly lighter, where the former JRV serial has been painted out. There is a White 'ZMAJ' logo on the tail dielectric panel. The interim Croat shield is used on the fuselage sides and the port upper and starboard lower wing surfaces. The tail carries a Croat flag with an off-centre shield. The serial '101' is also carried on the starboard upper wing (see pages 40 & 41 for wing details).

**24. Mikoyan Gurevich MiG-21bis**

Serialled '102' in White on the tail dielectric panel, this MiG is also finished overall in Light Grey (FS 36373) with Olive Drab (FS 16165) nosecone and dielectric areas. All other details are similar to aircraft '101' above. In addition, the emblem of the 1st Fighter Squadron is also carried on the nose of the port fuselage, along with the town arms of the besieged city of Dubrovnik. The legend, reading *OSVETNIK DUBROVNIKA*, translates as 'Avenger of Dubrovnik'. Colour details of both these badges can be seen on page 47.

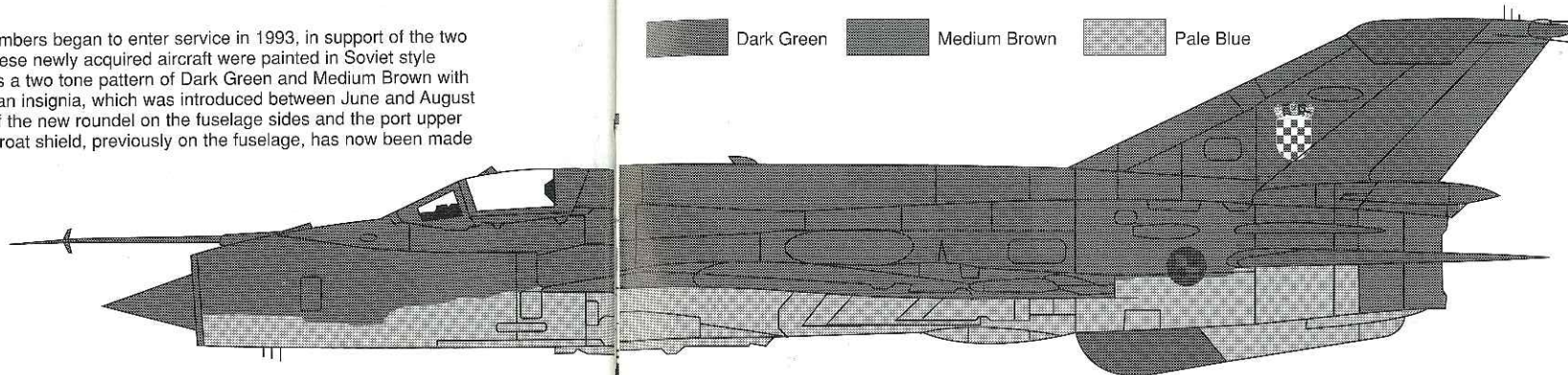
**25. Mikoyan Gurevich MiG-21bis**

Formerly serialled 17167 in JRV service, this MiG-21 bis bears the Croat serial '103' in White as above. All other paint details are similar. This aircraft wears a wide and narrow tail stripe in the national colours of (from top) Red, White and Blue painted over the JRV colours of Blue, White and Red. Traces of the former JRV identity (the code '167') remain on the starboard upper wing. As well as the first Fighter Squadron emblem, the arms of the Croatian city of Vukovar, captured by the Serbs in 1991, are displayed on the port fuselage. The legend *OSVETNIK VUKOVARA* translates as 'Avenger of Vukovar'.



26. Mikoyan Gurevich MiG-21bis

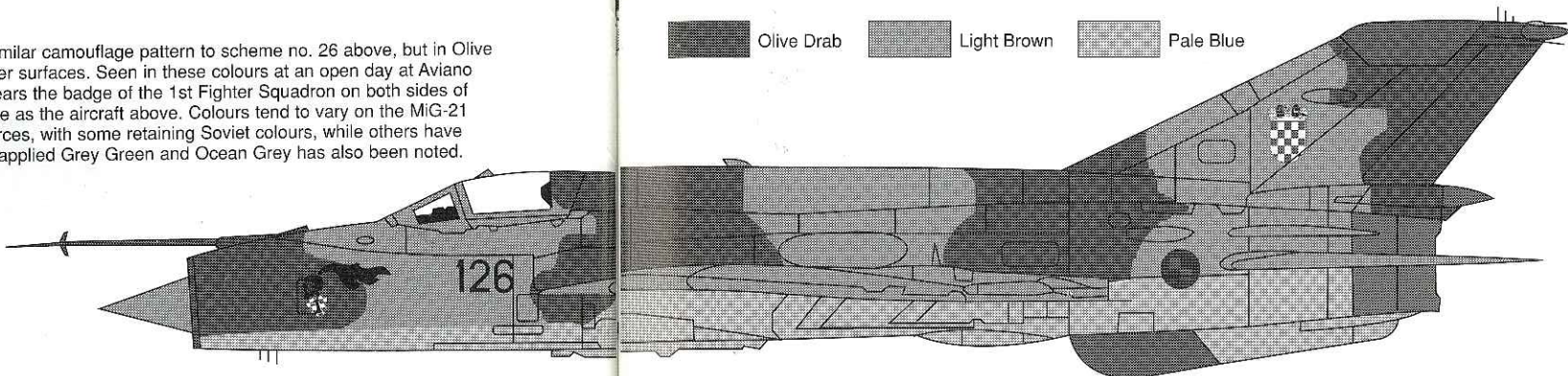
Follow on batches of MiG-21bis fighter bombers began to enter service in 1993, in support of the two surviving examples, 102 and 103. All of these newly acquired aircraft were painted in Soviet style camouflage schemes. This example wears a two tone pattern of Dark Green and Medium Brown with Pale Blue lower surfaces. The new Croatian insignia, which was introduced between June and August 1993, is worn on this aircraft, consisting of the new roundel on the fuselage sides and the port upper and starboard lower wing surfaces. The Croat shield, previously on the fuselage, has now been made the official fin flash on HRZ aircraft.



Dark Green Medium Brown Pale Blue

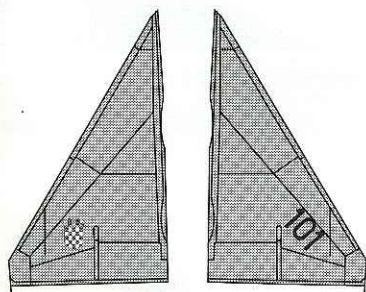
27. Mikoyan Gurevich MiG-21bis

This MiG-21bis, serialled 126, wears a similar camouflage pattern to scheme no. 26 above, but in Olive Drab and Light Brown over Pale Blue lower surfaces. Seen in these colours at an open day at Aviano Air Base in July 1996, this aircraft also wears the badge of the 1st Fighter Squadron on both sides of the nose. Other markings remain the same as the aircraft above. Colours tend to vary on the MiG-21 aircraft acquired from East European sources, with some retaining Soviet colours, while others have been repainted locally. The use of locally applied Grey Green and Ocean Grey has also been noted.

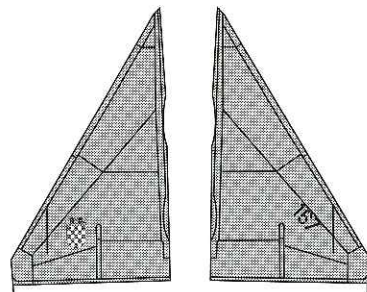


Olive Drab Light Brown Pale Blue

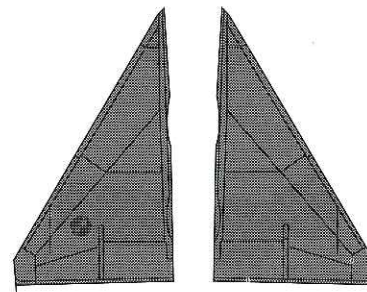
Note that the scrap views reproduced below are shown at 1/144 scale.



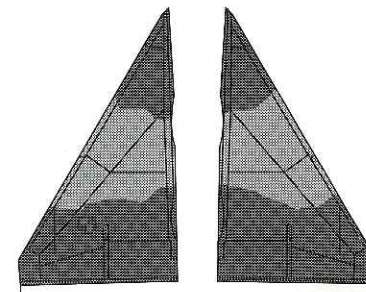
Scrap view of wing for scheme no. 23. Scheme no. 24 does not have a wing serial number.



Scrap view of wing markings for scheme no. 25. Note the serial '167'



Scrap view of wing camouflage pattern for scheme no. 26.



Scrap view of wing camouflage pattern for scheme no. 27.

Between May and August 1995 the Croatian Army, with support from the HRZ, retook the main Serb held areas of Croatia in a series of offensives (Operation *Bljesak* (Flash), *Ljeto-95* (Summer-95) and *Oluja* (Storm)). During the course of these actions, Croatia regained the Serb held airfield of Udbina in the Krajina region, along with a quantity of former Yugoslav/Serb aircraft. These were swiftly incorporated into the HRZ, and included Soko Jastrebs, Oraos and Galebs plus examples of the Soko Kraguj ground attack aircraft.

With the Dayton Peace Agreement in November 1995 leading to the effective end of the war in Bosnia, and the lifting of the arms embargo, Croatia finally gained a respite from the demands of continuous war since 1991.

The peace has given Croatia the opportunity to re-equip the HRZ – there are still tensions in the region and a strong air force is a necessity for Croatia's armed forces, given the strength of the neighbouring Yugoslav military.

Several Hughes 500 helicopters have been added to the inventory plus 20 Pilatus PC-9 trainers and most recently, 10 Bell Jet Rangers.

Croatia also intends to reorganise the air force, and give it the title *Hrvatske zračne snage* (Croatian Air Force) rather than the current *Hrvatsko ratno zrakoplovstvo* (Croatian War Aviation), to better reflect the current more stable situation.



A Mil Mi-24V Hind gunship, seen at Lucko Air Base in May 1995. Colour scheme consists of irregular patches on the upper surfaces of Dark Earth (FS 30118) and Mid Stone (FS 30257) with undersurfaces in Light Blue/Grey (FS 25526). Croatian shields are worn on the tail booms, with new style Croatian roundels on the main fuselage. An 'armed insect' badge is worn on both sides of the forward fuselage (see page 47 for colour details).

Herceg-Bosna Air Force

The majority-Croatian populated area of western Herzegovina acquired the status of a self proclaimed 'independent' state during the worst of the Croatian/Muslim civil war that erupted between the erstwhile allies in 1993. The Croatian military intervened on behalf of the local HVO (Croatian Defence Council), and the HRZ flew missions in support of local Croat forces.

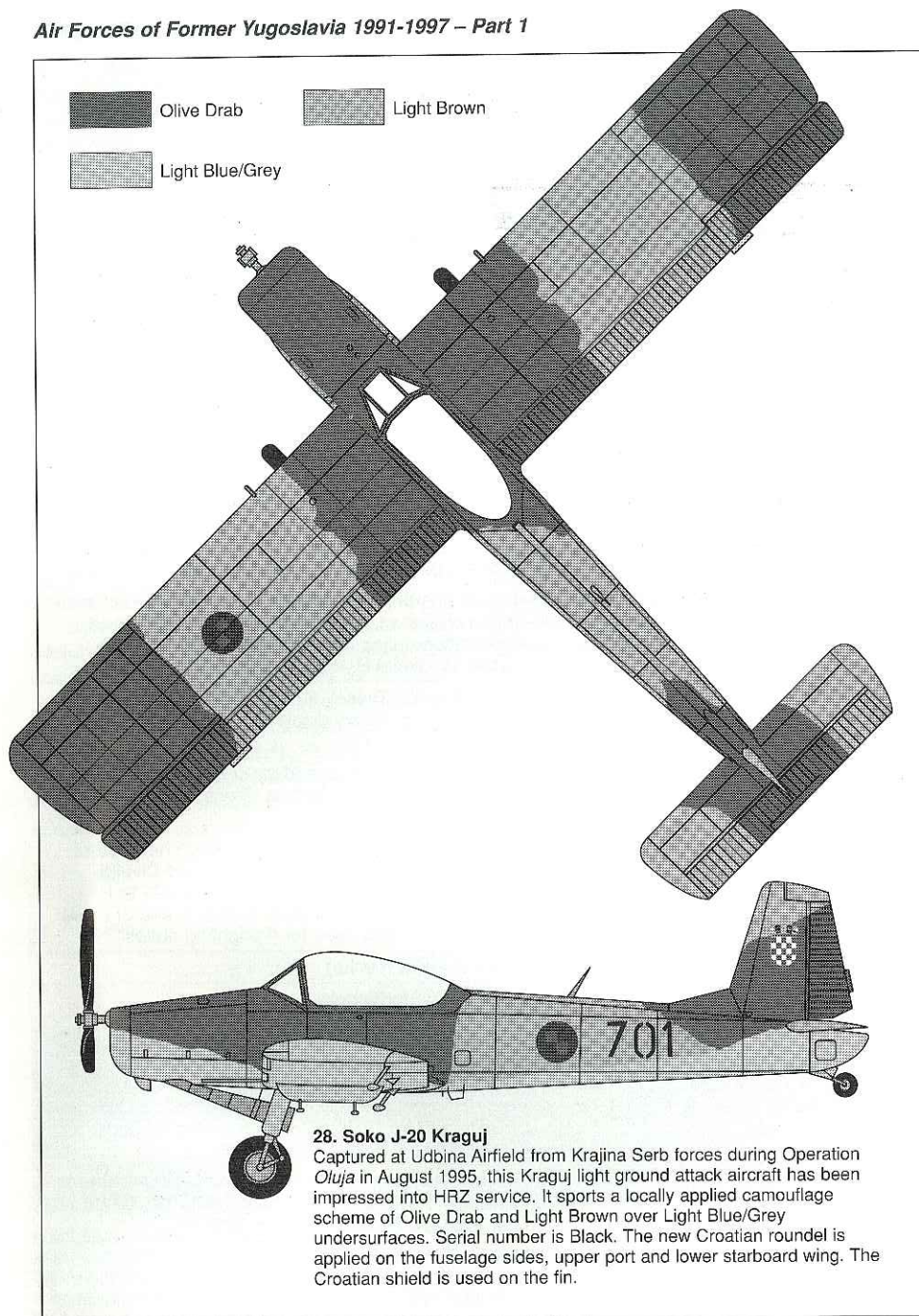
An independent air element has been noted operating in the region, though these aircraft may have been HRZ aircraft wearing Herceg-Bosna insignia. Photographs of these machines are, by the nature of their covert operations, rare, but at least one Mil Mi-8 wore Herceg-Bosnia markings (illustrated on page 47).

Credits

Text and illustrations by Richard Humberstone. Photographs and further information were kindly supplied by Boris Gregurovic, Vojislav Jereb and Mitja Marusko who we would like to thank for their valuable contributions. Part Two of 'Air Forces of Former Yugoslavia 1991-1997' will be published during 1998, with the main emphasis on aircraft of Slovenia, Macedonia, Federal Republic of Yugoslavia and the Bosnian and Krajina Serb air arms, but any corrections and additions to this volume will be welcomed for inclusion as an update section of the book.

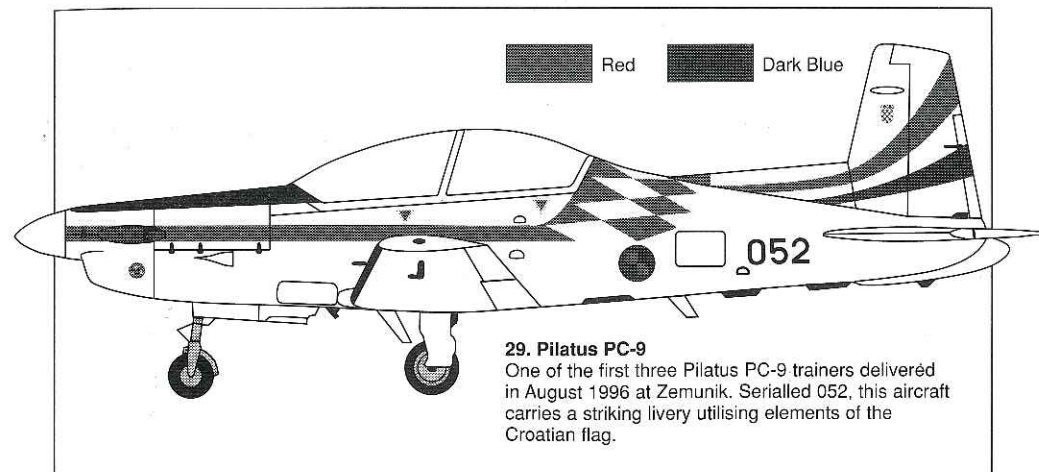
Hrvatsko Ratno Zrakoplovstvo i Protuzračna Obrana (Croatian Military Air Force and Anti-Aircraft Defence) 1995-1997

Type	Quantity	Squadrons Equipped/Notes
Antonov An-2	2	Serving with the Transport Eskadrila, these machines are all that remain of those that fought in the <i>Domovinski Rat</i> .
Antonov An-32B	2	One An-32B carried the civil registration 9A-BAB. This has subsequently been replaced with full military colours and serial, and serves with the Transport Eskadrila.
Bell 206B-3 Jet Ranger III	10	Based at the rotary-wing training unit at Zadar, these aircraft are believed to wear serials in the range 601-610, and wear colourful liveries based on the Croatian flag.
Canadair CL-215	2	Used by the Croatian Police Air Wing for firefighting duties. The examples in-use carry the civil registrations and numbers 9A-CAB '22' and 9A-CAC '33'.
Dornier Do 28	2	Serving with the Transport Eskadrila, one of the Dorniers bears the civil registration 9A-ISC.
Hughes MD-500	?	A small number of these helicopters were purchased on the civilian market for rotary wing training and observation duties. One photographed machine carries the serial H-452.
Mikoyan Gurevich MiG-21bis	30	21st Eskadrila (Pleso), 22nd Eskadrila (Pula). Serials, though rarely displayed, are believed to be in the range 102-131.
Mikoyan Gurevich MiG-21UM	4	The four <i>Mongols</i> are used for conversion/tactical training by the 21st Eskadrila (Pleso) and the 22nd Eskadrila (Pula).
Mil Mi-8MTV	20	20th Eskadrila, based at Lucko, though helicopters are deployed to other bases at Pula and Divulje (Split). Serials are worn in the range H-201 to H-260, as well as the venerable H-101. Some of these machines are also used for firefighting duties.
Mil Mi-17	20	20th Eskadrila (Lucko)
Mil Mi-24V	2	29th Eskadrila (Pleso)
Pilatus PC-9	10	Military Flying School, Zemunik. These recently acquired aircraft wear a colourful livery similar to that used on the Bell Jet Rangers.
Soko G-2 Galeb	1+	Former Yugoslav/Krajina Air Force machine captured at Udbina in August 1995 during Operation <i>Oluja</i> . One example carries the serial 661.
Soko J-20 Kraguj	1+	Former Yugoslav/Krajina Air Force machine captured at Udbina in August 1995 during Operation <i>Oluja</i> . One example carries the serial 701.
UTVA-75	10	Military Flying School, Zemunik. Drawn from the machines that served in the <i>Domovinski Rat</i> , these have been painted in a quasi-civilian colour scheme.



28. Soko J-20 Kraguj

Captured at Udbina Airfield from Krajina Serb forces during Operation *Oluja* in August 1995, this Kraguj light ground attack aircraft has been impressed into HRZ service. It sports a locally applied camouflage scheme of Olive Drab and Light Brown over Light Blue/Grey undersurfaces. Serial number is Black. The new Croatian roundel is applied on the fuselage sides, upper port and lower starboard wing. The Croatian shield is used on the fin.



29. Pilatus PC-9

One of the first three Pilatus PC-9 trainers delivered in August 1996 at Zemunik. Serialled 052, this aircraft carries a striking livery utilising elements of the Croatian flag.

Available references

Books

Hrvatski Zrakoplovi (Croatian Aircraft) by Vojislav Jereb and Danijel Frka, published by Carski Husar, Zagreb, 1994.

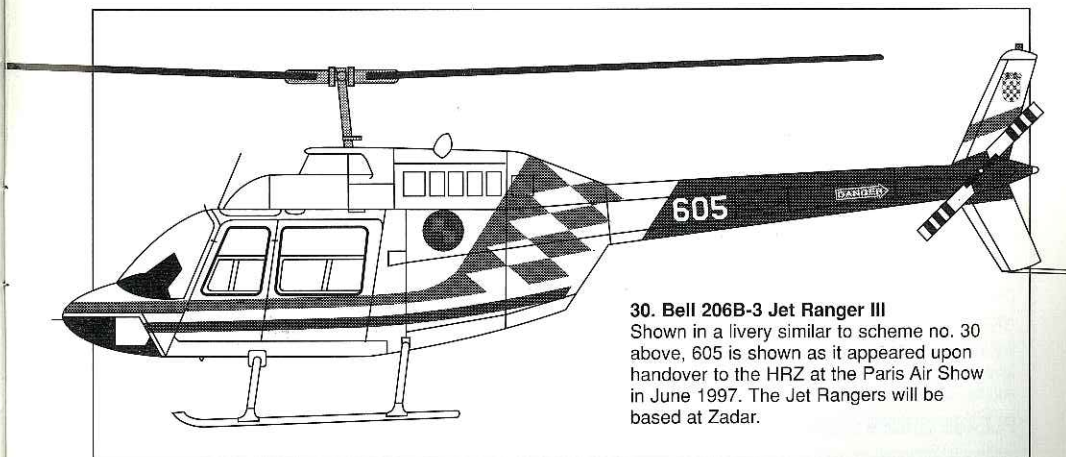
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Hrvatski Vojnik (Croatian Soldier) – Various issues, 1993-1997; *Small Air Forces Observer* – March 1994, March 1996.

1/72 scale decals

Model Aire International – Sheet DCL 6, featuring seven Mikoyan Gurevich MiG-21bis/UM schemes and three Mil Mi-24V schemes; *Delta Decals* – Sheet 72-005, featuring schemes for MiG-21bis, Mil Mi-24V, Mil Mi-8 and Cessna 172; *Blue Rider* – Sheet BR802, featuring schemes for UTV-75, MiG-21bis and three Antonov An-2s.



30. Bell 206B-3 Jet Ranger III

Shown in a livery similar to scheme no. 30 above, 605 is shown as it appeared upon handover to the HRZ at the Paris Air Show in June 1997. The Jet Rangers will be based at Zadar.

Captions to figures on page 47

31. Croatian shield

The Croatian shield, forming the centrepiece of the national flag, served as the main aircraft insignia from 1991 until mid-1993. After 1993 the shield became the official tail marking on HRZ aircraft. Above the shield are the crests of the five regions of Croatia. From left to right these are: *Ilyria* – Yellow six pointed star and White crescent on Light Blue background; *Dubrovnik* – two Red stripes on Dark Blue background; *Dalmatia* – three Yellow with Black detail Venetian lion heads on a Light Blue background; *Istria* – Yellow goat with Black details on Dark Blue background; *Slavonia* – Black Marten on Red stripe edged in White on Light Blue background, with a six pointed Yellow star above the Red stripe.

32. Croatian roundel

Between June and August 1993 a new national insignia was introduced, taking the form of a Dark Blue roundel on wings and fuselage with diagonally opposed Red squares. See pages 20, 21, 32, 35, 41, 44 & 45.

33. Croatian Army shield

This interim marking scheme appeared during the early months of the war on aircraft of the *Cakovec Light Combat Aircraft Squadron*. It consists of a Croat shield with Silver/Grey squares instead of the more usual White, and the legend *HRVATSKA VOJSKA* (Croatian Army) in Silver/Grey underneath on a White background. These industrially produced Croatian Army stickers were frequently to be seen on aircraft in a torn and tattered condition. Aircraft carrying these stickers included the UTVA-75 and Antonov An-2 Colt. See pages 12, 14, 22 & 23.

34. HZS unofficial badge 1

The 4th Brigade based at Split was the first unit to wear military insignia – most aircraft during the early part of the war carried no national markings, though most were camouflaged. This unofficial HZS insignia appeared on the 4th Brigade's UTVA-75s and Cessna F.172N. See page 15.

35. HZS unofficial badge 2

Another version of the HZS badge appeared on the 4th Brigade's Antonov An-2, with the legend *SZO SPLIT* underneath the shield. See page 20.

36. SZV Osijek badge

Worn by aircraft no. 5 of SZV Osijek, an Antonov An-2 Colt, this badge features the Black Marten of Slavonia. Similar badges were worn by other aircraft of this unit. See pages 23 & 26.

37. Osvetnik Dubrovnik

Worn by MiG-21bis '102' of the 1st Fighter Squadron, this shield carries the arms of Dubrovnik, featuring the city's patron saint, St. Blaise. The Croat legend translates as 'Avenger of Dubrovnik'. See pages 36, 37 & 38.

38. Osvetnik Vukovara

MiG-21bis '103' of the 1st (later the 21st) Fighter Squadron carries the arms of the city of Vukovar. This badge has been used on both the Light Grey and camouflaged colour schemes of '103'. The legend translates as 'Avenger of Vukovar'. See pages 37 & 38.

39. 1st Fighter Squadron badge

This squadron marking initially appeared only on the forward port fuselage of the 1st Fighter Squadron's MiGs, but was later used on both fuselage sides on camouflaged examples. See pages 36, 37 & 38.

40. 22nd Fighter Squadron badge

The finalised design for the 22nd Fighter Squadron badge (not yet noted in use on any of the Squadron's aircraft).

41. Gnat

This badge appears on the forward fuselage of Croatia's Mil Mi-24V gunships. See page 42.

42. Herceg-Bosna shield

The only known (and rarely photographed) insignia used of the aircraft of the Herceg-Bosna air arm.

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