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The Hungarian People's Army's Efforts into Reconnaissance Aircraft Development during the Cold War Years

A Magyar Néphadsereg törekvései a felderítőrepülők fejlesztésére a „kis hidegháborús évek" alatt

Abstract

The Member States of Warsaw Pact and the Soviet Union falling behind the West. The hungarian youth turning from the socialist line of conduct. Shortage of regular personnel also pilot personnel in armed forces. Hungarian pilot trainings are emerged suddenly. Development of Hungarian People's Army services. The No. 00085 directive tasking for Air Command. Letter from Marshall Victor Kulikov regarding offers for types of aicrafts to be purchased, infrastructures, set up units.

Key Words: falling behind the West, shortage of regular personnel in armed forces, pilot training in Hungary, air force creation, offer, rigid wing aircraft purchase, airport network, reconnaissance aircrafts

Absztrakt

A Varsói Szerződés tagállamai és a Szovjetunió lemaradása a nyugattal szemben. A magyar fiatalok világnézeti elfordulása a szocialista irányvonaltól. Létszámhiány a hivatásos katonai pályán, közöttük a repülőgép-vezetői pályán is. A magyarországi pilótaképzés felvetődése. A Magyar Néphadsereg haderőnemeinek fejlesztése. A 00085-ös direktíva feladatszabása a csapatrepülő parancsnokság részére. Viktor Kulikov marsall levele a magyar Honvédelmi Miniszterhez ajánlásokkal a beszerzendő repülőgép típusokra, az infrastruktúrára és a felállítandó egységekre.

Kulcsszavak: Lemaradás a nyugattól; létszámhiány a katonai pályán; hazai pilótaképzés; hadsereg-repülő erők létrehozása; ajánlás; merevszárnyú repülőgépek beszerzése; repülőtér hálózat; felderítőrepülő-gépek;

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At the end of the 1970s and the beginning of 1980s looking at the military political, foreign political actions made primarily the Soviet Union and also the leaders of member states of Warsaw Pact to take measures for security of socialist side and the Soviet Union within the socialist block. That's all the more, because there has been shown an increasing falling behind the West regarding military and economy by actions at that time. There was increased awareness of that by military and political leaders of member states of WP at the ordered annual armed forced and other international military technical demonstrations. Furthermore – based on Hungary – the military carreer was less and less popular from the youth point of view. It was impossible to have all the western movies, various music trends, newspapers, and television programms controlled or prohibited. There were seen good and attractive opportunties only in western life by citizens as tourist arrived back from western countries. All these were confirmed by visitor dissindents. The youth wanted other things. The Central Committe of Hungarian Socialist Worker's Party was getting older and did not find the right note with young people, even sometimes some political leaders abuses of power have been revealed. There was existed the „dangerous buming" as a form of criminal law, but people could be working just barely in public sector. The security of exsistence was given to the people too cheap, and also it was under estimated. The excessive debt of the country to the West slowly became sensible. All these and the more and more obvious falling behind technically to the West were the main reasons of the so called gulash socializm's downturn. The military career has been loathed by the military leaders due to the compulsory military service. The leaders were not able to limit the abuses against conscripts, some of them killed.

The Hungarian People'Army was struggling with shortage of personnel- the military career was not attractive anymore. Unfortunately, it was true for the thought to be the most attractive military job, the pilots as well. Years after years ther were less and less pilots. The instructions for how to be a pilot were working, but there was a way how a candidate can leave the job before officer graduation. In he 1980s an idea was put on agenda such as trainings for pilots in Hungary[2] was raised by the military top leadership due to mainly economic opportunities in Hungary. Our leadership was about to solve the problems of our people's army's overwhelming shortage of personnel, the army service development and modernization with the lowest expenditure and with reorganizations. The Chief Commander of United Military Forces of Warsaw Convention – Marshal Viktor Kulikov- and the Chief of General Staff of the Soviet Armed Forces – N. Ogarkov the marshal of the Soviet Union reacted to Lajos Czinege -General of the Army and Minister of Defense of the Hungarian People's Republic[3] in a collective letter has been sent for our endeavour.

[2] HL. KI. HM Secretariat 1980-1989. 8. pack (d.) 24 guarding unit (őe.) Proposal for solution of pilots training in Hungary (Study from the Chief of Air Force HPA to the HPA REF. Military Secretery)
[3] HL. K.I. HM. Secretariat 1980-1985. 8 d. 19 őe. V. Kulikov, Marshal of USSR CC UMF of WP and N Orgakov, Marshal of USSR, top secret letter of Chief of General Staff of the Soviet Armed Forces to Lajos Czinege HPR MD 0084/1980 HMT Moscow 12th of 03. 1980.

HADTUDOMÁNYI SZEMLE

2018. XI. évfolyam 4. szám

Viktor Georgievics Kulikov
Marshal of the Soviet Union
Chief of General Staff of the Soviet Armed Forces

Nyikolaj Orgakov
Marshal of Soviet Union
General Staff of the Soviet Union

The No. 00085 Directive[4] by The Minister of Defense of Hungarian People's Republic has been born under circumstances as above and presented the army service leaders of Hungarian Armed Forces with a specific challenge. The No.00085 Directive – tasks for the development and preparation the Hungarian People's Army between 1981-1985 – endeavoured to meet the requirements of Supreme Commander of the Unified Armed Forces of the Warsaw Treaty Organization and the USSR as allience. Despite in the Hungarian People's Army there were few of politically adverse selected general officers in decision-maker position in addition without the proper education and knowledge, our military leadership did not jump into the development senselessly.

The directive is determining regarding air force on the side 39th: *There should be achieved a remarkably significant progress with air forced development regarding giving air support directly for land forces, to ensure the reconnaissance and the leadership technical*

[4] HL. KI. Ministry of Defense (MD) orders 1980-1989. 13 pack (d) The No. 00085. Directive of MD HPR the tasks for development and preparations of HPA between 1981-1985 Budapest (Bp) 1981. Record: 00028/36/1981/HDM. BP. 16th. 04. 1981. already existing airports and buildings the organizations and dislocations – better geared to be incorporated. (original writing K.I.)

conditions.... squadron with new, modern, multi-purpose aircrafts..... basically built on the (original writing K.I.)
On the side 58. also to the air force: *At the Air Force there should be increased the personnel's preperations in the task of .... the reconnaissance.... driving security enforcement*. (original writing K.I.)

Lajos Czinege, General of the Army and Minister of Defense of the Hungarian People's Republic

1981 reacting to implementation of Directive is presented on th 19th of June 1983. in a top secret letter was sent by Marshal Kulikov,[5] the CC UMF of WP brought to General Lajos Czinege's attention the quite slow procedure of forming the preferable air force. Using Viktor Kulikov words considering the last 10 years, this procedure is going to be extremely slow, afterwards as CC UMF of WP is giving an offer to our Minister of Defense. His offer considering the rigid wing aircraft according to the combat units as follows:[6]

- one reconnaissance squadron, with 12pcs SU-22M3 jets till 1986.
- with 12 pcs unmanned reconnaissance jets one sqaudron
- one fighter regiment:
    - 13 pcs MiG21-MLD till 1991
    - 12 pcs MiG 21MF till 1991
    - 15 pcs Mi G21 bisz till 1991

[5] HL. KI. HM. Secretariat 1980-1989. 8 d. 16 őe. suggestion of V. Kulikov, Marshal of USSR CC UMF of WP to the structure of HPA's air power 19th of June 1983 No. SOVSZR / 000781
[6] S.p. in table attachment Summary

- Fighter jets regiment 40 pcs MiG 21 bisz till 1996[7]
- Fighter jets regiment 40 pcs MiG 29 till 1996

Considering the person and status of the offerer this offer can not be refused- at least that was an expectation as a member country of WP. On the whole at the end of the year 1996. The Hungarian People's Army should have[8] had 172 pcs rigid wing aircraft in their possession. The number of our aiports should have been increased to 21. We had number of airports should have been formed to concrete surfaced first class airport included Siófok, Jánoshalma, Martfű, Nagyszénás. If not the purchasing airplanes, but building airports would have caused economic crisis.
Aircrafts we should have bought:

1. SU22-M3 - have been bought deployed 12 pcs fighter and 3 pcs for practicing
2. SU-25 - in the end have not been purchased – the modification decided got into development progress
3. MiG-21 bisz located in Taszár and Pápa purchasing this type was planned permanently
4. MiG-21- MF located and based at Regiment Kecskemét
5. MiG-23 MF based at Pápa 12 pcs and 3 pcs MiG-23UB
6. 6. MiG-29 -arrived at Hungary in 1993. in service from 1994. in Kecskemét -22 pcs MiG- 29B and 6pcs MiG- 29 UB (all together 28pcs
7. 12 pcs TU-143 VR-3R unmanned short range tactical reconnaissance system

For these jets the offered distribution was as follows:

1 fighter regiment 13pcs MiG 23MLD 12 pcs MiG-23 MF 15pcs MiG-21 bisz	1 fighter regiment 40pcs MIG-21 bisz	1fighter regiment 40pcs MiG-29
1 fighter bomber regiment 40pcsSU-25	1 reconnaissance squadron 12 pcs SU-22M3R	

and 12 pcs TU-143 VR-3R unmanned short range tactical reconnaissance system.

[7] Regarding the years Marshal V.Kulikov's offer went beyond the perspective of No. 00085 Directive.
[8] S.p. in table attachment Summary

Deployed member of the 101. reconnaissance squadron SU-22M3

Technical parameters:[9]
3rd generation 1 seated, K-36DM fitted aircraft also fitted with danger ejection system
Supersonic, 1 turbojet, it has variable sweep wing, fighter bomber
Powerplant: Tumanskij R-55BS – Dry thrust 78kN; Thrust with afterburner 111,5 kN)
Beginning of development is started at the beginning of 1960 with SU-7 basic type
Armament and equipments make possible with proper high efficiency:

- destroying on low and middle altitude the visualized ground and water surface targets
- attacking visualized air targets using missile R-60, R-13 M, auto cannons fire, and non guided missiles
- self defense against attacking air targets using R-60 and R13M air to air missiles
- eliminating visualized moving and not moving ground targets using H-23ML air to ground missile, quite good hitting accuracy with KLEN equipment using H-25ML air to ground missile from th edistance 10 km;
- destroying radio stations which continously working with 3cm wave lenghtusing H-25MP air to ground missile, with VJUGA equipment from the distance 40 km which can be hung separetly

[9] Military technique March-June year 1998 XXXII. SU–22M3 fighter bomber Part I.- Dr. László Czövek col., Military technique Apryl-June year 1998 XXXII. SU–22M3 fighter bomber Part II. –Nyers József major

Main specifications:

1. Regular datas:

Length with PVD: 19,006 m
Height stationary: 5,129 m

2. Wing datas:

a) wingspan:with wing spread at 30 grad 13,680m
b) wingarea: with wing spread at 30 grad 38,49m2
c) wingspan with wing spread at 63grad 10,025 m
d) wing area: with wing spread at 63grad 34,5m2
e) flaps area:
   - 1 not moving part: 1,91 m2
   - 2 turnable part: 1,998 m2
   - 3 flaps deflection 25 grad

3. Aircarft fuselage:

Diameter of fuselage: 1.634m
Length: 15,672 m
Fuslage flaps all surface: 1,32m2
Fuselage flaps maximum deflection: 50 grad

4. Horizontal stabilizer:

a) wing span 4,762m
b) overstream area: 5,58 m2

5. Vertical stabilizer:

a) area: 5,535m2
b) wing swept angle: 55grad
c) main rudder: 0,924m2
d) rudder maximum deflection angle: +-25grad

6. Performance:[10]

1. flight performance:
   a) maximum horizontal flight speed without load using afterburner wing swept angle 63 grad

[10] personal notes based on flight policies. Museum of Military History. (Library of Military History) No.52MK instructions of operational engineering. Service technolgy. Preparation to flight. Ministry of Defense Budapest, 1984.

1 close to ground(H=200m) 1350 km/h
2 (H=11000m) 1900-2230 km/h (M=2,0)

b) practical flight distance
without load(H=11000m, Vm=530km/h, wing swept angle=45grad: 1450 km/h

c) take off and landing speed:
- take off speed:

1. 350 km/h (normal weight)
2. 390 km/h (max weight)

- landing speed:

1. 280 km/h (normal weight)
2. 295 km/h (max. weight)

d) critical speed datas:
1. 30 grad wing swept angle: 180-210 km/h
2. 45 grad wing swept angle: 240-250 km/h
3. 63 grad wing swept angle: 250-260 km/h

e) minimum speed datas:
1. 30 and 45 grad wing swept angle: 400 km/h
2. 2. 63 grad wing swept angle: 450 km/h

f) optimal speed datas:
1. 30 grad wing swept angle: 450-470 km/h
2. 45 grad wing swept angle: 480-500 km/h
3. 63 grad wing swept angle: 550-570 km/h

g) max. speed datas
1. 30 grad wing swept angle: H=700 -900 km/h (Mmax=0,85)
2. 45 grad wing swept angle: H<9500m -1100 km/h (Mmax=1,5)
3. 63 grad wing swept angle: H<11000m 1350 km/h -(Mmax=2

2. Weight:
a) empty weight: 10840 kg
b) max take off weight : 19640 kg
c) normal take off weight: 16370 kg
d) landing weight (with 1800 kg fuel) : 12500 kg
e) landing weight (with 910 kg fuel) : 122230kg
f) max. legal landing weight : 13400 kg
g) max.limited landing weight: 14800 kg (it can be max. 3% of the all landing)

3. Wing angles:

a) legal wing angle with load
   1. 30 grad wing swept angle: 20grad
   2. 45 grad wing swept angle: 22grad
   3. 63 grad wing swept angle: 24grad

b) legal wing angle without load:
   1. 30 grad wing swept angle: 22grad
   2. 45 grad wing swept angle: 24grad
   3. 63 grad wing swept angle: 26grad

c) critical wing angle 38grad-26grad the lengthway stabilizing is lost

4. over load datas:

1.ny=30grad less or equal, mint 3g
1.ny=45grad less or equal, mint 5,5g
1.ny=63grad less or equal, mint 6g

SU- 25 as a member of regiment fighter bomber according to a long range idea

Main datas:
1. Regular datas:
   a. crew 1 person
   b. b.close support aircraft
   c. First take off 22.02.1975.
   d. d.first mission first quarter 1981.
   e. K-36 ejection seat
   f. f, big mass of armature
   g. g. It is able to operate from ground not previously prepared, for it's operation it is able to take the toolings even in containers

2,Geometric datas:
   a. a.length: 15,53m
   b. b.wingspan: 14,36m
   c. c.height: 4,8m
   d. d.wing area: 30,1m2

3,Weight datas:
   a. a.Weight without armament: 9185 kg
   b. b.Max take off weight:17600 kg
   c. c.Thrust/mass: 0,5 l

4. Flight datas:
   a. Max speed : 975 km/h
   b. b.radius of operation:375 km
   c. reach:1950 km
   d. d.service ceiling: 7000m
   e. e.rate of climb :58 m/s

5. 2 pcs Tumanskij turbojets; thrust: 2×44kN
6. Armament
built in – GS- 2 twin autocannon, also it is able carry other weapons:
   1. 1.NIR blocks with 57mm and 80mm missiles
   2. 2.Guided missile H-25, H-24,H-29
   3. 3.Air bombs
   4. 4.For self defence R-60 infra red self guided air missiles

HADTUDOMÁNYI SZEMLE

2018. XI. évfolyam 4. szám

TU-143 VR-3R unmanned short range tactical reconnaissance system[11]

It is designed for tactical reconnaissance unmanned aircraft for entering enemy territories for 50-60 km depth. Production for quantities started in aircraft in Kamertau in Baskir in1973. 950 pcs have been made till 1989.

It was put in the system in the Soviet air force in 1982. It is in service in Ukraine and in Russia. Some of them were sold to Syria and Iraq, Syria used them against Iraq at that time. It was deployed in Romania, also was bought by the Czechoslovakia. in the Hungarin Air Force there was a plan about purchasing 12 pcs of it. After Czech Republic and Slovakia split they were used in both countries, finally they were pulled out of servicein 1995. After a short period of time Romania has also reisigned them.

Main Datas:

Built in camera type PA-1

1pcs Csibisz-B type of Tv camera

1 pcs Sigma built in radiance meter equipment

Measurements:

- Length 8,06 m
- wingspan: 2,24 m
- height: 1,545 m
- take off weight 1230 kg

[11] Ferenc Hajdú-Gyula Sárhidai: Strategy and action unmanned robot aircrafts, Zrínyi Kiadó, Bp,2007 ISBN 978-963-327-427-9

Flight parameters:
Travelling speed: 875-950 KM
Travelling height:200-1000 m
Taking aerial photo: 200-1000m; optimal height is 500m
Television reconnaissance: 300-1000m;
Lowest flight: 10 m
Reach: 170-180 km
Powerplant: 1 pc of KlimovTR3-117 type of turbojet
Starting: SZPU-143 starter (towed delivery starter vehicle with startmissile)
Start missile type: SZPRD-251
Thrust: 5,8 kN
Other equipments:

- ABSZU-143 controller fitted with unmanned aircraft
- DISZSZ-7 type of speedometer
- A-32 type of radio height controller
- After action come back parachute, retro rocket.

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