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**Top Secret**

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basic imagery interpretation report

## **Mostar Airframe Plant Soko and Mostar/Soko Airfield (S)**

**STRATEGIC WEAPONS INDUSTRIAL FACILITIES**

**BE: Various  
YUGOSLAVIA**

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INSTALLATION OR ACTIVITY NAME		COUNTRY
Mostar Airframe Plant Soko and Mostar/Soko Airfield		YO
UTM COORDINATES	GEOGRAPHIC COORDINATES	
NA	43-18-40N 017-48-08E 43-18-06N 017-48-42E	
MAP REFERENCE		
DMA. USATC, Series 200, Sheet 0321-5, scale 1:200,000		
LATEST IMAGERY USED		NEGATION DATE, if required
[REDACTED]		NA

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**ABSTRACT**

1. (S/D) This is the initial NPIC basic report on Mostar Airframe Plant Soko, Yugoslavia, and the collocated Mostar/Soko Airfield, the primary test and flyaway field for the plant. The basic reporting requirement for this target is satisfied by this report. As of [REDACTED] Mostar Airframe Plant Soko consisted of 84 buildings and structures with a total floorspace of 122,466 square meters. An additional 3,914 square meters of floorspace were under construction. Mostar/Soko Airfield consisted of 69 buildings and structures with a total floorspace of 58,565 square meters. An additional 1,018 square meters of floorspace were under construction.

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2. (S/D) A description of both Mostar Airframe Plant Soko and Mostar/Soko Airfield; a construction chronology; and aircraft production, assembly, and repair activity at both facilities are provided in this report. This report also contains a location map, three annotated photographs, six small-format photographs, two tables of mensural and chronological data, a table of aircraft observations, and a chart illustrating production activity at the plant.

3. (S/D) Mostar Airfield, the secondary test and flyaway field for the plant, is also discussed briefly in this report.

**INTRODUCTION**

4. (S/D) Mostar Airframe Plant Soko and Mostar/Soko Airfield (Figure 1) occupy an area of approximately 223.2 hectares, 4 nautical miles (nm) south of Mostar. These facilities are on relatively flat ground in the western floodplain of the Neretva River. The Mostar area has a generally mild climate and receives sparse rainfall. Future plant expansion is possible to both the north and west but would require the displacement of a small civilian population.

5. (S/D) Mostar Airframe Plant Soko (Figure 2) consists of four basic facilities—a fabrication facility, Mostar Airframe Plant Soko proper; a primary test and flyaway field, Mostar/Soko Airfield; a secondary test and flyaway field, Mostar Airfield ([REDACTED]); and a concrete taxiway connecting the fabrication area and Mostar Airfield. Since Mostar Airfield is only peripherally related to aircraft production activity, it is mentioned only briefly.

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6. (S/D) Mostar Airframe Plant Soko (Figure 3) is secured by a 3-meter-high fence. Entrance to the plant is restricted to three vehicle/pedestrian entrances and one aircraft (taxiway) entrance.

**BASIC DESCRIPTION****General Description****Mostar Airframe Plant Soko**

7. (S/D) Mostar Airframe Plant Soko (Figure 3) occupies an area of 36.9 hectares and consists of 84 buildings and structures of which 82 (Table 1) are considered to be significant. The plant consists of a separately secured administration/engineering area and a separately secured fabrication area.

8. (S/D) The administration/engineering area (Figure 3 and Table 1) occupies the extreme eastern portion of the plant and is separated from the fabrication area by a wall. The area contains 12 significant buildings—two administration/engineering buildings (items 3 and 4), four engineering buildings (items 2 and 8 through 10), a shop building (item 11), a vehicle storage/maintenance building (item 1), and four apartment buildings (items 5 through 7 and 12).

9. (S/D) The fabrication area occupies the major part of the plant and contains 72 buildings and structures; 70 are considered to be significant. There are four administration/engineering buildings (items 30, 31, 43, and 51), two final assembly buildings (items 60 and 79), six fabrication/assembly buildings (items 18, 37, 50, 52, 55, and 61), five subassembly buildings (items 39, 40, 46, 48, and 67), three engineering/shop buildings (items 17, 47, and 69), six shop buildings (items 24, 41, 45, 68, 71, and 75), an engine test building (item 65), a rotor test facility (item 63), a steam/heating plant (item 66), a compressor building (item 42), an aircraft checkout apron (item 80), a communication building (item 14), five security buildings (items 15, 16, 21, 26, and 27), a dispatch office (item 23), a dispensary (item 20), a vehicle maintenance building (item 44), three vehicle storage buildings (items 13, 22, and 28), a covered work area (item 19), 17 storage buildings (items 25, 29, 32 through 36, 38, 49, 56 through 59, 70, 72, 73, and 76), four support

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buildings (items 53, 54, 62, and 64), and five buildings under construction (items 74, 77, 78, 81, and 82).

10. (S/D) As of [ ] (the information cutoff date for this report), the plant contained approximately 122,466 square meters of usable floorspace with an additional 3,914 square meters under construction. A functional breakdown of this floorspace is presented in the following table.

Function	Floorspace (sq m)	Percent of Total
Administration/engineering	28,508	23.3
Fabrication/assembly	65,425	53.4
Direct support	15,954	13.0
General support	12,579	10.3
Current floorspace	122,466	100.0
Under construction	3,914	
Total projected floorspace	126,380	

#### Mostar/Soko Airfield

11. (S/D) Mostar/Soko Airfield occupies an area of 186.3 hectares and comprises 69 buildings and structures. Sixty-one of these buildings are considered to be significant. Flight support facilities at the airfield (Figure 4) includes a 1,492- by 51-meter, north-northeast/south-southwest, serviceable sod runway, delineated by corner and side markers; a light-aircraft parking apron; a helicopter checkout apron; and a compass rose. No electronic navigational aids were at the airfield. The airfield consists of four functional areas—an explosives storage area, an administration and security area, a housing and recreation area, and a production support and repair area.

12. (S/D) The explosives storage area (Figure 4 and Table 2) contains three explosives storage buildings (items 1 through 3) and is separately fence-secured. Access is restricted by a swing gate on the south edge of the area.

13. (S/D) The administration and security area occupies the northwest corner of the airfield and contains five buildings. Four are considered to be significant—two administration buildings (items 4 and 6) and two security buildings (items 5 and 7). All vehicular and pedestrian traffic entering the airfield must pass through this area. The eastern portion of this area supports a troop training facility

consisting of an oval track and two troop obstacle courses.

14. (S/D) The housing and recreation area is southwest of the administration and security area. The area contains 16 buildings and structures; 15 buildings are considered to be significant. These include three administration buildings (items 10, 14, and 21), two officers' quarters (items 8 and 12), three barracks (items 9, 11, and 13), a messhall (item 15), a chapel (item 16), a laundry (item 22), a

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recreation center (item 19), a shower/dressing room (item 17), a support building (item 20), and a building under construction (item 18). Recreational facilities in this area include an oval track, six basketball courts, two tennis courts, a volleyball court, a swimming pool, and three troop obstacle courses.

15. (S/D) The production support and repair area contains 46 buildings. Of the 46, 39 buildings are considered to be significant. These include three administration buildings (items 42, 43, and 45), four engineering buildings (items 29, 30, 35, and 36), two checkout/paint hangars (items 49 and 56), an electronic checkout and repair hangar (item 37), seven checkout/repair hangars (items 23 through 28 and 31), two repair hangars (items 57 and 61), two shop buildings (items 32 and 38), an engine run-up building (item 44), an operations building (item 34), three weapons storage buildings (items 58 through 60), a messhall (item 48), two vehicle maintenance buildings (items 50 and 51), four vehicle storage buildings (items 40, 41, 54, and 55), a POL storage building (item 52), three storage buildings (items 39, 46, and 47), and two support buildings (items 33 and 53). A troop training area at the south end of the airfield consists of a chemical, biological, and radiological dosimetric training facility and numerous field firing positions for both antiaircraft and field artillery.

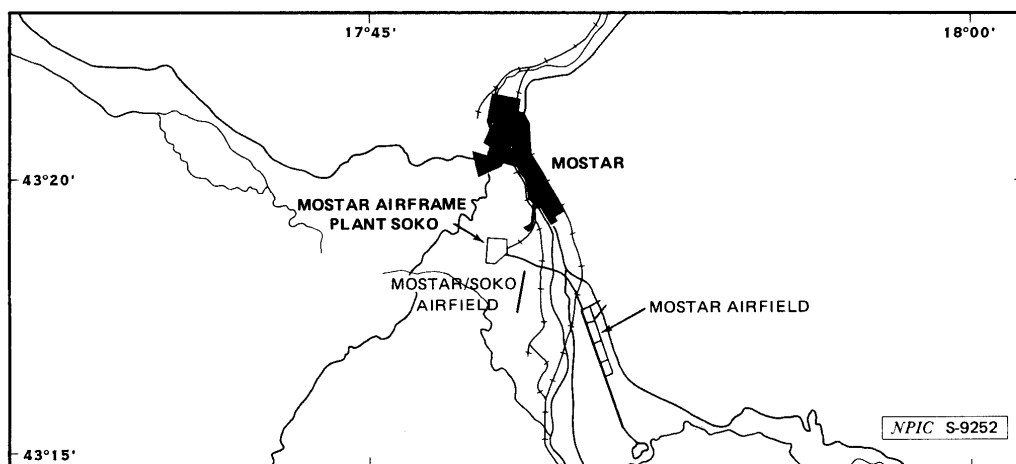


FIGURE 1. LOCATION OF MOSTAR AIRFRAME PLANT SOKO AND MOSTAR/SOKO AIRFIELD, YUGOSLAVIA

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16. (S/D) As of [REDACTED] Mostar/-Soko Airfield contained approximately 58,565 square meters of floorspace with an additional 1,018 square meters under construction. Mostar/-Soko Airfield serves as the primary test and flyaway airfield for all fixed-wing, propeller-driven aircraft and helicopters produced at Mostar Airframe Plant Soko. The airfield is also the preflight checkout facility for all aircraft produced at the plant. Further details of activity at this airfield will be discussed later in this report.

17. (S/D) Mostar Airfield is on the eastern floodplain of the Neretva River, 2 nm southeast of Mostar Airframe Plant Soko (Figure 2), and is connected to the plant by a concrete taxiway. The airfield is the secondary test and flyaway field for all jet-engined aircraft produced at the plant. However, since Mostar Airfield also houses an operational Yugoslav Air Force (YAF) fighter-

bomber squadron and two helicopter training squadrons,<sup>1</sup> this airfield was not considered, for purposes of this report, to be an operational part of Mostar Airframe Plant Soko. Mostar Airfield has a 2,393- by 46-meter, northwest/southwest, serviceable concrete runway and has limited electronic navigational aids.

### Construction Chronology

#### Mostar Airframe Plant Soko

18. (S/D) The earliest available coverage of Mostar Airframe Plant Soko was aircraft photography of [REDACTED] At that time, the plant consisted of 18 major buildings with a total floorspace of 42,500 square meters. Buildings observed in the administration/engineering area (Figure 3 and Table 1) were two administration/engineering  
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Table 1.  
Structures, Dimensions, and Construction Chronology at Mostar  
Airframe Plant Soko (Items keyed to Figure 3)  
This table in its entirety is classified TOP SECRET RUFF

Item									Item									Item									
Description		Dimensions (m)		Total Floorpace (sq m)	Date first Observed Ucon	Date Observed Complete	Remarks		Description		Dimensions* (m)		Total Floorpace (sq m)	Date first Observed Ucon	Date Observed Complete	Remarks		Description		Dimensions (m)		Total Floorpace (sq m)	Date first Observed Ucon	Date Observed Complete	Remarks		
L	W	H							L	W	H							L	W	H							
Administration/Engineering Area																											
1	Veh stor/maint bldg			1,006	**				34	PUG stor bldg			100	**			5 drive-down ramps	58	Stor bldg			423	**				
a	Veh stor sect			339	**								104	**				59	Stor bldg			325	**				
b	Veh maint sect			1,015	**				35	Stor bldg								60	Final assem hall			10,929	**				
2	Engr bldg			243	**				36	Stor bldg			296	**			Quonset	a	Final assem hall			578	**		3 stories		
a	Sect			114	**				a	Sect			51	**				b	Engr sect			57	**				
b	Sect			551	**			2 stories	b	Sect			69	**				c	Admin/security sect			60	**				
3	Admin/engr bldg			923	**				37	Fab/assem bldg			7,773	**				d	Admin/security sect			60	**				
4	Admin/engr bldg			375	**			2 stories	a	Fab/assem sect			1,437	**				61	Fab/assem bldg			7,507	**				
5	Apartment bldg			375	**			2 stories	b	Engr sect			865	**			Ucon	a	Fab/assem sect			461	**				
6	Apartment bldg			343	**			2 stories	c	Engr sect ucon			674	**				b	Shop sect			95	**				
7	Apartment bldg			443	**				d	Engr sect			94	**				c	Spt sect			113	**				
8	Engr bldg			1,192	**			2 stories	38	Stor bldg			3,934	**				62	Spt bldg			60	**				
9	Engr bldg			202	**				39	Subassem bldg			3,780	**				63	Rotor test fac			113	**				
10	Engr bldg			163	**				40	Subassem bldg			224	**				a	Engr sect			135	**				
11	Shop bldg			408	**			2 stories	41	Shop bldg								b	Rotor test stand			209	**				
12	Apartment bldg								42	Compressor bldg			873	**				64	Spt bldg								
Fabrication Area																											
13	Veh stor bldg			1,677	**				a	Compressor sect			105	**				65	Engine test bldg			209	**		2 through-type sea level test cells with central engr area		
14	Commo bldg			19	**				b	Shop sect			59	**													
15	Security bldg			11	**				c	Engr sect			27	**													
16	Security bldg			64	**				d	Stor/spt sect			334	**			2 stories; overall dimen										
17	Engr/shop bldg			288	**				43	Admin/engr bldg			542	**				66	Steam/test plant			466	**		Floorpace includes two small annexes		
a	Shop sect			293	**				44	Veh maint bldg			172	**				a	Generator hall								
b	Engr sect								45	Shop bldg			2,648	**				b	Engr sect			343	**				
18	Fab/assem bldg			6,663				Overall dimen	46	Subassem bldg								c	Cool prep sect			183	**				
a	Fab/assem sect			289	**				47	Engr/shop bldg			1,354	**				d	Conveyor sect			34	**				
b	Stor sect			805	**			Formerly a separate bldg	b	Spt sect			268	**				a	Subassem sect			3,531	**		2 stories		
c	Warehouse sect			1,239	**			Overall dimen	c	Shop sect			1,229	**				b	Engr sect			127	**				
d	Engr sect			822	**				d	Spt sect			239	**				c	Spt sect			48	**				
e	Engr sect			71	**				48	Subassem bldg			3,628	**			Sect rebuilt between	68	Shop bldg			210	**				
19	Covered work area			380	**				a	Subassem sect								b	Stor sect			123	**				
20	Dispensary			104	**								2,510	**				69	Engr/shop bldg			515	**		2 stories		
21	Security bldg			216	**				b	Shop sect			596	**				a	Shop sect			314	**				
22	Veh stor bldg			169	**				c	Shop sect			279	**				b	Engr sect			86	**				
23	Dispatch office			533	**				d	Stor sect			12	**				70	Stor bldg			353	**				
24	Shop bldg			68	**				49	Stor bldg								71	Shop bldg			124	**				
25	Security bldg			61	**				50	Fab/assem bldg			2,025	**				72	Stor bldg			86	**				
26	Security bldg			21	**				a	Fab/assem sect			732	**				73	Stor bldg			84	**				
27	Security bldg			187	**				b	Engr sect							2 stories	74	Bldg ucon			(136)			Ucon; early stage		
28	Veh stor bldg			71	**				c	Admin sect			563	**				75	Shop bldg								
29	Stor bldg			175	**				d	Shop sect			378	**				a	Shop sect			1,280	**				
30	Admin/engr bldg			96	**				51	Admin/engr bldg			3,649	**			5 stories	b	Stor sect			35	**				
a	Admin sect			274	**			2 stories	a	Fab/assem			965	**				76	Stor bldg			30	**		Ucon; early stage		
b	Veh stor sect			130	**			2 stories	b	Shop sect			92	**				77	Bldg ucon			(993)	**				
c	Spt sect			3,244	**			2 stories with a 3-story subsect	c	Engr sect			321	**			2 stories	78	Bldg ucon			(708)			Ucon; early stage		
d	Engr sect			235	**				53	Spt bldg			71	**				a	Final assem hall			7,797	**				
e	Engr sect			4,265	**				54	Spt bldg			69	**				b	Final assem hall			2,810	**		2 stories		
31	Admin/engr bldg			235	**				a	Fab/assem			7,777	**				80	Aircraft checkout apron								
a	Admin sect			235	**				b	Shop sect			699	**				81	Bldg ucon			(466)			Ucon; midstage		
b	Veh stor sect			4,265	**			2 stories; center subsect is single story	c	Engr sect			570	**			2 stories	82	Bldg ucon			(347)			Ucon; midstage		
c	Engr sect			195	**				d	Shop sect			286	**					Unnumbered bldgs			50			2 small sheds		
32	Stor bldg			116	**				e	Shop sect			231	**													
33	Stor bldg								f	Shop sect ucon			(603)				Ucon										
Total usable floorpace as of 122,466																											
Floorpace ucon as of 3,914																											
Projected total floorpace 126,380																											

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**Table 2.**  
Structures, Dimensions, and Construction Chronology at Mostar/Soko Airfield  
(Items keyed to Figure 4)

This table in its entirety is classified TOP SECRET RUFF

Item	Description	Dimensions* (m)		Total Floorspace (sq m)	Date first Observed Ucon	Date Observed Complete	Remarks	Item	Description	Dimensions (m)		Total Floorspace (sq m)	Date first Observed Ucon	Date Observed Complete	Remarks		
		L	W							L	W						
Explosives Storage Area																	25X1
1	Stor bldg			171	**		Revetted	34	Ops bldg			165	**			25X1	
2	Stor bldg			178	**		Revetted	35	Engr bldg			795	**		2 stories		
3	PUG stor bldg			91	**			36	Engr bldg			1,215			Has 2 internal courtyards	25X1	
Administration and Security Area																	
4	Admin bldg			1,105	**		3 stories	37	Electronic checkout and repair hangar			1,092	**		Taxiway to Compass Rose		
5	Security bldg			231	**		Height undet	a	Hangar sect			936	**				
6	Admin bldg			540	**		2 stories	b	Shop sect			932	**				
7	Security bldg			31	**			c	Shop sect			755	**		2 stories		
Housing and Recreation Area																	
8	Officers' qtrs			558	**			d	Engr sect			934	**				
9	Barracks			2,614	**		3 stories	38	Stor bldg			722	**		Floorspace includes a small annex		
10	Admin bldg			2,838	**		4 stories	39	Stor bldg			506	**				
11	Barracks			2,763	**		3 stories	40	Veh stor bldg			441	**				
12	Officers' qtrs			573	**			41	Veh stor bldg			220	**				
13	Barracks			2,419	**		2 stories; center sect is 3 stories	42	Admin bldg			482	**				
14	Admin bldg			1,944	**		2 stories; one small sect is 3 stories	43	Admin bldg			106	**		Concrete pad im- mediately to the north		
15	Messhall			726	**			44	Engine run-up bldg			240	**		4 stories		
16	Chapel			41	**			45	Admin bldg			319	**				
17	Shower/dressing room			174	**		Serves swimming pool & tennis courts	46	Stor bldg			148	**				
18	Bldg ucon			(1,018)			Ucon, foundation only; may event- ually be a swim- ming pool	47	Stor bldg			306	**		For helicopters		
19	Recreation center							48	Messhall								
a	Gymnasium			397	**			49	Checkout/paint hangar			1,517	**			25X1	
b	Theater			420	**			a	Hangar sect			1,523	**				
c	Gymnasium			402	**			b	Hangar sect			172	**				
d	Shower/dressing room			186	**			c	Shop sect			172	**				
20	Spt bldg			436	**			d	Shop sect								
21	Admin bldg			3,384	**		3 stories; floorspace	50	Veh maint bldg			618	**				
22	Laundry			517	**			a	Veh maint sect			363	**				
Production Support and Repair Area																	
23	Checkout/repair hangar			961	**			b	Shop sect								
24	Checkout/paint hangar							51	Veh maint bldg			623	**				
a	Hangar sect			3,254	**		For fixed-wing aircraft	a	Veh maint sect			361	**				
b	Paint shop			314	**			b	Shop sect			337	**		Drum stor		
c	Paint shop			307	**			52	POL stor bldg			32	**				
25	Checkout/repair hangar			640	**			53	Spt bldg			667	**			25X1	
26	Checkout/repair hangar			906	**			54	Veh stor bldg			659	**				
27	Checkout/repair hangar			894	**			55	Veh stor bldg								
28	Checkout/repair hangar			625	**			56	Checkout/paint hangar			1,505	**		For helicopters		
29	Engr bldg			238	**			a	Hangar sect			1,520	**				
30	Engr bldg			246	**			b	Hangar sect			307	**				
31	Checkout/repair hangar			884	**			c	Paint shop			307	**				
32	Shop bldg			905	**			d	Paint shop			291	**				
33	Spt bldg			18	**			57	Repair hangar			578	**				
								a	Hangar sect			570	**				
								b	Hangar sect			181	**				
								c	Shop sect			167	**		Artillery stor; quonset		
								d	Shop sect			495	**		Artillery stor; quonset		
								58	Weapons stor bldg			467	**		Small arms		
								59	Weapons stor bldg			432	**				
								60	Weapons stor bldg			910	**				
								61	Repair hangar			907	**				
								a	Hangar sect			142	**			25X1	
								b	Hangar sect			151	**			25X1	
								c	Shop sect			120	**		8 sheds		
								d	Shop sect			58,565	**			25X1	
									Unnumbered bldgs			1,018	**			25X1	
									Total usable floorspace on			59,583	**			25X1	
									Floorspace ucon on							25X1	
									Total projected floorspace							25X1	

\*\*Complete when first observed.



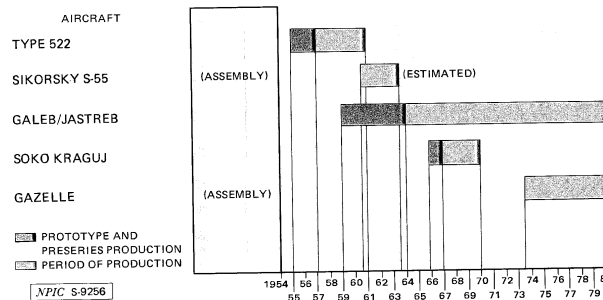


FIGURE 5. AIRCRAFT PRODUCTION ACTIVITY AT MOSTAR AIRFRAME PLANT SOKO



FIGURE 6. YUGOSLAVIAN TYPE 522 AIRCRAFT

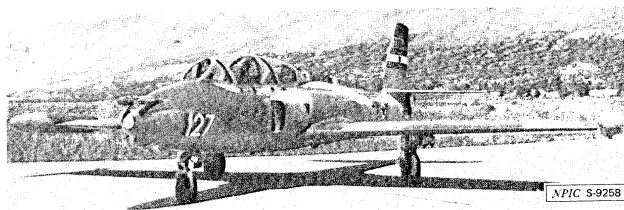


FIGURE 7. G2-A GALEB AIRCRAFT

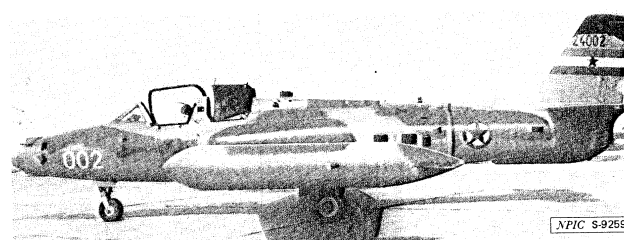


FIGURE 8. J-1 JASTREB AIRCRAFT

buildings (items 3 and 4), two engineering buildings (items 2 and 9), and four apartment buildings (items 5 through 7 and 12). Buildings seen in the fabrication area included an engineering building (item 31c; now administration/engineering), a final assembly building (item 60a and b), five fabrication/assembly buildings (items 37a, 48a, 50a, 52a, and 55e), a shop building (item 68), the engine test building (item 65), and the steam/heat plant (item 66a). On [redacted] approximately 78 percent of the total plant floorspace was related to fabrication/assembly, as opposed to the present 53.4 percent.

19. (S/D) Construction between 1957 and 1967 increased the total plant floorspace by 15,957 square meters, a 37.5 percent increase since [redacted]. Construction during this period resulted in the completion of an engineering building (item 8), a shop building (item 11), and the vehicle storage/maintenance building (item 1) in the administration/engineering area. Buildings completed in the fabrication area were two subassembly buildings (items 40 and 67a), an engineering/shop building (item 47), a shop building (item 24), the dispensary (item 20), and a vehicle storage building (item 13). By the end of this period, the proportion of floorspace which was fabrication/assembly related had dropped to 63.1 percent.

20. (S/D) Construction between 1968 and 1977 increased the total plant floorspace by 42,501 square meters, a 72.7 percent increase. One engineering building (item 10) was completed in the administration/engineering area. In the fabrication area, a final assembly building (items 60c and d), four fabrication/assembly buildings (items 37b, 50c and d, 52c, and 55d), an administration building (items 31b and c), the steamplant (item 66b, c, and d), and two subassembly buildings (items 67c and 40b, c, and d) were all enlarged or expanded. New buildings constructed consisted of two fabrication/assembly buildings (items 18 and 61), three administration/engineering buildings (items 41, 45, 71, and 75), the rotor test facility (item 63), a vehicle maintenance building (item 44), a communications building (item 14), five security buildings (items 15, 16, 21, 26, and 27), the dispatch office (item 23), a vehicle storage building (item 22), a covered work area (item 19), 12 storage buildings (items 29, 32 through 36, 38, 56 through 59, and 72), and three support buildings (items 53, 54, and 62). By the end of this period the proportion of fabrication/assembly floorspace in the fabrication area had been reduced to 54.6 percent.

21. (S/D) Construction between [redacted] resulted in an increase of 21,508 square meters of floorspace or 21.3 percent. Existing buildings with new additions were an administration/engineering building (item 30b), four fabrication/assembly buildings (items 37b and d, 50b, 52b, and 55b, c, and d), and a subassembly building (item 67b and c). New buildings constructed during this period were a final assembly building (item 79), a subassembly building (item 46), an engineering/shop building (item 69), a compressor building (item 42), a vehicle storage building (item 28), six storage buildings (items 25, 38, 57, 58, 70, and 76), and a support building (item 64). A new aircraft checkout apron (item 80) was also completed.

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22. (S/D) As of [REDACTED] an engineering section (item 37c) to a fabrication/assembly building, a shop section (item 55f) to a fabrication/assembly building, and five unidentified buildings (items 74, 77, 78, 81, and 82) were still under construction. The completion of this construction will add 3,914 square meters of usable floorspace.

#### Mostar/Soko Airfield

23. (S/D) The earliest available coverage of Mostar/Soko Airfield was also aircraft photography of [REDACTED]. At that time, the airfield consisted of 28 buildings and structures with a total floorspace of 35,168 square meters, 60 percent of the current floorspace. Buildings and structures observed on [REDACTED] were two administration buildings (items 4 and 6, Figure 4 and Table 2) in the administration and security area; two barracks (items 9 and 11) and an officers' quarters (item 8) in the housing and recreation area; and an administration building (item 45), two engineering buildings (items 29 and 30), a shop building (item 38), the electronics checkout and repair hangar (item 37), seven checkout/repair hangars (items 23 through 28 and 31), two checkout/paint hangars (items 49 and 56), two repair hangars (items 57 and 61), the operations building (item 34), two vehicle maintenance buildings (items 50 and 51), and two vehicle storage buildings (items 54 and 55) in the production support and repair area.

24. (TSR) Three buildings—two storage buildings (items 1 and 2) in the explosives storage area and the engine run-up building (item 44) in the production support and repair area—were constructed between 1957 and 1967, adding 455 square meters of floorspace. The completion of these buildings added 1.3 percent to the total floorspace at the airfield.

25. (S/D) Thirty-seven buildings were completed and three buildings were enlarged between 1968 and 1977, resulting in the addition of 22,942 square meters of floorspace, a 64.4 percent increase. Twenty-nine significant buildings were completed during this period. In the explosives storage area, one partially underground (PUG) storage building (item 3) was completed. In the administration and security area, two security buildings (items 5 and 7) were completed. In the housing and recreation area, three administration buildings (items 10, 14, and 21), a barracks (item 13), an officers' quarters (item 12), a

messhall (item 15), a laundry (item 22), a shower/-dressing room (item 17), and a support building (item 70) were completed. In the production support and repair area, two administration buildings (items 42 and 43), two engineering buildings (items 35 and 36), a shop building (item 32), a messhall (item 48), three weapons storage buildings (items 58 through 60), a POL storage building (item 52), two vehicle storage buildings (items 40 and 41), three storage buildings (items 39, 46, and 47), and two support buildings (items 33 and 53) were completed. Additionally, three buildings were enlarged during this period. Two shop sections (items 49c and d) were added to a checkout/-paint hangar, and two shop sections were added to each of the two repair hangars (items 57c and d and 61c and d).

26. (S/D) Construction observed after 1977 was limited to one building in the housing and recreation area which was under construction on [REDACTED]. When complete, this building will add at least 1,018 square meters of floorspace, bringing the airfield total to 59,583 square meters.

#### Plant Activity

27. (S/D) Mostar Airframe Plant Soko has a long and varied association with the Yugoslavian aviation industry. The plant was constructed in 1951 and incorporated three previously separate corporations, the Rogojarsky, Ikarus, and Zmaj organizations.<sup>2</sup> Full-scale aircraft production began in early 1957 (Figure 5) with the Type 522. This program was followed by assembly of the Sikorsky S-55 helicopter, production of the indigenous GALEB/JASTREB and SOKO KRAGUJ aircraft, and assembly of the SA-341 GAZELLE helicopter. Each of these programs is discussed separately below.

28. (S/D) The identification of recently produced aircraft at the plant was hampered by the diversity of activities occurring at both the airframe plant and at Mostar/Soko Airfield. Observations of aircraft within the security of the plant were rare. Most aircraft activity observed was at Mostar/Soko Airfield. Identification of production aircraft was difficult because of aircraft repair activity and YAF technical and maintenance training at Mostar/Soko Airfield. Photographic evidence indicates that Mostar/Soko Airfield houses both a YAF aircraft maintenance training unit and a Yugoslav Army artillery training unit. Additionally, the aforementioned YAF flight training units

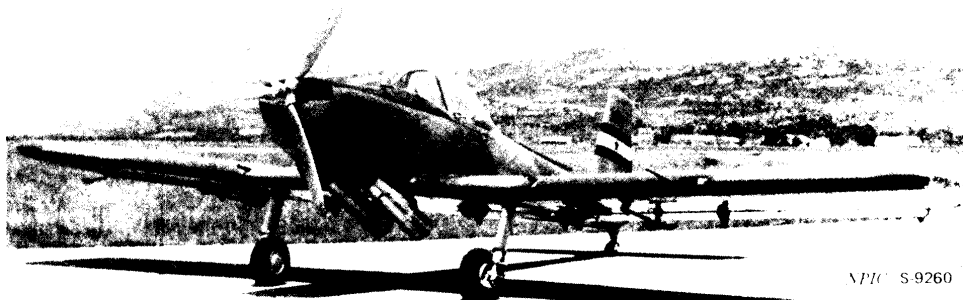


FIGURE 9. YUGOSLAVIAN SOKO KRAGUJ AIRCRAFT

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at Mostar Airfield use the sod runway at Mostar/-Soko Airfield for natural-surface landing and take-off training. However, photographic observations of equipment and activities do not reflect production activity at the plant. Aircraft which were often seen at Mostar/Soko Airfield (Table 3) and may not be production or repair related included the indigenous CIJAN KURIR, GALEB/JASTREB, UTVA-60/-66, SOKO KRAGUJ, Aero-3, and UTVA-65. Soviet aircraft commonly observed included the LI-2 (CAB) and MI-2 (HOPLITE). Two models of US aircraft (the T-33 and F-84G thunderjet) used for maintenance training are permanently stationed at Mostar/Soko Airfield. Ground forces equipment commonly observed included the 20mm antiaircraft (AA) gun M-55 (Swiss HSS-804), the ZPU-2 and ZPU-4 AA heavy machine guns, the 57mm AA gun S-60, the 76mm mountain gun M-48, and the 120mm mortar M-52.

#### Aircraft Production and Assembly Programs

29. (S/D) **Type 522.** The first aircraft to be mass produced at Mostar was the Type 522, designed by Sima Milutinovic. A tandem two-seat advanced trainer, the Type 522, was the most widely used trainer in the YAF until it was replaced in the early 1960s with the GALEB. The Type 522 (Figure 6) is a low-wing, single-engine monoplane powered by a 600-horsepower, Pratt/Whitney, R-1340-AN-1 Wasp nine-cylinder radial air-cooled engine and was the first Yugoslav all-metal production aircraft. For gunnery training, the Type 522 carries two 7.9mm machine guns, but for tactical roles it can be fitted with four 50- or 100-lb bombs or two 5-inch HVAR missiles.<sup>3</sup> The number of Type 522 produced at the Mostar plant is not known. However, one Type 522-equipped ground-attack squadron is still operational at Ljubljana International Airfield [ ] and as many as 12 have been observed at Mostar/-Soko Airfield (Table 3) on a single coverage. It is estimated that production of the Type 522 began in early 1957 and ended by late 1961. Based on known production rates of other aircraft at Mostar and given the probable 5-year production span of the Type 522, it is possible that as many as 120 of the aircraft were produced.

30. (S/D) **Sikorsky S-55.** Only limited information is available concerning the assembly of the Sikorsky S-55 helicopter at Mostar in the early 1960s. One

estimate suggests that assembly, mostly from foreign parts, began in mid-1960 and ended in mid-1963 with 50 to 60 having been assembled.<sup>3</sup> However, since the S-55 has virtually been supplanted by the Soviet MI-8 (HIP) in the YAF inventory,<sup>1</sup> no accurate count of S-55s is possible. Two S-55s were observed at Mostar/-Soko Airfield (Table 3), one each on [ ] and [ ] long after assembly had ended.

31. (S/D) **GALEB/JASTREB.\*** The best known of all the Yugoslavian aircraft, the Soko G-2A GALEB (Figure 7), is a subsonic two-seat basic/advanced jet trainer. The GALEB has been widely acclaimed at International air shows and has proven to be a popular export aircraft (designated G-2A-E), competitive with the BAC Strikemaster and the Macchi MB 326G.<sup>4</sup> The first GALEB prototype was designed in 1957 at the Military Technical Institute in Zarkovo (Zarkovo Air Research Institute, BE [ ] near Belgrade.<sup>4</sup> Two prototypes were completed in 1959 at Mostar.<sup>5</sup> After many flight tests, series production was begun in early 1963, and by the end of 1979, at least 240 GALEBs had been produced,<sup>6</sup> most of them at Mostar. The estimated 1979 production rate for the GALEB was one per month. However, no GALEB/JASTREB have been observed at Mostar since [ ] (Table 3) but have been observed at Batajnica Aircraft Assembly Plant (BE [ ]) indicating that all GALEB/JASTREB assembly has been transferred to Batajnica. It is probable, however, that most of the GALEB/JASTREB components necessary for assembly are still

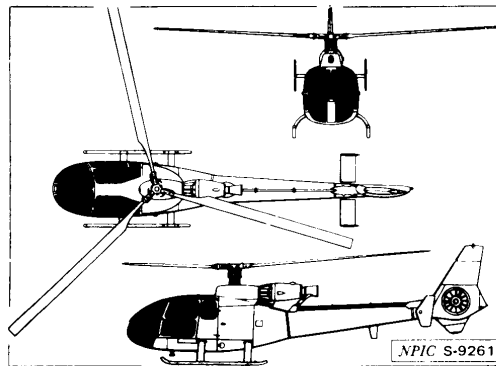


FIGURE 10. SA-341 GAZELLE

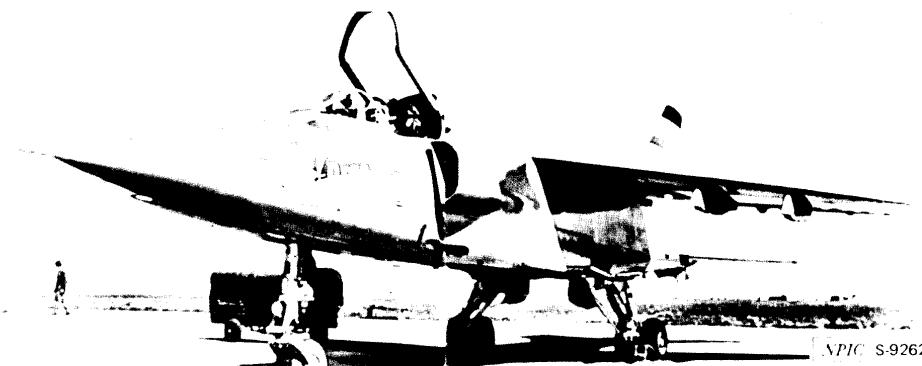


FIGURE 11. JUROM (ORAO) WITH YUGOSLAV MARKINGS

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**Table 3.**  
**Aircraft Observations at Mostar Airframe Plant Soko and Mostar/Soko Airfield\***

*This table in its entirety is classified TOP SECRET RUFF*

Date	Mission**	Combat Aircraft		Type	Rotary Wing Aircraft		Utility Aircraft		Miscellaneous Aircraft
		GALEB/ JASTREB	SOKO KRAGUJ		GAZELLE	Sikorsky S-55	CIJAN KURIR	UTVA- 60/66	
				12					
				3		1			
				8					
				4		1			
				12			1		1 Aero-3
	1						1		1 HOPLITE
					1			3	
	1						1		
	4				1			1	
								1	
	10				2				
	10								
	8				2			2	
	5								
	2								
	1							1	
					1				2 gliders
	1							2	
					12			3	
	2		1		6				
					2				
					3				
	6		9		2				1 CAB
									1 CAB & 1
	3		8		4				HOPLITE
				7	1			1	1 CAB
			1	8					1 CAB
				8					1 CAB
					1		1		
	1				1			1	1 JUROM
					1			1	1 CAB & 1
									HOPLITE
							1	2	1 CAB
									1 CAB
									1 CAB
					5				1 CAB
									1 CAB
				2					1 CAB
									1 CAB & 1 HIP C
									1 CAB & 1
									UTVA-65
			1		3		1	2	1 CAB & 1
									UTVA-65
					1		1		1 CAB
									1 CAB
							1		1 CAB
					1				1 CAB
									1 CAB
					4				1 CAB
					2				1 CAB
									1 CAB

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\*Excluding maintenance training aircraft (T-33 and F-84G).

\*\*All available coverages of sufficient quality.

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produced at Mostar. The Soko J-1 JASTREB program was begun in 1962, and series production was initiated at Mostar in 1967.<sup>6</sup> The JASTREB (Figure 8) is a single-seat attack/counterinsurgency version of the GALEB. While the GALEB is powered by a Rolls-Royce Viper II (NK 22-6) turbojet engine, the JASTREB is equipped with a more powerful Rolls-Royce Viper 531 engine. Three versions of the JASTREB are the export version (J-1-F), a reconnaissance version (RJ-1), and a two-seat trainer version (TJ-1). An exact version of the RJ-1, designated RJ-1-F, is for export. By the end of 1979, at least 170 JASTREB had been produced,<sup>6</sup> mostly at Mostar. Like that of the GALEB, however, JASTREB production has evidently been transferred to Batajnica Aircraft Assembly Plant.<sup>7</sup>

32. (S/D) **SOKO KRAGUJ.** The SOKO KRAGUJ (Figure 9) is a single engine, low-wing monoplane powered by a Lycoming GSO-480-B1A6 engine. It was designed as a ground-attack aircraft with sod field capabilities. The SOKO KRAGUJ has two underwing pylons for bombs up to 220 pounds, cluster bombs, napalm tanks, or rocket pods. There are also four additional hard-points for 57mm or 127mm air-to-surface rockets. Each wing houses an internal 7.7mm, 650-round, machine gun.<sup>8</sup> Production of the SOKO KRAGUJ (Figure 5) began at Mostar in 1967 and ended in 1970; an estimated 40 SOKO KRAGUJ were produced.<sup>6</sup> One ground-attack squadron, equipped with SOKO KRAGUJ, remains in operation at Cerklje Airfield [REDACTED]

33. (S/D) **SA-341 GAZELLE.** Licensed assembly of the French SA-341 GAZELLE, using French components, began at Mostar in 1973.<sup>6</sup> The first GAZELLE was observed at the plant on overhead photography of [REDACTED] (Table 3). By the end of 1979, approximately 85 GAZELLE had been assembled. The GAZELLE (Figure 10) is a five-seat, light utility helicopter powered by a Turbomeca Astazou IIIA turboshaft engine. Armament options include rocket pods, wire-guided missiles, machine guns, flares, and smoke markers.<sup>8</sup> The GAZELLE is also being assembled at Batajnica Aircraft Assembly Plant.<sup>7</sup>

#### Ancillary Production

34. (S/D) In addition to powered aircraft, towed gliders (Table 3), small rowboats, refrigerators, and automobile parts are also produced at Mostar Airframe Plant Soko. All these items are produced in limited numbers from spare materials at sporadic intervals. It is also likely that the bulk of the components supporting the GALEB/JASTREB assembly activity at Batajnica Aircraft Assembly Plant are produced at Mostar.<sup>7</sup>

#### Aircraft Repair Activity

35. (S/D) Observations of the Type 522 and SOKO KRAGUJ aircraft (Table 3) at Mostar/-Soko Airfield suggest that both of these aircraft are being repaired at the airfield. Both typically appear in fairly large numbers from eight to 12, indicating that approximately one-third to one-half of an operational squadron is serviced/repared at a time. As previously indicated, one operational squadron of each aircraft is currently in service.

Occasionally CIJAN KURIR, UTVA-60/-66, Aero-3, and HOPLITE were observed at the airfield suggesting that these aircraft may also be repaired at the airfield in limited numbers. Additionally, it is likely that occasional GALEB/JASTREB are returned to the plant for periodic overhaul.

#### Aircraft Programs Under Development

36. [REDACTED] **JU-ROM (Orao).** [REDACTED]

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The first Orao prototype was observed on overhead photography at Batajnica Airfield [REDACTED]

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\*The term GALEB/JASTREB is used collectively in this report since the several versions of these aircraft are virtually indistinguishable on overhead photography.

## REFERENCES

## IMAGERY

(TSR) All available KEYHOLE imagery acquired between [REDACTED]  
[REDACTED] was used in the preparation of this report.

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## Small-Format Imagery

Figure No	Source*
6	<i>The Aircraft of the World</i> , MacDonald & Co, London, 1965
7	<i>Aviation Week &amp; Space Technology</i> , 8 Apr 68
8	<i>Aviation Week &amp; Space Technology</i> , 8 Apr 68
9	<i>Aviation Week &amp; Space Technology</i> , 8 Apr 68
10	<i>Jane's All the World's Aircraft</i> , 1978—1979
11	<i>Front Magazine</i> , Belgrade, Yugoslavia, 9 May 75

\*All sources are UNCLASSIFIED.

## MAPS OR CHARTS

DMA. US Air Target Chart, Series 200, Sheet 0321-5, scale 1:200,000 (UNCLASSIFIED)

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\*Extracted material is classified SECRET.

\*\*Extracted material has been decompartmented and is classified SECRET/WNINTEL.

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(S) Comments and queries regarding this report are welcome. They may be directed to [REDACTED] Warsaw  
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