

## SNCASE Mistral



The SNCASE (Société nationale des constructions aéronautiques du Sud-Est) SE.535 Mistral was a day fighter and fighter-bomber. It was named for the strong wind that occurred frequently in Provence.

### Versions

#### *SE 535 Mistral*

The SE 535 Mistral was a development of the Vampire FB.5 (previously license-built by SNCASE), but fitted with the more powerful Nene 104B motor (license-built by Hispano-Suiza) providing 5,000 lb of thrust compared to 3,000 lb for the Goblin 2 engine of the FB.5 and 3,500 lb for the Goblin 3 engine of the FB.6.

The Nene engine had been trialed in the Vampire F.2 with its need for greater airflow satisfied by additional “elephant ears” inlets on the upper side of the fuselage behind the cockpit. However, these intakes caused handling problems close to the critical Mach number. In the Vampire F.30, this was mitigated by moving the additional intakes to the underside of the fuselage. In contrast, the Mistral omitted them completely and instead opted for redesigned and enlarged wing-root inlets, and as a consequence had much more benign characteristics at high speed.

The Mistral also featured an ejection seat and air conditioning to facilitate its use in the French colonies in Africa.

It was not clear how much de Havilland was involved in the development of the Mistral, but nevertheless early prototypes of the Mistral were sometimes referred to as the Vampire FB.53.

The Mistral served in the French AA from 1953 until at least 1961.

### Armament and Stores

Its gun armament was four 20 mm Hispano cannons with 150 rounds, as in the Vampire. Air-to-ground ordnance included rockets, HE bombs, and napalm bombs.

### Combat

The Mistral saw combat with the French AA in the colonial wars in Tunisia and Algeria.

### ADC

- Mistral

### See Also

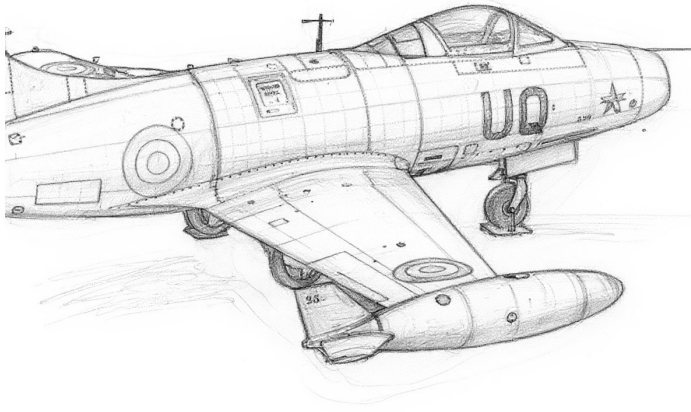
- de Havilland Vampire
- SNCASE Vampire

### Photo Credit

- SNCASE Mistral: US Department of State (Public Domain)



# Dassault Ouragan



## Combat

The Ouragan saw combat with the Israeli Air Force in the Suez Crisis and the 1967 War. In Indian service, it saw combat in the 1962 China-India War and the 1965 India-Pakistan War.

## ADC

- Ouragan

## Photo Credit

- Ouragan: Ad Meskens

The Dassault Ouragan was a fighter-bomber and the first French-designed jet-powered combat aircraft enter service. Like many of its contemporaries, it had a single engine, an air-intake in the nose, swept wings and tail, and wing-tip fuel tanks. Its name means “hurricane” in French.

## Versions

### ***MD 450A and MD 450B***

The initial 450A version used a non-afterburning Rolls-Royce Nene 102 engine. The subsequent 450A version used a similar Rolls-Royce Nene 104 engine license-built by Hispano-Suiza and had a revised undercarriage. However, the MD 450B was otherwise almost identical to the MD 450A.

The Ouragan entered service with the Armée de l’Air in 1952, replacing Vampires and other older aircraft. Its service life was short, and in 1955 it was replaced by the Mystère IV.

The Ouragan also served with the Indian Air Force from 1953 and was known as the Toofani (“hurricane” in Hindi). It was withdrawn from front-line services in 1965.

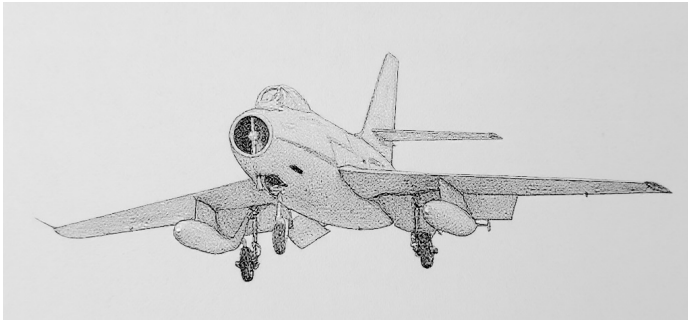
It also served with the Israeli Air Force from 1953 and served until the 1970s. In 1975, several were sold on to El Salvador, where they served until the late 1980s.

## Armament and Stores

The principal armament was four 20 mm Hispano-Suiza cannons under the nose. Two 450L fuel tanks would often be carried for extended range. For air-to-ground missions, the Ouragan could also carry bombs, napalm tanks, 105 mm Brand T-10 rockets, and SNEB 68 mm rocket pods.

Ouragan										Crew: Pilot									
										Maneuver HFPs/DPs:									
LR/DR		1.0		1.0															
VR				0.5															
Power APs/DPs: ○										Turn DPs:									
CL		1/2		DT		Fuel		CL		1/2		DT							
AB		—		—		—		TT		0.0		0.0		1.0					
M		1.0		1.0		1.0		1.0		HT		1.0		1.0		2.0			
N		0.0		0.0		0.0		0.5		BT		1.0		2.0		2.0			
I		1.0		1.0		1.0		0.0		ET		—		—		—			
SPBR		1.0		1.0		2.0		—											
					Cruise Spd. CL: 4.0    Restr. Arcs: —														
					Climb Spd.: 3.0    Blind Arcs: 30–														
					Visibility: 5    Internal Fuel: 220														
					Size: +0    AtA Refuel: No														
					Vulnerability: +1    Ejection Seat: Early														
Speeds and Ceilings										Climb Capabilities									
Alt. Band		Conf. Ceil.		CL 42		1/2 38		DT 34		Dive Speed		CL AB Oth		1/2 AB Oth		DT AB Oth			
EH+		46+		—		—		—		—		— —		— —		— —		EH+	
VH		36–45		2.0 – 5.0		2.5 – 4.5		—		6.5		— 0.5		— 0.5		— —		VH	
HI		26–35		1.5 – 5.0		2.0 – 4.5		2.0 – 4.5		6.5		— 0.5		— 0.5		— 0.5		HI	
MH		17–25		1.5 – 5.5		1.5 – 5.0		1.5 – 4.5		6.5		— 1.0		— 0.5		— 0.5		MH	
ML		8–16		1.0 – 5.5		1.5 – 5.0		1.5 – 4.5		6.5		— 1.0		— 0.5		— 0.5		ML	
LO		0–7		1.0 – 5.5		1.0 – 5.0		1.5 – 4.5		6.5		— 1.0		— 1.0		— 0.5		LO	
Radar: —					ECM: IFF					Weapon Stations Diagram:									
ECCM: —					RWR: —														
Arcs: —					DDS: —														
Search: —					DJM: —														
Track: —					AJM: —														
Lock-On: —					BJM: —														
Guns: Four 20 mm Hispano Mk V					Technology:					Load Point Limits: CL : 0–2									
To Hit: 7/4/3					None					1/2: 3–6									
Ammunition: 5.0										Weight Limit: 2,200 DT : 7+									
Gunsight: TT+0/HT+1/BT+2										Station Limit Allowed Loads									
Ranging: —										1–4 and 7–10 150 RK									
AtA/AtG: 5/6*										5 and 6 1,100 BB RP RK FT									
										11–12 and 13–14 200 RK									
Bomb System: Manual										Load Notes:									
Notes: 1. The Dassault MD 450A/B Ouragan is a fighter-bomber. 2. High transonic drag (HTD).										1. Either stations 1 to 4 and 7 to 10 or 11 to 14 may be used.									
										2. Stations 1 to 4 and 7 to 10 may each carry one or two T-10 RKs (large RK).									
										3. May use 450L FTs.									
VPs: 7/5/2/1										v2 0000000 0000-00-00T00:00:00									

## Dassault Mystère IV



### Photo Credit

- Mystère IV: Anidaat (CC BY-SA 4.0)

The Mystère IV was a fighter-bomber. It resembled the earlier Mystère aircraft, but was a new design adapted for supersonic flight. It featured an air-intake in the nose, a single engine, and sharply swept wings and tail.

### Versions

#### MD 454A

The MD 454A or Mystère IVA model was the only version to reach production. It featured a non-afterburning Rolls-Royce Tay engine (supplied by Rolls-Royce themselves or built under license by Hispano-Suiza) and two 30 mm DEFA cannons under the nose. It could reach supersonic speeds only in a dive.

The Mystère IVA entered service with the Armée de l'air in 1955 and served first as an interceptor and then as a fighter-bomber. It also served with the Israeli Air Force from 1956 to 1971 and with Indian Air Force from 1957 to 1973.

### Armament and Stores

The principal armament of the Mystère IVA was two 30 mm DEFA cannons under the nose. Two 450L fuel tanks would often be carried for extended range. For air-to-ground missions, the Mystère IVA could also carry bombs, napalm tanks, 105 mm Brand T-10 rockets, and SNEB 68 mm rocket pods.

### Combat

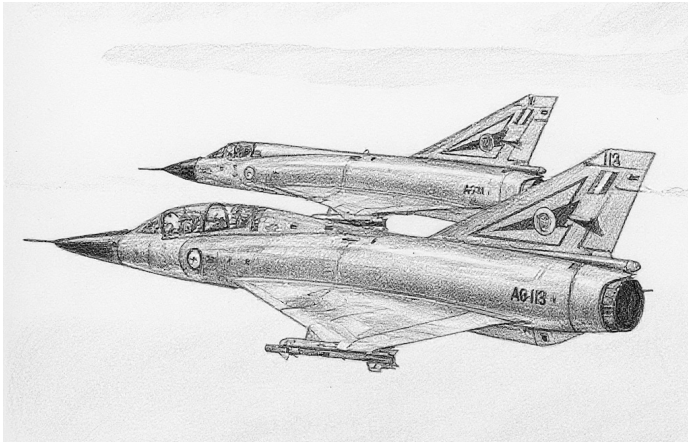
Israeli Mystère IVAs saw combat in the 1956 and 1967 Arab-Israeli Wars. French aircraft also fought in the 1956 Suez Crisis. Indian aircraft fought in the 1965 and 1971 India-Pakistan Wars.

### ADC

- Mystère IVA

<div><div>Mystère IVA</div><div><div>Power APs/DPs:</div><div><div><div>CL</div><div>1/2</div><div>DT</div><div>Fuel</div></div><div><div>AB</div><div>M</div><div>N</div><div>I</div><div>SPBR</div></div><div><div>—</div><div>1.0</div><div>0.0</div><div>1.0</div><div>1.0</div></div><div><div>—</div><div>1.0</div><div>0.0</div><div>1.0</div><div>2.0</div></div><div><div>—</div><div>1.0</div><div>0.0</div><div>1.0</div><div>—</div></div></div><div><div>○</div><div>—</div><div>1.0</div><div>0.0</div><div>—</div></div></div><div><div>Cruise Spd. CL: 5.0</div><div>Restr. Arcs: —</div><div>Climb Spd.: 3.5</div><div>Blind Arcs: 30–</div><div>Visibility: 5</div><div>Internal Fuel: 150</div><div>Size: +0</div><div>AtA Refuel: No</div><div>Vulnerability: +1</div><div>Ejection Seat: Early</div></div></div>	<div>Crew: Pilot</div> <div><div>Maneuver HFPs/DPs:</div><div><div>LR/DR</div><div>1.0</div><div>1.0</div></div><div><div>VR</div><div></div><div>0.5</div></div></div> <div><div>Turn DPs:</div><div><div><div>CL</div><div>1/2</div><div>DT</div></div><div><div>TT</div><div>0.0</div><div>1.0</div><div>1.0</div></div><div><div>HT</div><div>1.0</div><div>1.0</div><div>1.0</div></div><div><div>BT</div><div>2.0</div><div>3.0</div><div>3.0</div></div><div><div>ET</div><div>—</div><div>—</div><div>—</div></div></div></div>
	<div><div>Speeds and Ceilings</div><div><div><div>Alt.</div><div>Conf.</div><div>Band</div><div>Ceil.</div></div><div><div>CL</div><div>44</div></div><div><div>1/2</div><div>40</div></div><div><div>DT</div><div>36</div></div><div><div>Dive</div><div>Speed</div></div></div><div><div><div>CL</div><div>AB</div><div>Oth</div></div><div><div>1/2</div><div>AB</div><div>Oth</div></div><div><div>DT</div><div>AB</div><div>Oth</div></div><div></div></div></div>
	<div><div>EH+</div><div>VH</div><div>HI</div><div>MH</div><div>ML</div><div>LO</div></div> <div><div>46+</div><div>36–45</div><div>26–35</div><div>17–25</div><div>8–16</div><div>0–7</div></div> <div><div>—</div><div>2.5 – 6.0</div><div>2.0 – 6.0</div><div>2.0 – 6.5</div><div>1.5 – 6.5</div><div>1.5 – 6.5</div></div> <div><div>—</div><div>3.0 – 5.5</div><div>2.5 – 5.5</div><div>2.0 – 5.5</div><div>2.0 – 6.0</div><div>1.5 – 6.0</div></div> <div><div>—</div><div>3.0 – 5.0</div><div>2.5 – 5.0</div><div>2.5 – 5.0</div><div>2.0 – 5.5</div><div>2.0 – 5.5</div></div> <div><div>—</div><div>6.5</div><div>7.0</div><div>7.0</div><div>7.0</div><div>7.0</div></div> <div><div>— —</div><div>— 0.5</div><div>— 0.5</div><div>— 1.0</div><div>— 1.0</div><div>— 1.0</div></div> <div><div>— —</div><div>— 0.5</div><div>— 0.5</div><div>— 0.5</div><div>— 1.0</div><div>— 1.0</div></div> <div><div>— —</div><div>— 0.5</div><div>— 0.5</div><div>— 0.5</div><div>— 0.5</div><div>— 1.0</div></div> <div><div>EH+</div><div>VH</div><div>HI</div><div>MH</div><div>ML</div><div>LO</div></div>

# Dassault Mirage III



The Dassault Mirage III is a supersonic interceptor and multirole aircraft.

## Versions

### *Mirage IIIEA*

The IIIEA version was bought by the Argentinian FAA and saw combat in the South Atlantic War.

## Armament and Stores

The gun armament is two 30 mm DEFA cannons.

For air-to-air missions, the central station can carry an R.530 RHM or IRM, and the two outer wing stations can carry R.550 Magic IRMs.

To increase endurance, 500L, 900L, 1100L, 1300L, or 1700L fuel tanks could be carried, although only the 500L and 900L tanks could be carried at supersonic speeds. Not all tanks were available to all users. The original French 500L tanks were fixed, but jettisonable versions were later developed by Israel.

## Combat

Argentine FAA Mirage IIIEAs saw combat in the 1982 South Atlantic War.

## ADCs

- Mirage IIIEA

## See Also

- Dassault Mirage 5

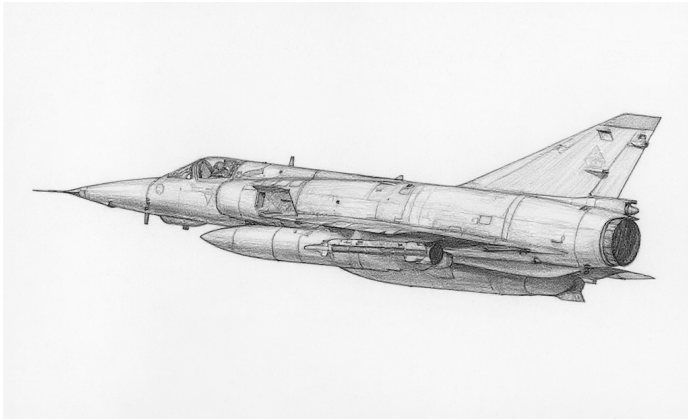
## Photo Credit

- Mirage III: Curt Eddings (Public Domain)

Mirage IIIEA										Crew: Pilot						
										Maneuver HFPs/DPs:						
LR/DR		1.0		1.0												
VR				0.0												
Power APs/DPs: ○										Turn DPs:						
CL		1/2	DT	Fuel	CL		1/2	DT								
AB		2.5	2.0	1.5	5.0	TT		1.0	2.0	2.0						
M		1.5	1.0	1.0	2.0	HT		2.0	3.0	3.0						
N		0.0	0.0	0.0	1.0	BT		3.0	4.0	5.0						
I		1.0	1.0	2.0	0.0	ET		4.0	—	—						
SPBR		1.0	1.0	2.0	—											
					Cruise Spd. CL: 6.0    Restr. Arcs: —											
					Climb Spd.: 4.5    Blind Arcs: 30–											
					Visibility: 6    Internal Fuel: 285											
					Size: +0    AtA Refuel: No											
					Vulnerability: +0    Ejection Seat: Std											
Speeds and Ceilings						Climb Capabilities										
Alt.	Conf.	CL		1/2		DT		Dive		CL		1/2		DT		
Band	Ceil.	54		48		40		Speed		AB   Oth		AB   Oth		AB   Oth		
EH+	46+	4.5 – 14.0		—		—		15.0		0.5   0.0		—   —		—   —		EH+
VH	36–45	3.5 – 13.0		4.0 – 10.5		4.5 – 8.5		14.0		1.0   0.5		1.0   0.0		0.5   0.0		VH
HI	26–35	3.0 – 11.0		3.5 – 10.0		4.0 – 8.0		13.0		2.0   1.0		1.0   0.5		1.0   0.5		HI
MH	17–25	2.5 – 10.0		3.0 – 9.0		3.5 – 7.5		12.0		2.0   1.0		1.0   0.5		1.0   0.5		MH
ML	8–16	2.0 – 9.0		2.5 – 8.0		2.5 – 6.5		11.0		4.0   2.0		3.0   1.0		2.0   1.0		ML
LO	0–7	2.0 – 8.5		2.0 – 7.5		2.5 – 6.0		10.0		4.0   2.0		3.0   1.0		2.0   1.0		LO
Radar: Cyrano II					ECM: IFF					Weapon Stations Diagram:						
ECCM: 0					RWR: —											
Arcs: 180+					DDS: —											
Search: 80–15					DJM: —											
Track: 50–12					AJM: —											
Lock-On: 7					BJM: —											
Guns: Two 30 mm DEFA					Technology:					Load Point Limits:						
To Hit: 6/3/2					None					CL : 0–4						
Ammunition: 3.0										1/2: 5–8						
Gunsight: TT+0/HT+0/BT+2										Weight Limit: 8,800						
Ranging: RE										DT : 9+						
AtA/AtG: 6/6										Station                      Limit                      Allowed Loads						
Bomb System: Manual										1 and 5                      550                      IRM						
										2 and 4                      3,000                      BB DR FT MRT						
										3                                2,600                      BB RHM FT DR						
										Load Notes:						
										1. May carry two BBs or DRs on station 3.						
										2. May use Matra R.550 Magic IRMs on stations 1 and 5						
										3. May use Matra R.530 RHMs on station 3.						
										4. May carry 1300L FTs on station 2, 3, and 4 and 1700L FTs on stations 2 and 4.						
										5. No supersonic flight while carrying FTs.						



## Dassault Mirage 5



The Mirage 5 is a day fighter and strike aircraft. It was developed by Dassault at the suggestion of the IAF, and to a large degree is a Mirage IIIE with the radar and other all-weather avionics removed and replaced by additional fuel and with an additional pair of weapon stations. In some later versions, more compact electronics allowed all-weather capabilities to be restored.

### Versions

#### *Mirage 5F*

The Mirage 5F was the original version built for Israel but eventually being used by France.

These aircraft were originally built for Israel as the 5J. However, when delivery to Israel was blocked by the 1967 embargo, they entered service with the Armée de l'air as the 5F around 1970.

#### *Mirage 5BA*

The 5BA was a strike version for the Belgian Air Force. Changes included US avionics. It entered service in 1970 and was retired at the end of the 1980s.

### Armament and Stores

The internal armament of the Mirage 5 was two 30 mm DEFA cannons. The external options were similar to the Mirage III, although RHMs were obviously not used on models without radar.

### Combat

#### ADCs

- Mirage 5F
- Mirage 5BA

### See Also

- Dassault Mirage III

### Photo Credit

- Mirage 5: Chris Lofting (GFDL 1.2)

Mirage 5F										Crew: Pilot							
										Maneuver HFPs/DPs:							
LR/DR		1.0		1.0													
VR				0.0													
Power APs/DPs: ○										Turn DPs:							
CL		1/2	DT	Fuel	TT		CL	1/2	DT								
AB		2.5	2.0	1.5	5.0	HT		2.0	2.0	2.0							
M		1.5	1.0	1.0	2.0	BT		3.0	3.0	4.0							
N		0.0	0.0	0.0	1.0	ET		5.0	—	—							
I		1.0	1.0	2.0	0.0			—	—	—							
SPBR		1.0	2.0	2.0	—												
					Cruise Spd. CL: 6.0    Restr. Arcs: —												
					Climb Spd.: 0.0    Blind Arcs: 30—												
					Visibility: 6    Internal Fuel: 325												
					Size: +0    AtA Refuel: No												
					Vulnerability: +0    Ejection Seat: Std												
Speeds and Ceilings						Climb Capabilities											
Alt.	Conf.	CL		1/2		DT		Dive		CL		1/2		DT			
Band	Ceil.	52		44		35		Speed		AB   Oth		AB   Oth		AB   Oth			
EH+	46+	4.5 – 13.5		—		—		14.0		0.5   —		—   —		—   —		EH+	
VH	36–45	3.5 – 13.0		4.0 – 10.5		4.5 – 8.5		14.0		1.0   0.5		1.0   0.0		0.5   0.0		VH	
HI	26–35	3.0 – 11.0		3.5 – 10.0		4.0 – 8.0		13.0		2.0   1.0		1.0   0.5		1.0   0.5		HI	
MH	17–25	2.5 – 10.0		3.0 – 9.0		3.5 – 7.5		12.0		2.0   1.0		1.0   0.5		1.0   0.5		MH	
ML	8–16	2.0 – 9.0		2.5 – 8.0		2.5 – 6.5		11.0		4.0   2.0		2.0   1.0		2.0   1.0		ML	
LO	0–7	2.0 – 8.5		2.0 – 7.5		2.5 – 6.0		10.0		4.0   2.0		2.0   1.0		2.0   1.0		LO	
Radar:					Alpha-II		ECM:		IFF		Weapon Stations Diagram:						
ECCM:					0		RWR:		B								
Arcs:					Limited		DDS:		—								
Search:					—		DJM:		—								
Track:					8–8		AJM:		—								
Lock-On:					7		BJM:		—								
Guns:					Two 30 mm DEFA		Technology:				Load Point Limits:						
To Hit:					6/3/2		None				CL : 0–6						
Ammunition:					3.0						1/2: 7–9						
Gunsight:					TT+0/HT+0/BT+2						Weight Limit:						
Ranging:					RE						9,200						
AtA/AtG:					6/6						DT : 10+						
Bomb System:					Ballistic						Station						
											Limit						
											Allowed Loads						
											1 and 7						
											550						
											BB BG RP RK IRM EP						
											2 and 4						
											2,200						
											BB BG RP RG RS RK GP ARM						
											ASM DR FT RPT MRT						
											3 and 5						
											1,100						
											BB						
											4						
											2,200						
											BB BG RP RG RS RK GP ARM						
											ASM PP EP WR WP FT IRM						
Notes:											Load Notes:						
1. The Dassault Mirage 5F is a day attack aircraft.											1. Stations 3 and 5 are under the rear fuselage.						
2. High bleed rate (HBR). Low transonic drag (LTD). Poor supersonic maneuverability (PSSM).											2. Stations 2 and 4 may be overloaded to 3000 lb.						
											3. May carry two BBs on station 4 without using a WR.						
											4. May use AIM-9 and Matra 550 IRMs on stations 1 and 7						
											5. May use Matra 530 IRMs on station 4.						
											6. May use AS-37 ASMs.						

Mirage 5BA										Crew: Pilot									
										Maneuver HFPs/DPs:									
LR/DR		1.0		1.0															
VR				0.0															
Turn DPs:																			
		CL		1/2		DT													
TT		2.0		2.0		2.0													
HT		3.0		3.0		4.0													
BT		5.0		—		—													
ET		—		—		—													
Power APs/DPs: ○					Cruise Spd. CL: 6.0					Restr. Arcs: —									
CL 1/2 DT Fuel					Climb Spd.: 0.0					Blind Arcs: 30–									
AB 2.5 2.0 1.5 5.0					Visibility: 6					Internal Fuel: 325									
M 1.5 1.0 1.0 2.0					Size: +0					AtA Refuel: No									
N 0.0 0.0 0.0 1.0					Vulnerability: +0					Ejection Seat: Std									
I 1.0 1.0 2.0 0.0																			
SPBR 1.0 2.0 2.0 —																			
Speeds and Ceilings										Climb Capabilities									
Alt. Conf.		CL		1/2		DT		Dive		CL		1/2		DT					
Band Ceil.		52		44		35		Speed		AB Oth		AB Oth		AB Oth					
EH+ 46+		4.5 – 13.5		—		—		14.0		0.5 —		— —		— —		EH+			
VH 36–45		3.5 – 13.0		4.0 – 10.5		4.5 – 8.5		14.0		1.0 0.5		1.0 0.0		0.5 0.0		VH			
HI 26–35		3.0 – 11.0		3.5 – 10.0		4.0 – 8.0		13.0		2.0 1.0		1.0 0.5		1.0 0.5		HI			
MH 17–25		2.5 – 10.0		3.0 – 9.0		3.5 – 7.5		12.0		2.0 1.0		1.0 0.5		1.0 0.5		MH			
ML 8–16		2.0 – 9.0		2.5 – 8.0		2.5 – 6.5		11.0		4.0 2.0		2.0 1.0		2.0 1.0		ML			
LO 0–7		2.0 – 8.5		2.0 – 7.5		2.5 – 6.0		10.0		4.0 2.0		2.0 1.0		2.0 1.0		LO			
Radar: Alpha-II					ECM: IFF					Weapon Stations Diagram:									
ECCM: 0					RWR: B														
Arcs: Limited					DDS: —														
Search: —					DJM: —														
Track: 8–8					AJM: —														
Lock-On: 7					BJM: —														
Guns: Two 30 mm DEFA					Technology:					Load Point Limits: CL : 0–6									
To Hit: 6/3/2					None					1/2: 7–9									
Ammunition: 3.0										Weight Limit: 9,200 DT : 10+									
Gunsight: TT+0/HT+0/BT+2										Station Limit Allowed Loads									
Ranging: RE										1 and 7 550 BB BG RP RK IRM EP									
AtA/AtG: 6/6										2 and 4 2,200 BB BG RP RG RS RK GP ARM									
Bomb System: Ballistic										3 and 5 1,100 BB									
										4 2,200 BB BG RP RG RS RK GP ARM									
										ASM DR FT RPT MRT									
										ASM PP EP WR WP FT IRM									
Notes:										Load Notes:									
1. The Mirage 5BA is a single-seat day attack aircraft built for the Belgian Air Force.										1. Stations 3 and 5 are under the rear fuselage.									
2. High bleed rate (HBR). Low transonic drag (LTD). Poor supersonic maneuverability (PSSM).										2. Stations 2 and 4 may be overloaded to 3000 lb.									
										3. May carry two BBs on station 4 without using a WR.									
										4. May use AIM-9 IRMs on stations 1 and 7									
VPs: 21/14/7/4										v2 00000000 0000-00-00T00:00:00									