

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

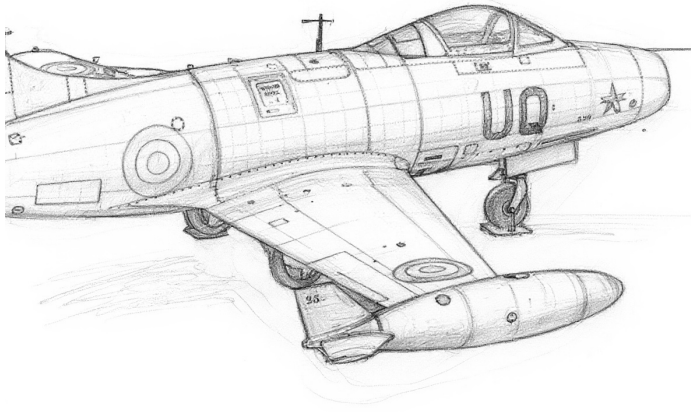
- de Havilland Vampire
- SNCASE Vampire

Photo Credit

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

Mistral										Crew: Pilot									
										Maneuver DPs:									
LR/DR 1.5																			
VR 1.0																			
Turn DPs:																			
CL 1/2 DT																			
TT 0.5 0.5 0.5																			
HT 1.0 1.0 1.0																			
BT 1.0 1.0 1.0																			
ET — — —																			
Power APs/DPs: ○					Cruise Spd. CL: 3.5 Restr. Arcs: —														
CL 1/2 DT Fuel					Climb Spd.: 3.0 Blind Arcs: 30–														
AB — — — —					Visibility: 4 Internal Fuel: 200														
M 1.0 1.0 1.0 1.5					Size: +1 AtA Refuel: No														
N 0.0 0.0 0.0 0.5					Vulnerability: +0 Ejection Seat: Early														
I 1.0 1.0 1.0 0.0																			
SPBR 1.0 1.0 1.0 —																			
Speeds and Ceilings										Climb Capabilities									
Alt.	Conf.	CL		1/2		DT		Dive		CL		1/2		DT					
Band	Ceil.	48		44		40		Speed		AB	Oth	AB	Oth	AB	Oth				
EH+	46+	—		—		—		—		—	—	—	—	—	—	EH+			
VH	36–45	2.5 – 5.5		3.0 – 5.0		3.0 – 4.5		6.0		—	0.5	—	0.5	—	0.5	VH			
HI	26–35	2.0 – 5.5		2.5 – 5.0		2.5 – 4.5		6.5		—	0.5	—	0.5	—	0.5	HI			
MH	17–25	1.5 – 5.5		2.0 – 5.0		2.0 – 5.0		6.5		—	0.5	—	0.5	—	0.5	MH			
ML	8–16	1.5 – 5.5		1.5 – 5.0		1.5 – 5.0		6.5		—	1.0	—	1.0	—	1.0	ML			
LO	0–7	1.0 – 5.5		1.5 – 5.0		1.5 – 5.0		6.0		—	1.5	—	1.0	—	1.0	LO			
Radar: —					ECM:					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 : < 3									
To Hit: 7/4/3					None					1/2: < 5									
Ammunition: 5.0										Weight Limit: 2,000 DT : ≥ 5									
Gunsight: TT+0/HT+1/BT+2										Station Limit Allowed Loads									
Ranging: —										1 and 6 1,000 BB FT									
AtA/AtG: 5/6*										2–3 and 4–5 200 RK									
Bomb System: Manual										Load Notes:									
										1. Stations 2 to 5 may each carry one or two RP-3 RKs.									
										2. May use 450L FTs.									
Notes:																			
1. The SNCASE SE.535 Mistral is a day fighter and fighter bomber. It is derived from the SNCASE Vampire FB.5, but has a more powerfule Nene engine, an ejection seat, and air conditioning for use in hot climates.																			
2. High transonic drag (HTD). Rapid acceleration (RA) if speed ≤ 4.0.																			

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 DPs: LR/DR 1.5 VR 1.0 Turn DPs: CL 1/2 DT TT 0.5 0.5 1.0 HT 1.0 1.0 1.5 BT 1.0 1.5 1.5 ET — — —									
Power APs/DPs: ○ CL 1/2 DT Fuel AB — — — — M 1.0 1.0 1.0 1.0 N 0.0 0.0 0.0 0.5 I 1.0 1.0 1.0 0.0 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: —			Load Point Limits: CL : < 3 1/2: < 7 Weight Limit: 2,200 DT : ≥ 7																			
Guns: Four 20 mm Hispano Mk V			Technology:													Station Limit Allowed Loads 1–4 and 7–10 150 RK 5 and 6 1,100 BB RP RK FT 11–12 and 13–14 200 RK Load Notes: 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.									
To Hit: 7/4/3			None																						
Ammunition: 5.0																									
Gunsight: TT+0/HT+1/BT+2																									
Ranging: —						VPs: 7/5/2/1																			
AtA/AtG: 5/6*																									
Bomb System: Manual						v3 00000000 0000-00-00T00:00:00																			
Notes: 1. The Dassault MD 450A/B Ouragan is a fighter-bomber. 2. High transonic drag (HTD).																									

Dassault Mystère IV

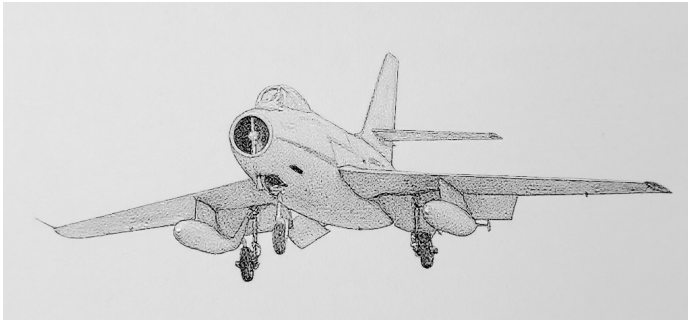


Photo Credit

- 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

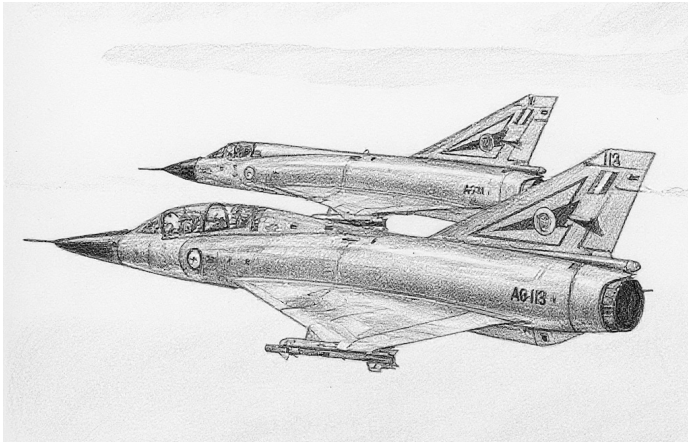
Israeli Mystère IVAs saw combat in the 1956 and 1967 Arab-Israeli Wars. French aircraft also fought in the 1956 Suez Crisis. Indian aircraft fought in the 1965 and 1971 India-Pakistan Wars.

ADC

- Mystère IVA

Mystère IVA										Crew: Pilot									
										Maneuver DPs:									
Power APs/DPs: ○										LR/DR 1.5									
										VR 1.0									
										Turn DPs:									
										CL 1/2 DT									
AB — — — —										TT 0.5 1.0 1.0									
M 1.0 1.0 1.0 1.0										HT 1.0 1.0 1.0									
N 0.0 0.0 0.0 0.5										BT 1.5 2.0 2.0									
I 1.0 1.0 1.0 0.0										ET — — —									
SPBR 1.0 1.0 2.0 —																			
					Cruise Spd. CL: 5.0 Restr. Arcs: —														
					Climb Spd.: 3.5 Blind Arcs: 30–														
					Visibility: 5 Internal Fuel: 150														
					Size: +0 AtA Refuel: No														
					Vulnerability: +1 Ejection Seat: Early														
Speeds and Ceilings										Climb Capabilities									
Alt.	Conf.	CL		1/2		DT		Dive		CL		1/2		DT					
Band	Ceil.	44		40		36		Speed		AB	Oth	AB	Oth	AB	Oth				
EH+	46+	—		—		—		—		—	—	—	—	—	—	EH+			
VH	36–45	2.5 – 6.0		3.0 – 5.5		3.0 – 5.0		6.5		—	0.5	—	0.5	—	0.5	VH			
HI	26–35	2.0 – 6.0		2.5 – 5.5		2.5 – 5.0		7.0		—	0.5	—	0.5	—	0.5	HI			
MH	17–25	2.0 – 6.5		2.0 – 5.5		2.5 – 5.0		7.0		—	1.0	—	0.5	—	0.5	MH			
ML	8–16	1.5 – 6.5		2.0 – 6.0		2.0 – 5.5		7.0		—	1.0	—	1.0	—	0.5	ML			
LO	0–7	1.5 – 6.5		1.5 – 6.0		2.0 – 5.5		7.0		—	1.0	—	1.0	—	1.0	LO			
Radar: APG-30																			
ECM: IFF																			
Weapon Stations Diagram:																			
ECCM: —																			
RWR: —																			
Arcs: —																			
DDS: —																			
Search: —																			
DJM: —																			
Track: —																			
AJM: —																			
Lock-On: 7																			
BJM: —																			
Guns: Two 30 mm DEFA 552																			
Technology:																			
Load Point Limits:																			
CL : < 3																			
To Hit: 6/3/2																			
1/2: < 7																			
Ammunition: 3.5																			
Weight Limit: 4,000																			
DT : ≥ 7																			
Gunsight: TT+0/HT+1/BT+2																			
Station Limit Allowed Loads																			
Ranging: RE																			
1 and 4 1,500 BB RP																			
2 and 3 1,100 BB RP FT																			
5–8 and 9–12 200 RK																			
AtA/AtG: 6/6																			
Load Notes:																			
1. Either stations 1 to 4 or stations 5 to 12 may be used.																			
2. If stations 1 or 4 are loaded with more than 1,100 lb, the maximum turn rate is reduced to HT.																			
3. Stations 5 to 12 may each carry one or two 105 mm T-10 RKs (large RK).																			
4. May use 450L FTs.																			
Bomb System: Manual																			
Notes:																			
1. The Dassault MD 454 Mystère IVA is a fighter-bomber.																			
2. High transonic drag (HTD).																			
3. Hit rolls at low transonic speed or greater have a +1 modifier to the hit roll due to instability.																			
VPs: 10/7/3/2																			
v3 0000000 0000-00-00T00:00:00																			

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

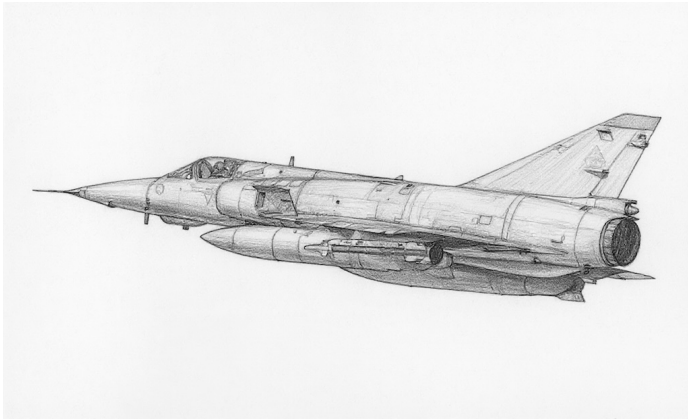
- Dassault Mirage 5

Photo Credit

- Mirage III: Curt Eddings (Public Domain)

Radar: Cyrano II ECCM: 0 Arcs: 180+ Search: 80–15 Track: 50–12 Lock-On: 7	ECM: IFF RWR: — DDS: — DJM: — AJM: — BJM: —	Weapon Stations Diagram:												
Guns: Two 30 mm DEFA To Hit: 6/3/2 Ammunition: 3.0 Gunsight: TT+0/HT+0/BT+2 Ranging: RE AtA/AtG: 6/6	Technology: None	Load Point Limits: CL : < 5 1/2: < 9 Weight Limit: 8,800 DT : ≥ 9												
Bomb System: Manual		<table border="1"> <thead> <tr> <th>Station</th> <th>Limit</th> <th>Allowed Loads</th> </tr> </thead> <tbody> <tr> <td>1 and 5</td> <td>550</td> <td>IRM</td> </tr> <tr> <td>2 and 4</td> <td>3,000</td> <td>BB DR FT MRT</td> </tr> <tr> <td>3</td> <td>2,600</td> <td>BB RHM FT DR</td> </tr> </tbody> </table> Load Notes: <ol style="list-style-type: none"> May carry two BBs or DRs on station 3. May use Matra R.550 Magic IRMs on stations 1 and 5 May use Matra R.530 RHMs on station 3. May carry 1300L FTs on station 2, 3, and 4 and 1700L FTs on stations 2 and 4. No supersonic flight while carrying FTs. 	Station	Limit	Allowed Loads	1 and 5	550	IRM	2 and 4	3,000	BB DR FT MRT	3	2,600	BB RHM FT DR
Station	Limit	Allowed Loads												
1 and 5	550	IRM												
2 and 4	3,000	BB DR FT MRT												
3	2,600	BB RHM FT DR												
Notes: <ol style="list-style-type: none"> The Dassault Mirage IIIEA is single-seat fighter, interceptor, and strike aircraft. The EA version was specifically built for the Argentine air force. High bleed rate (HBR). Low transonic drag (LTD). Poor supersonic maneuverability (PSSM). 														
VPs: 22/15/7/4		v3 0000000 0000-00-00T00:00:00												

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 DPs:																			
LR/DR		1.5																											
VR		0.5																											
Turn DPs:																													
Power APs/DPs: ○					CL		1/2		DT																				
					AB		2.5		2.0		1.5		5.0																
M					1.5		1.0		1.0		2.0																		
N					0.0		0.0		0.0		1.0																		
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		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		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		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		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		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 : < 7									
To Hit:					6/3/2					None										1/2: <10									
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 ASM DR FT RPT MRT				
Bomb System:					Ballistic										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.														
VPs: 21/14/7/4															v3 0000000 0000-00-00T00:00:00														

Radar: Alpha-II ECCM: 0 Arcs: Limited Search: — Track: 8–8 Lock-On: 7	ECM: IFF RWR: B DDS: — DJM: — AJM: — BJM: —	Weapon Stations Diagram:															
Guns: Two 30 mm DEFA To Hit: 6/3/2 Ammunition: 3.0 Gunsight: TT+0/HT+0/BT+2 Ranging: RE AtA/AtG: 6/6	Technology: None	Load Point Limits: CL : < 7 1/2: <10 Weight Limit: 9,200 DT : ≥10															
Bomb System: Ballistic		<table border="1"> <thead> <tr> <th>Station</th> <th>Limit</th> <th>Allowed Loads</th> </tr> </thead> <tbody> <tr> <td>1 and 7</td> <td>550</td> <td>BB BG RP RK IRM EP</td> </tr> <tr> <td>2 and 4</td> <td>2,200</td> <td>BB BG RP RG RS RK GP ARM ASM DR FT RPT MRT</td> </tr> <tr> <td>3 and 5</td> <td>1,100</td> <td>BB</td> </tr> <tr> <td>4</td> <td>2,200</td> <td>BB BG RP RG RS RK GP ARM ASM PP EP WR WP FT IRM</td> </tr> </tbody> </table>	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
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: <ol style="list-style-type: none"> The Mirage 5BA is a single-seat day attack aircraft built for the Belgian Air Force. High bleed rate (HBR). Low transonic drag (LTD). Poor supersonic maneuverability (PSSM). 																	
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