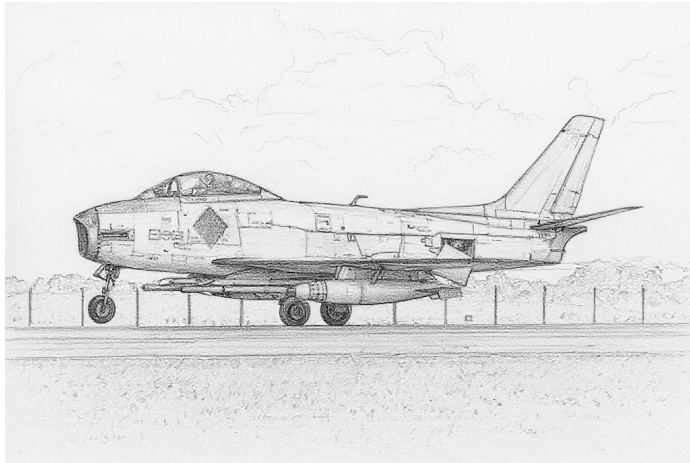


# CAC Sabre



The Commonwealth Aircraft Corporation (CAC) Sabre is a day fighter and fighter-bomber derived from the North American F-86F Sabre with a lighter and more powerful Rolls-Royce Avon 20 engine replacing the General Electric J47 and two 30 mm ADEN cannons replacing the six .50 cal machine guns. Because of its engine, it is also known informally as the Avon Sabre.<sup>1</sup>

## Versions

### **CAC Sabre Mk.30**

The first version was the Mk.30. It had the early slatted wing from the A, E, and early F versions of the F-86.<sup>2</sup>

It served in the RAAF starting in 1954, replacing the Meteor F.8.

### **CAC Sabre Mk.31**

The Mk.31 used the unslatted 6-3 wing from later F versions of the F-86, which gave better performance at higher speeds and altitudes, but was otherwise similar to the Mk.30. The Mk.31 was upgraded in 1960 with two additional weapon stations to allow it to carry missiles or bombs and fuel tanks simultaneously, like the Mk.32.<sup>3</sup>

The Mk.31 served in the RAAF from 1955 to 1971, when they were replaced by the Mirage III. All surviving Mk.30 aircraft were upgraded to the Mk.31 standard. The Mk.31 later served in the Malaysian and Indonesian air forces.

### **CAC Sabre Mk.32**

The Mk.32 is a development of the Mk.31 with an Avon 26 engine, modifications to prevent surges when the guns were fired, and two additional weapon stations that allowed it to carry air-to-ground weapons and fuel tanks simultaneously, giving it a longer range when employed as a fighter-bomber. The Mk.32 competes with the Canadair

Sabre 6 for the honor of being the very best day-fighter Sabre.<sup>4</sup>

The Mk.32 served in the RAAF from 1956 to 1971, when they were replaced by the Mirage III, and later in the Malaysian and Indonesian air forces.

## Service

CAC Sabres served with the RAAF in the Malayan emergency, the Malaysian-Indonesian confrontation, and the Vietnam War in Thailand.

## Armament and Stores

The CAC Sabres were armed with two 30 mm ADEN cannons each with 162 rounds.<sup>5</sup>

For additional endurance, all versions can carry 167 gallon (760L) fuel tanks on the outer station, and those with inner station can also carry 100 gallon (450L) on these.<sup>6</sup>

A typical air-to-air load would be two 167 gallon (760L) fuel tanks on the outer stations and, from 1960, two AIM-9Bs on the inner stations.

A typical air-to-ground load might be two 1000 lb bombs on the inner stations along with two 167 gallon tanks on the outer stations. Alternatively, the Mk.32 could carry twenty-four HVARs or Hispano Sura 80R rockets, with three carried one below the other on each of the eight rocket stations, but at the price of not being able to use external fuel tanks.<sup>7</sup>

For ferry flights, two 100 gallon (450L) fuel tanks could be carried on the inner stations and two 167 gallon (760L) fuel tanks to the outer ones.

In 1960, the RAAF adopted the AIM-9B IRM for both the Mk.31 and Mk.32.

## ADCs

- CAC Sabre Mk.30
- CAC Sabre Mk.31
- CAC Sabre Mk.31 (1960 Upgrade)
- CAC Sabre Mk.32

## See Also

- Canadair Sabre
- North American F-86 Sabre

## **Notes**

### **Photo Credit**

- CAC Sabre: Bidgee (CC BY-SA 3.0)

CAC Sabre Mk.30										Crew: Pilot									
										Maneuver HFPs/DPs:									
LR/DR		1.0		1.0															
VR				0.0															
Power APs/DPs/FPs: ○										Turn DPs:									
CL		1/2		DT		Fuel		CL		1/2		DT							
AB		—		—		—		TT		0.0/0.0		1.0/1.0							
M		1.5		1.5		1.0		HT		1.0/1.0		1.0/1.0							
N		0.0		0.0		0.5		BT		1.0/2.0		2.0/3.0							
I		0.5		0.5		0.0		ET		—		—							
SPBR		0.5		0.5		—													
					Cruise Speed: 5.5					Restr. Arcs: —									
					Climb Speed: 3.5					Blind Arcs: 30–									
					Visibility: 5					Internal Fuel: 160									
					Size: +0					AtA Refuel: No									
					Vulnerability: +0					Ejection Seat: Std									
										Automatic leading-edge slats. If speed ≤ 3.5, use higher drag.									
Speeds and Ceilings										Climb Capabilities									
Alt. Band		Conf. Ceil.		CL 52		1/2 48		DT 42		Dive Speed		CL AB Oth		1/2 AB Oth		DT AB Oth		Alt. Band	
EH+		46+		3.0 – 6.0		3.0 – 5.0		—		6.5		— 0.5		— 0.5		— —		EH+	
VH		36–45		3.0 – 6.0		3.0 – 5.0		3.0 – 5.0		6.5		— 1.0		— 1.0		— 0.5		VH	
HI		26–35		2.5 – 6.0		3.0 – 5.5		3.0 – 5.0		7.0		— 1.5		— 1.0		— 0.5		HI	
MH		17–25		2.0 – 6.5		2.5 – 5.5		2.5 – 5.5		7.0		— 1.5		— 1.5		— 1.0		MH	
ML		8–16		1.5 – 6.5		2.0 – 6.0		2.5 – 5.5		7.5		— 2.0		— 1.5		— 1.0		ML	
LO		0–7		1.5 – 7.0		1.5 – 6.5		2.0 – 6.0		7.5		— 2.0		— 2.0		— 1.5		LO	

Radar:			APG-56			ECM:			IFF			Weapon Stations Diagram:					
ECCM:			0			RWR:			—								
Arcs:			Limited			DDS:			—								
Search:			—			DJM:			—								
Track:			12–6			AJM:			—								
Lock-On:			6			BJM:			—								
Guns:			Two 30 mm Aden			Technology:						Load Point Limits:					
To Hit:			6/3/2			None						CL : 0–2					
Ammunition:			4.0									1/2: 3–6					
Gunsight:			TT+0/HT+1/BT+2									Weight Limit: 3,000					
Ranging:			RE									DT : 7+					
AtA/AtG:			6/6									Station					
Bomb System:			Manual									Limit					
												Allowed Loads					
												1 and 2					
												1,500					
												BB FT					
												Load Notes:					
												1. May use 167 gal (760L) FTs.					
												VPs: 11/7/4/2					
												v1 0000000					
												0000-00-00T00:00:00					

CAC Sabre Mk.31										Crew: Pilot									
										Maneuver HFPs/DPs:									
LR/DR		1.0		1.0															
VR				0.0															
Power APs/DPs/FPs: ○										Turn DPs:									
CL		1/2		DT		Fuel		CL		1/2		DT							
AB		—		—		—		TT		0.0		1.0							
M		1.5		1.5		1.0		HT		1.0		1.0							
N		0.0		0.0		0.0		BT		2.0		3.0							
I		0.5		0.5		1.0		ET		—		—							
SPBR		0.5		0.5		1.0													
					Cruise Speed: 5.5    Restr. Arcs: —														
					Climb Speed: 3.5    Blind Arcs: 30–														
					Visibility: 5    Internal Fuel: 160														
					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		Alt.			
Band Ceil.		52		48		42		Speed		AB Oth		AB Oth		AB Oth		Band			
EH+		46+		2.5 – 6.0		3.0 – 5.0		—		6.5		— 0.5		— 0.5		— —			
VH		36–45		2.5 – 6.0		2.5 – 5.0		3.0 – 5.0		6.5		— 1.0		— 1.0		— 0.5			
HI		26–35		2.0 – 6.0		2.5 – 5.5		2.5 – 5.0		7.0		— 1.5		— 1.0		— 0.5			
MH		17–25		2.0 – 6.5		2.5 – 5.5		2.5 – 5.5		7.0		— 1.5		— 1.5		— 1.0			
ML		8–16		2.0 – 6.5		2.0 – 6.0		2.5 – 5.5		7.5		— 2.0		— 1.5		— 1.0			
LO		0–7		1.5 – 7.0		1.5 – 6.5		2.0 – 6.0		7.5		— 2.0		— 2.0		— 1.5			
Radar:					APG-56					ECM:					IFF				
ECCM:					0					RWR:					—				
Arcs:					Limited					DDS:					—				
Search:					—					DJM:					—				
Track:					12–6					AJM:					—				
Lock-On:					6					BJM:					—				
Guns:					Two 30 mm Aden					Technology:					Load Point Limits:				
To Hit:					6/3/2					None					CL : 0–2				
Ammunition:					4.0										1/2: 3–6				
Gunsight:					TT+0/HT+1/BT+2										Weight Limit:				
Ranging:					RE										3,000				
AtA/AtG:					6/6										DT : 7+				
Bomb System:					Manual										Station				
															Limit				
															Allowed Loads				
															1 and 2				
															1,500				
															BB FT				
															Load Notes:				
															1. May use 167 gal (760L) FTs.				

CAC Sabre Mk.31 (1960 Upgrade)					Crew: Pilot													
Power APs/DPs/FPs: ○ <div><div>CL1/2DTFuel</div><div>AB— — — —</div><div>M1.51.51.01.0</div><div>N0.00.00.00.5</div><div>I0.50.51.00.0</div><div>SPBR0.50.51.0—</div></div>										Maneuver HFPs/DPs:								
										LR/DR1.01.0								
										VR0.0								
					Turn DPs:					CL1/2DT								
TT0.01.01.0																		
HT1.01.01.0																		
BT2.03.03.0																		
ET— — —																		
Cruise Speed: 5.5    Restr. Arcs: — Climb Speed: 3.5    Blind Arcs: 30– Visibility: 5    Internal Fuel: 160 Size: +0    AtA Refuel: No Vulnerability: +0    Ejection Seat: Std																		
Speeds and Ceilings						Climb Capabilities												
Alt. Band	Conf. Ceil.	CL 52	1/2 48	DT 42	Dive Speed	CL AB	Oth	1/2 AB	Oth	DT AB	Oth	Alt. Band						
EH+	46+	2.5 – 6.0	3.0 – 5.0	—	6.5	—	0.5	—	0.5	—	—	EH+						
VH	36–45	2.5 – 6.0	2.5 – 5.0	3.0 – 5.0	6.5	—	1.0	—	1.0	—	0.5	VH						
HI	26–35	2.0 – 6.0	2.5 – 5.5	2.5 – 5.0	7.0	—	1.5	—	1.0	—	0.5	HI						
MH	17–25	2.0 – 6.5	2.5 – 5.5	2.5 – 5.5	7.0	—	1.5	—	1.5	—	1.0	MH						
ML	8–16	2.0 – 6.5	2.0 – 6.0	2.5 – 5.5	7.5	—	2.0	—	1.5	—	1.0	ML						
LO	0–7	1.5 – 7.0	1.5 – 6.5	2.0 – 6.0	7.5	—	2.0	—	2.0	—	1.5	LO						
Radar: APG-56 ECCM: 0 Arcs: Limited Search: — Track: 12–6 Lock-On: 6													ECM: IFF RWR: — DDS: — DJM: — AJM: — BJM: —			Weapon Stations Diagram:		
Guns: Two 30 mm Aden To Hit: 6/3/2 Ammunition: 4.0 Gunsight: TT+0/HT+1/BT+2 Ranging: RE AtA/AtG: 6/6					Technology: None			Load Point Limits: CL : 0–2 1/2: 3–6										
								Weight Limit: 5,000 DT : 7+										
Bomb System: Manual								Station Limit Allowed Loads 1 and 41,500 BB FT 2 and 31,000 BB FT IRM										
Notes: 1. The Commonwealth Aircraft Corporation (CAC) Sabre Mk.31 is a day fighter and fighter-bomber derived from the F-86F. It is also known as the Avon Sabre. The Mk.31 is a development of the Mk.30 and has the early slatted wing replaced by the unslatted 6-3 wing, but retains the Rolls-Royce Avon 20 engine. This 1960 upgrade variant is fitted with two additional weapon stations for IRMs or, when used as a fighter-bomber, bombs.						Load Notes: 1. May use 167 gal (760L) FTs on stations 1 and 4 and 100 gal (450L) FTs on stations 2 and 3. 2. May use AIM-9B IRMs.												
VPs: 11/7/4/2									v1 0000000 0000-00-00T00:00:00									

CAC Sabre Mk.32					<div>Crew: Pilot</div> <div>Maneuver HFPs/DPs:</div> <div>LR/DR1.01.0</div> <div>VR0.0</div> <div>Turn DPs:</div> <div>CL1/2DT</div> <div>TT0.01.01.0</div> <div>HT1.01.01.0</div> <div>BT2.03.03.0</div> <div>ET— — —</div>						
										<div>Power APs/DPs/FPs:○</div> <div>CL1/2DTFuel</div> <div>AB— — — —</div> <div>M1.51.51.01.0</div> <div>N0.00.00.00.5</div> <div>I0.50.51.00.0</div> <div>SPBR0.50.51.0—</div>	
<div>Cruise Speed: 5.5</div> <div>Restr. Arcs: —</div> <div>Climb Speed: 3.5</div> <div>Blind Arcs: 30–</div> <div>Visibility: 5</div> <div>Internal Fuel: 183</div> <div>Size: +0</div> <div>AtA Refuel: No</div> <div>Vulnerability: +0</div> <div>Ejection Seat: Std</div>											
Speeds and Ceilings						Climb Capabilities					
Alt. Band	Conf. Ceil.	CL 52	1/2 48	DT 42	Dive Speed	CL AB Oth	1/2 AB Oth	DT AB Oth	Alt. Band		
EH+	46+	2.5 – 6.0	3.0 – 5.0	—	6.5	— 0.5	— 0.5	— —	EH+		
VH	36–45	2.5 – 6.0	2.5 – 5.0	3.0 – 5.0	6.5	— 1.0	— 1.0	— 0.5	VH		
HI	26–35	2.0 – 6.0	2.5 – 5.5	2.5 – 5.0	7.0	— 1.5	— 1.0	— 0.5	HI		
MH	17–25	2.0 – 6.5	2.5 – 5.5	2.5 – 5.5	7.0	— 1.5	— 1.5	— 1.0	MH		
ML	8–16	2.0 – 6.5	2.0 – 6.0	2.5 – 5.5	7.5	— 2.0	— 1.5	— 1.0	ML		
LO	0–7	1.5 – 7.0	1.5 – 6.5	2.0 – 6.0	7.5	— 2.0	— 2.0	— 1.5	LO		

Radar:		APG-56	ECM:		IFF	Weapon Stations Diagram:		
ECCM:		0	RWR:		—			
Arcs:		Limited	DDS:		—			
Search:		—	DJM:		—			
Track:		12–6	AJM:		—			
Lock-On:		6	BJM:		—			
Guns:		Two 30 mm Aden	Technology:			Load Point Limits:		CL : 0–2
To Hit:		6/3/2	None					1/2: 3–6
Ammunition:		4.0				Weight Limit:		5,000 DT : 7+
Gunsight:		TT+0/HT+1/BT+2				Station		Limit Allowed Loads
Ranging:		RE				1 and 4		1,500 BB FT
AtA/AtG:		6/6				2 and 3		1,000 BB FT IRM
						5–8 and 9–12		280 RK
Bomb System:		Manual				Load Notes:		
Notes: 1. The Commonwealth Aircraft Corporation (CAC) Sabre Mk.32 is a day fighter and fighter-bomber. It is also known as the Avon Sabre. The Mk.32 a development of the Mk.31 and has more powerful Rolls-Royce Avon 26 engine in place of the the Avon 20 engine, but retains the unslatted 6-3 wing.					1. Either stations 1 to 4 or stations 5 to 12 can be used.			
					2. May use 167 gal (760L) FTs on stations 1 and 4 and 100 gal (450L) FTs on stations 2 and 3.			
					3. From 1960, may use AIM-9B IRMs.			
					4. From 1962, stations 5 to 12 may each carry three SURA 80R RKs.			
VPs: 12/8/4/2					v1 00000000 0000-00-00T00:00:00			