

# JAS 39 GRIPEN



JAS 39 Gripen (the Griffon) is designed for the high demands put on flying performance, flexibility, effectiveness, survivability and availability the future air combat environment will put. The designation JAS stands for Jakt (Fighter), Attack (Attack) and Spaning (Reconnaissance) and means every Gripen can fulfill all three mission types.

Flying properties and performance are optimised for fighter missions with high demands on speed, acceleration and turning performance. The combination of delta wing and canards gives the JAS 39 Gripen very good take off and landing performance and superb flying characteristics. The totally integrated avionics makes it a "programmable" aircraft. With the built in flexibility and development potential the whole JAS 39 Gripen system will retain and enhance its effectiveness and potential well into the 21:st century.

Gripen affords far more flexibility than earlier generations of combat aircraft, and it's operating costs will only be about two thirds of those for Viggen, in spite of it being able to in all areas perform at least as well or slightly better, and in some cases much better. This while not being an expensive aircraft to purchase either.

## Test flights

As of the beginning of 1998, over 2,500 test flights had successfully been completed. Separation test with all air to ground, anti ship weapons and Sidewinders have been concluded successfully.

The Manoeuvre Load Limiter will let the pilots give full stick and rudder commands at all times, but by taking into account the present weight, what kinds of external loads are carried, speed, altitude and other data in order to obtain maximum performance enabling the pilots to concentrate on the tactical situation.

The export version, being marketed jointly by British Aerospace and Saab, will not be identical to the Swedish air force version. How it will differ naturally depends on what customers want. It will be compatible with NATO systems.

## Runway performance

The specification for this aircraft says that must be able to operate from 800 m (2,400 ft) runways, so actual take off and landing distance is significantly less, and since early on in the programme, all flights from Saab's facility in Linköping are flown from within a 9 m x 800 m outline painted on the runway.

Stopping distance is reduced by extending the relatively large airbrakes; using the control surfaces to push the aircraft down enabling the brakes to be used harder; tilting the canards forwards, making them into large airbrakes and also pushing the nose gear - which also has brakes - down. So even without thrust reversing, which would have made the aircraft heavier and less affordable, the stopping distance does not exceed that of Viggen.

## Cockpit

The cockpit has a wide angle HUD and three multifunction displays. The very short control stick is mounted centrally on a shelf in front of the pilot.

### **Backup systems**

In case of failure of the digital fly-by-wire system, the canard is disconnected immediately, and with it free-floating, the aircraft becomes stable and can be flown with the backup analogue flight control system.

If the engine fails, power for the aircraft's systems is provided by a Microturbo APU. There are also backup batteries, lasting about 10 minutes so if an air field is in range, you can glide to it and land.



### **JAS 39 Gripen in service**

Deliveries of the first series of aircraft to the Swedish air force are in progress. 140 aircraft, including 14 two seaters, the first which will enter service in 1998, are on order.

The defence budget will include funding for twelve squadrons, so about 70-80 more aircraft will be ordered in a third batch. All twelve squadrons are to be operational by 2006. The J 35J Drakens and AJS 37 Viggens will be replaced during 1997-2001.

The first JAS 39 Gripen squadron is operational with the wing F7 in Sötenäs since 1997, the second is entering service in 1998, both replacing AJS 37 Viggen squadrons. Sötenäs hosts the new "Gripen centre" with training for all categories of personnel.

The next wing to get JAS 39 Gripen will be F10 in Ängelholm, where two squadrons will replace one J 35J Draken squadron and one AJS 37 Viggen squadron. The fifth JAS 39 Gripen squadron will replace the last AJS 37 Viggen squadron at F21 in Luleå. The first of eight JA 37 Viggen squadrons will be replaced by JAS 39 Gripens in 2001 and two squadrons put into contingency storage.



[Click on the image for a larger version \(87 Kb\)](#)

© SAAB Aerospace

### **More fantastic images of Gripen at**

[The JAS Gallery](#) and at [J O Newborg JAS Gallery](#) and at [Christina Holm Gripen Gallery](#)

### **JAS 39 GRIPEN – FACTS**

Length: 47 ft (14.1 m)

Wing span: 27 ft (8.4 m )  
Height: 15 ft (4.5 m )  
Normal take off weight: 8.5 tons  
Max take off weight: 12.5 tons  
Range: 3.000 kms  
Max speed: Supersonic at all altitudes (Mach 2+)  
Engine: Volvo Flygmotor RM12 (GE F404)  
Max thrust: Approx 80 kN  
Radar: Ericsson PS-05/A pulse doppler radar  
First flight: Dec 9th 1988



The Gripen Training Center at F7 Säteneäs

**Main sources of information:**

Various issues of the Swedish air force magazines

More on the Gripen at

[SAAB Aircraft](#)

[Swedish Air Force](#)

On the cooperation between [SAAB and British Aerospace](#)

(1998-June)