



Safety net – runway stop bars – what every pilot must know

Runway incursions are a serious safety threat often resulting from pilots or airside drivers acknowledging air traffic control (ATC) hold short instructions and then continuing to proceed across the runway holding point line.

Globally Runway Incursions have caused major accidents. Runway stop bars are considered as one of the most effective means of preventing runway incursions.

Stop bars are intended to provide additional protection of runway/taxiway intersections to reduce runway incursions by:

- enhancing visibility of holding points
- reinforcing the control of aircraft and vehicles in the vicinity of holding points
- increasing the defence against controller error in aircraft or vehicle identification.

Stop bars also enable low visibility operations such as CAT II/III instrument landing system approaches.

What is a stop bar?

Stop bars are a series of unidirectional red lights embedded in the pavement, at right angles to the taxiway centreline, at the associated runway holding position. The lights are spaced three metres apart and located 0.3m before the holding point.

Each airport may be subtly different and the configuration should be reviewed in AIP prior to operating at an aerodrome.

Stop at the red light

Pilots must comply with the following when stop bars are in operation:

- never cross an illuminated stop bar
- only proceed past a stop bar when ATC provides the appropriate verbal instruction and
- the stop bar light is extinguished.

Recommended practice:

- Ensure that at least one member of the crew is able to sight the stop bars
- Check stop bars every time before entering or crossing a runway
- Check stop bars when reading back ATC clearance to enter the runway

Make sure to check if runway stop bars are in use at the airport you are operating in/out of and where they are located.

Check the specific aerodrome information in ERSAs to confirm.

More stop bars are being implemented across the country.

Globe Marker

MAG sign
Pay close attention to Movement Area Guidance Signs (MAGS) to identify location of stop bars.

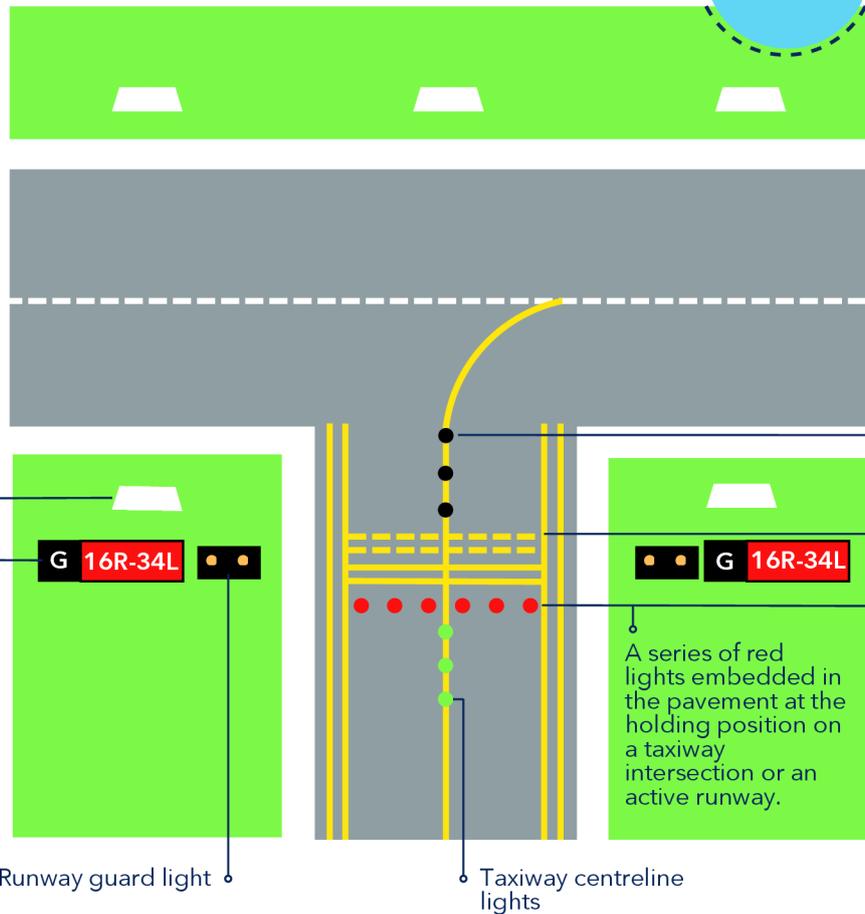
Runway guard light

Complying with instructions regarding runway stop bars can prevent severe safety hazards from occurring.



Actively monitor ATC communications to be aware of any changes in runway operations, including the activation of stop bars.

Ensure to check if stop bar is illuminated as they can be less visible during bright days.



Green Lead On lights are Off

Runway holding point

Red stop bar lights illuminated.

Never cross an illuminated stop bar, even if you have received taxi or takeoff clearance.

CASA Legislative requirements

The requirement for a pilot or vehicle driver to stop at an illuminated stop bar is clearly given in Australian legislation and pilot documentation (CASA Instrument Number 466/07).

These requirements are consistent with the ICAO position as stated in Annex 2 Rules of the Air:

- aircraft taxiing on the manoeuvring area shall stop and hold at all lighted stop bars and may proceed further when the lights are switched off.

Stop bar lights versus taxiway centreline lights

Stop bar lights are red, while the taxiway centreline lights are green. The first 90 meters of centreline lights after the stop bar are linked, meaning only one set of lights (either the red stop bar or the green centreline) will be on at a time.



What if ATC give a clearance but the stop bar is still illuminated?

Pilots must remain behind an illuminated stop bar until it is extinguished. If you have been issued an instruction to proceed and the stop bar has not been extinguished:

- do not cross the illuminated stop bar
- immediately query the instruction with ATC.

For example:

"Stop bar on, [aircraft ID]."

Who controls the stop bars?

ATC manually controls the stop bars, with the controller responsible for the runway operating the stop bar. If the runway is active, the tower controller handles this task. For the Surface Movement Controller (SMC) to issue clearance to cross the runway, they must first coordinate with the Aerodrome Controller (ADC). The ADC authorizes the SMC to cross and then turns off the stop bar.

By the time the SMC has confirmed this coordination and issued the clearance to cross, the stop bar has already been off for at least 5 seconds. This delay can increase if two crossings are coordinated, with clearance being given to the other aircraft first, or if there are interruptions from unrelated communications.

Can I ever cross an illuminated stop bar?

It is possible that stop bars may malfunction and cannot be extinguished. In this case ATC will use specific phraseology to both advise that a stop bar is unserviceable and that it may be crossed while illuminated. These contingency procedures are detailed in the AIP.

Where are stop bars currently used?

Stop bars are continually being added to Australian aerodromes. The details of each aerodrome are available in ERSA.

More information

More pilot safety information is available on the Airservices Australia website at bit.ly/pilotsafety.



If you have any feedback or questions about this publication please email, safetypromotions@airservicesaustralia.com.