# Turn the lights on

Pretty well any aeroplane you fly is going to have a few external lights. And just as with radios and when to use them, there are some “musts”, some “shoulds”, and some opinions. So let’s explore a few of them.

Your aircraft is required to have anti-collision lights in the form of either a beacon, two strobes, or whatever the aircraft design dictates. CASR Part 91 MOS Section 26.22 dictates when you must use them.

## Beacon

Many light aircraft checklists, including PGL’s, tell you to put the beacon on immediately after start, which is what the Part 91 MOS requires. For jets the requirement is to have the beacon on from immediately before engine start. If you have a prop, the prop turning is a pretty clear indication that the engine is running, but in a jet you don’t have such a clear external indication that the engines are on, especially from the front where you can’t necessarily see the exhaust and it’s a lot quieter than from behind. So if you see a jet’s beacon light on, you know the engines are either on or about to start.

If a prop-driven aeroplane has BCN ON as a before-start check, it’s a similar warning – just another way of saying “Clear prop.”

And if you leave the beacon switch on all the time, which I encourage students to do, you achieve two things. Firstly, the beacon comes on before start, and secondly, if you walk away the end of the flight, then look back and see the beacon on, you realise you’ve forgotten to switch the Master off. In an aeroplane like PGL that will run your battery flat, courtesy of the turn coordinator’s electric gyro.

## Navigation lights

These are generally an after-start checklist item, and while they’re hard to see and not all that useful by day, they’re a good thing at night, as you can tell whether the aircraft is coming towards you or heading away. Like so much of aviation terminology and practice – cockpit, cabin, galley, pilot, captain, first officer, port/airport, shipping line/airline, nautical miles, turning right to avoid a head-on – this is a nautical one. It’s much more useful on the water though, because at night if you see the green light on your left and the red on one your right, meaning the vessel is coming towards you, you’ll be able to take avoiding action. In the air, when an aeroplane only gets big in the windscreen in the last fraction of a second, that’s less likely to happen.

A little aside: in the long-ago days when my instrument rating and twin endorsements were current, I did a charter from Moorabbin to Shepparton in a Seminole. In the circuit at Shepparton I did a missed approach because I wasn’t sure I had a green gear light. After going round I remembered that turning the nav lights on in that aeroplane dims the gear light, which makes it quite hard to see in daytime. Turn the nav lights off, gear light all good, safe to land. That was an example of a little something extra that you needed to know (and remember in the circuit) about your aircraft’s lights.

## Strobes

The Part 91 MOS dictates that your strobes must be on from the time you enter the runway until the time you exit it after landing. You're also required to have strobes on when crossing an active runway.

When you're on the ground, by turning your strobes on immediately before entering a runway, and turning them off immediately after exiting, you're using them to signal to other pilots that you're on the runway. If everyone follows that practice, especially at night, then if a pilot in the circuit sees an aircraft on the ground with its strobes on, he/she knows the aircraft is on the runway and not a taxiway.

Incidentally, if you fly into cumuliform cloud with strobes on, especially at night, the bouncing around and the flashing can look very much like a thunderstorm – a lesson I learnt one night over Port Phillip Bay. The inside of a cloud looks much better with your strobes off.

## Landing lights

You're not required to have a landing light for daytime flight; the Part 91 MOS only dictates that you must have one for night flying.

CASR Part 91.400 is the only rule that dictates use of landing lights (if you have them) by day. This one says that if your radio fails, in the vicinity of an aerodrome you must have all your external lights and your transponder on.

Whereas Part 91 and its MOS say "must" regarding lights, the AIP offers only encouragement. AIP ENR 1.1-9.2 says pilots are encouraged to turn landing lights, beacons and strobes on in the vicinity of an aerodrome. So if you always use your landing light on approach, you're doing what CASA suggests, and if you don't, you're not breaking any rules. ENR 1.1 Paragraph 9.13 also says you should turn all your external lights on if you're doing a straight-in approach.

The ERSA entry for Jandakot says all airborne aircraft should display landing lights in and around the Jandakot CTR where practicable. Your LAME may tell you not to have landing lights on all the time because you'll burn the globe out. That's one of those situations in which you're going to be a pilot in command and use your judgment.

RACWA teaches students to use landing lights in two circumstances: on a straight-in approach as the AIP recommends, and in poor visibility. They don't define poor visibility, but you'll probably agree that against a grey cloud background, a light aircraft is almost impossible to see with landing lights off, and very easy to see with them on. It's the same logic that makes a sensible driver turn the headlights on when it starts getting dark – not to see, but to be seen.

## Topics

A couple of recent articles, including this one, are the result of questions put to me by our esteemed President. Thanks for the ideas Errol. And to all those who take the time to read my articles, if you have a question or an idea for an article, please send me a text or email and while I'll never profess to have all the answers, I'll see what pearls of wisdom I can dig up to fill a couple of pages of Fly About.