Radar

Scan

Work through the sequence front to back and issue any instructions that can be issued. Look at no. 1, consider if it's appropriate to do anything with their heading/track, level, or speed. Jump to no. 2; heading, level, speed. No. 3, heading, level speed. Then no. 4, no. 5, and so on.

Always prioritise the scan on the base / merge point area and never leave it out of sight or mind. Consider each aircraft in the sequence in turn and quickly determine if you can give a meaningful turn, level, or speed assignment. It is very tricky at high workloads to do this well while also scanning the rest of your sector, so if you have no director you might have to sacrifice efficiency for safety and add extra miles to spacing as a safety buffer as required.

Make sure the student is always thinking **"1 2 3, heading level speed"** when arrivals are in the TMA.

What is the sequence? Is it working? Changes?

Keep asking the student what their sequence is (who is no1, no2, etc.). The sooner they make a habit of deciding their sequence early, the better.

How many miles does the aircraft have from touchdown?

Is the height and speed working well? How does the minimum distance for no1 impact no2, No3, etc.? The use of trackmiles is not a required technique, but can be a very effective tool in analysing a single aircraft's profile situation, and as a tool for comparing two aircraft in a sequence but not following the same path (If spacing is 6 and no1 is 30NM, No2 has to get 36NM plus a couple miles to account for compression, plus wind allowance).

Always apply speed when sequencing

All radar students will struggle with appropriate speed assignments. Speed doesn't always have to be assigned, but must always be considered, and good consistent sequencing is impossible without good speed control. Keep forcing the student to consider their speed assignments. Use of "or greater/less" is normally best reserved for later sessions when the student has started to grasp sensible speed assignments.

Don't give away both horizontal AND vertical

Always ensure at least one form of separation. Make particularly sure students aren't giving directs, climbs, and/or descends just out of habit, as this can easily cause conflict if not carefully considered.

What is the planned spacing?

Every time the student is sequencing aircraft which will end up on the ILS within ~10-12NM of each other or less, the student should for practice reasons have a pre-planned spacing target in their mind. Working to achieve a specific target is a lot more valuable for training than just idly managing a safe arrival flow.

This mindset can turn even fairly slow sessions into useful sessions.

When busy, back to basics

Teaching/demoing various advanced or expeditious techniques is well and good for quieter periods, but instill in the student that when traffic builds, simple and standard techniques is the way to go.

Using the PMS well, vectoring onto nice wide ~90° bases that gives room to judge spacing and time the inbound turn, speed control, keeping things level safe as long as practical, and so on.

What if scenarios

When it's quiet, make up hypothetical scenarios for students to enhance learning. Make them say out loud the radio calls involved.

Suggested topics:

- VFR outside and into controlled airspace.
- SVFR
- IFR from outside controlled airspace, and VFR-IFR changes.
- Emergencies
- Airspace dimensions and classes, sectors, terrain safe levels, etc.
- LOA/SOP

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