

Cameron Speedway

2026-09-14



Corner numbers correspond to the analysis below

Session comparison

Track: Cameron Speedway

Reference Driver

Best lap 53.007s, max speed 82 km/h, LO206 (4-stroke), 4 laps

Student Driver

Best lap 53.428s, max speed 81.2 km/h, LO206 (4-stroke), 16 laps

Main Issue

Weak exit drive off Turn 3 costs speed onto the following straight; over-slowing Turn 8 apex bleeds time through to Turn 9 entry

Focus First

Turn 3 exit — student exits at 45 km/h vs reference 50 km/h (–5 km/h)

0.421s

GAP

0.25s

RECOVERABLE

Focus Priority

If You Fix Only One Thing: Turn 3 — raise exit speed from 45 km/h to match reference 50 km/h by improving line and rotation so the kart points at the exit sooner

Expected Gain: ~0.25s — roughly 60% of the total 0.421s gap

Session Comparison

Nearly all of the 0.421s gap lives in two corners. Turn 3 exit is 5 km/h below reference, costing speed down the following straight. Turn 8 apex is 4 km/h below reference, which also slows the Turn 9 entry. Every other corner is within noise — the student is otherwise well-matched to the reference.

Student already beats reference at

- Turn 3 entry (+10 km/h) and apex (+8 km/h) — carrying more speed in than reference
- Turn 5 entry (+8 km/h) and apex (+3 km/h)
- Turn 8 entry (+3 km/h) and exit (+2 km/h)
- Turn 7 apex (+1 km/h)

Biggest Time Gains

1 Turn 3 | ~0.25s estimated gain

GAP	Student exits at 45 km/h vs reference 50 km/h — 5 km/h deficit despite arriving faster (entry +10 km/h, apex +8 km/h)
WHAT REFERENCE DOES	Gives up entry and apex speed to take a cleaner arc — arrives at 61 km/h entry, holds 42 km/h apex, then drives out to 50 km/h exit. The tighter, more patient arc lets the kart point at the exit earlier and accelerate sooner.
WHAT STUDENT DOES WRONG	Carries too much speed into the corner (71 km/h entry, 51 km/h apex) but the wide or late arc means the kart isn't pointed at the exit at the apex — speed is scrubbed mid-corner and exit drive suffers. High entry + high apex + low exit is the classic "wrong arc" pattern.
FIX	Accept giving up entry speed to match the reference's lower entry (~61 km/h). Work your line so the kart is already rotating and pointing at the exit at the apex. Try turning in a touch earlier on some laps and a touch later on others — keep whichever raises exit speed to 50 km/h without tightening the exit. The pass/fail signal is exit speed: you want 50 km/h or better.
CUE	At the apex the kart should already feel like it's driving toward the exit, not still turning. If you're still unwinding the steering past the apex, the arc isn't done yet.
REFERENCE POINT	If there's a visible exit curb or cone at Turn 3, the kart should be tracking toward it from the apex, not arriving at it late.

2 Turn 8 | ~0.15s estimated gain

GAP	Student apex 56 km/h vs reference 60 km/h – 4 km/h below despite arriving faster (entry +3 km/h). Exit is actually +2 km/h, but the slow apex costs time through the corner and bleeds into Turn 9 entry (student arrives 3 km/h slower there).
WHAT REFERENCE DOES	Trades entry speed (arrives at 59 km/h vs student's 63 km/h) for a cleaner arc that holds 60 km/h at the apex – the kart rotates without scrubbing speed mid-corner.
WHAT STUDENT DOES WRONG	Arrives faster but the apex drops to 56 km/h – the extra entry speed is being scrubbed off mid-corner rather than carried through. The arc is likely wider or less clean than the reference.
FIX	Accept a lower entry speed to match the reference's cleaner arc. Target 60 km/h at the apex. Try turning in a touch earlier on some laps and later on others – keep whichever raises apex speed to 60 km/h. Pass/fail: apex at or above 60 km/h. Fixing this also recovers the Turn 9 entry speed for free.
CUE	The kart should feel like it's holding speed through the middle of the corner, not scrubbing and then recovering. If you feel the kart push or slow mid-corner, the arc isn't clean enough.

STRENGTHS

Strengths

- Strong entry commitment: student carries more speed into Turn 3 (+10 km/h), Turn 5 (+8 km/h), and Turn 8 (+3 km/h) than the reference – no hesitation on approach
- Consistent mid-corner execution: Turn 2, Turn 4, Turn 6, Turn 7, Turn 10, Turn 11, Turn 13 all match the reference within noise across 16 laps – very repeatable
- Exit recovery at Turn 8: despite a lower apex, student still exits Turn 8 at +2 km/h vs reference – shows strong drive off the corner once the kart is pointed

TECHNIQUE

Technique Patterns

Braking

Brake input cannot be measured from GPS speed. Entry speeds at most corners are at or above reference – braking is not the limiter here. The student is not arriving too slow anywhere.

Throttle

Exit speed is the only measurable output. Turn 3 exit is 5 km/h below reference — the kart is not recovering speed onto the straight as quickly. This is most likely a line/rotation issue (kart not pointed at exit at apex) rather than a throttle timing issue, but fixing the arc will also improve the exit drive opportunity.

Line

The core pattern is carrying too much entry speed into corners (Turn 3, Turn 5, Turn 8) without converting it into apex or exit speed. The reference trades entry speed for a cleaner arc and higher exit. Student needs to accept lower entry speeds at Turn 3 and Turn 8 to straighten the arc and point the kart at the exit sooner.

Consistency

Very consistent across 16 laps — the pattern is repeatable, which means the fix will also be repeatable once found. Main inconsistency risk is Turn 3 where the entry/apex/exit pattern is far from reference.

OUTLOOK

Timeline

After 1 Session

Target 53.1–53.2s — fixing Turn 3 exit alone should recover ~0.15–0.20s

After 3 Sessions

Target 52.95–53.05s — both Turn 3 and Turn 8 fixed, approaching theoretical best of 52.916s

Key Message

You're fast into corners — now trade some of that entry speed for a cleaner arc so the kart is already pointing at the exit at the apex. The reference is slower in, faster out. That's the trade to make.

PRACTICE

Practice Plan

Session 1

Target: Turn 3

Goal: Raise exit speed from 45 km/h to 48–50 km/h — accept giving up entry speed to get there

Drill: On consecutive laps, deliberately arrive slower at Turn 3 entry (target ~61–63 km/h). Vary turn-in point slightly each lap. Keep the lap where exit speed is highest. Ignore entry and apex numbers — judge only by exit speed.

Session 2

Target: Turn 8

Goal: Raise apex from 56 km/h to 59–60 km/h — accept lower entry to clean the arc

Drill: Same approach — arrive at ~59–61 km/h entry, vary turn-in slightly, keep the lap where apex is 59 km/h or above.
Check that Turn 9 entry speed also rises as a confirmation signal.

Session 3

Target: String Turn 3 and Turn 8 fixes together in a full lap

Goal: Break 53.1s — theoretical best is 52.916s, so 53.0–53.1s is realistic with both fixes landing

Mental Focus: At each of these two corners, the job is to be pointed at the exit at the apex — not still turning.

REFERENCE VS STUDENT

Corner-by-Corner Breakdown

Turn 2 OK

Reference	entry 59 km/h min 56 km/h exit 67 km/h
Student	entry 60 km/h min 57 km/h exit 67 km/h
Delta	entry +1 km/h min +1 km/h exit +0 km/h

Summary: Matched — within noise, no issue here

Fix: Maintain

Turn 3 PRIORITY FIX

Reference	entry 61 km/h min 42 km/h exit 50 km/h
Student	entry 71 km/h min 51 km/h exit 45 km/h
Delta	entry +10 km/h min +8 km/h exit –5 km/h

Summary: Student carries far more entry and apex speed but exits 5 km/h slower — wrong arc, kart not pointed at exit at apex

Fix: Accept lower entry (~61 km/h), work line to rotate kart earlier so exit reaches 50 km/h

Turn 4 OK

Reference	entry 51 km/h min 43 km/h exit 55 km/h
Student	entry 52 km/h min 43 km/h exit 54 km/h
Delta	entry +1 km/h min +0 km/h exit -1 km/h

Summary: Matched — within noise

Fix: Maintain

Turn 5 OK

Reference	entry 48 km/h min 37 km/h exit 51 km/h
Student	entry 56 km/h min 41 km/h exit 51 km/h
Delta	entry +8 km/h min +3 km/h exit +0 km/h

Summary: Student arrives faster and holds more apex speed but exits identically — balanced, no controllable loss

Fix: Maintain

Turn 6 OK

Reference	entry 46 km/h min 47 km/h exit 62 km/h
Student	entry 46 km/h min 47 km/h exit 62 km/h
Delta	entry +0 km/h min +0 km/h exit +0 km/h

Summary: Identical — no issue

Fix: Maintain

Turn 7 OK

Reference	entry 66 km/h min 55 km/h exit 63 km/h
Student	entry 65 km/h min 56 km/h exit 63 km/h
Delta	entry -1 km/h min +1 km/h exit +0 km/h

Summary: Matched — within noise

Fix: Maintain

Turn 8 **PRIORITY FIX**

Reference	entry 59 km/h min 60 km/h exit 61 km/h
Student	entry 63 km/h min 56 km/h exit 63 km/h
Delta	entry +3 km/h min -4 km/h exit +2 km/h

Summary: Student arrives faster but apex is 4 km/h lower – extra entry speed scrubbed mid-corner, not carried through

Fix: Accept lower entry (~59 km/h), clean the arc to hold apex at 60 km/h; Turn 9 entry will recover as a result

Turn 9 **INHERITED – DO NOT FIX HERE**

Reference	entry 57 km/h min 41 km/h exit 47 km/h
Student	entry 55 km/h min 39 km/h exit 47 km/h
Delta	entry -3 km/h min -1 km/h exit +0 km/h

Summary: Slow entry inherited from Turn 8 apex/exit deficit – apex and exit match reference; no Turn 9 fault

Fix: Fix Turn 8 exit drive; Turn 9 entry recovers automatically

Turn 10 **OK**

Reference	entry 46 km/h min 37 km/h exit 53 km/h
Student	entry 48 km/h min 38 km/h exit 52 km/h
Delta	entry +2 km/h min +2 km/h exit -1 km/h

Summary: Matched – within noise

Fix: Maintain

Turn 11 **OK**

Reference	entry 49 km/h min 46 km/h exit 60 km/h
Student	entry 48 km/h min 46 km/h exit 60 km/h
Delta	entry -1 km/h min +0 km/h exit +0 km/h

Summary: Matched – within noise

Fix: Maintain

Turn 12 INHERITED — DO NOT FIX HERE

Reference	entry 57 km/h min 32 km/h exit 47 km/h
Student	entry 54 km/h min 33 km/h exit 47 km/h
Delta	entry -3 km/h min +1 km/h exit +0 km/h

Summary: Slow entry inherited from upstream — apex and exit match or beat reference; no Turn 12 fault

Fix: No fix needed here; upstream exit drive is the source

Turn 13 OK

Reference	entry 47 km/h min 47 km/h exit 50 km/h
Student	entry 46 km/h min 47 km/h exit 51 km/h
Delta	entry -1 km/h min +0 km/h exit +1 km/h

Summary: Matched — within noise

Fix: Maintain