Alternative Formula 1 Regulation

Concept (2026+)

Author: anonymous (age 17) – written to refocus F1 on the driver, difficulty, and pure racing.

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1. Introduction

The goal is to bring the driver and real racing back to the heart of Formula 1. This proposal emphasizes mechanical grip, oversteer, minimal electronics, and engineering freedom within a safe and cost-effective framework.

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2. Engine and Rule

2.1 Fuel and Refueling

- The engine must be a **naturally aspirated V10 or V8** configuration.
- **Turbocharging** and **hybrid systems** are strictly prohibited, including:
- MGU-H (Motor Generator Unit - Heat)
- MGU-K (Motor Generator Unit - Kinetic)
- Only **FIA-approved synthetic fuels (e-fuel)** are permitted.
- Fuels must meet FIA sustainability and safety standards.
- Bioethanol, fossil-based fuels, and fuel blends are not allowed.
- The engine must deliver a **maximum power output of 750 to 780 horsepower** (560–580 kW).
- The maximum operating speed is **19,000 rpm**, with focus on throttle response, engine sound, and high-revving performance.
- **Estimated race fuel consumption** is between **3.0 and 3.5 liters per kilometer**, depending on circuit and engine mapping.

2.2 Fuel and Refueling

- Each car is allowed a total of **800 liters of fuel per race**, divided into **4 equal stints of 200 liters**.
- The fuel tank capacity must be **exactly 200 liters** and cannot be underfilled or exceeded.
- Cars must make **4 mandatory pit stops**, one after each stint.
- **Each pit stop must include a complete refueling of 200 liters**.
- **Partial refueling is strictly prohibited**.
- The **maximum fuel flow rate** during refueling is **15 liters per second**.
- Refueling and tire changes may occur simultaneously.

2.3 Refueling Safety

- All refueling systems must operate in a **closed-loop configuration** to prevent vapor release and fuel spillage.
- Refueling equipment must include:
- **Automatic shutoff valves** in case of premature disconnection
- **Vapor containment systems**
- **Static discharge grounding**
- **Temperature and pressure regulation**

- All pit crew handling fuel must wear **FIA Level 3 fireproof gear**.
- Any fuel leak or non-compliance during refueling will result in **immediate disqualification** of the vehicle.

2.4 Design Philosophy

The power unit must prioritize: - **Lightweight construction** - **Direct and responsive throttle control** - **Mechanical simplicity (no electronic driving aids)** - **High acoustic quality and engine sound experience**

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3. Suspension (SAL – Straight-line Active Limiter)

- Active suspension **allowed only on straights**
- Controlled strictly by standardized FIA ECU
- Automatically deactivated during cornering and braking
- Purpose: reduce porpoising safely without affecting handling or driver skill

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4. Aerodynamics

- **Free floor design** allowed, within safety constraints (ride height minimum, stiffness limits)
- **Front wing freedom**: open design within max dimensions; moderate control of outwash
- **Rear wing limited**: simplified design, no DRS or corner-activated elements; optionally standardized by the FIA with low downforce. This ensures rear stability is capped and prevents teams from overloading the front wing, since excess front aero would cause imbalance. The result is less dirty air, more consistent racing conditions, and no way for teams to trick the FIA through hidden rear downforce.
- Focus on clean air behavior: minimal dirty air for close racing

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5. Transmission

- Mechanical differential only
- No electronic control systems allowed
- Setup can be adjusted only between sessions, not dynamically
- Emphasis on driver throttle control and traction skill

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6. Balance Philosophy

- Cars must be **front-aero biased** (at least 60% of total load on front axle)
- Rear end intentionally more unstable → promotes oversteer, driver skill, and race variability
- No system allowed to adjust balance dynamically during the lap

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7. Costs and Simplicity

- Full removal of complex hybrid systems

• SAL (straight-line active suspension) is standardized and included in the cost cap
• Engineering is encouraged in core mechanical/aero areas, not electronics
• Budget is focused on performance and spectacle, not simulation software

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8. Technical Articles (FIA-style)

Article 5.3 – Power Unit

• The car must be powered exclusively by a naturally aspirated V10 or V8 combustion engine.
• No hybrid components (MGU-H, MGU-K) are permitted.
• Only FIA-approved synthetic fuels may be used.

Article 10.11 – Aerodynamic Balance

• The car must generate at least 60% of its aerodynamic load on the front axle at 250 km/h.
• Rear aerodynamic load must remain below 60% of front load in all configurations.

Article 10.12 – Straight-Line Active Suspension (SAL)

• SAL systems are permitted only in designated straight-line zones.
• Activation and deactivation must be automatic and controlled by FIA standard ECU.
• SAL must be completely inactive in braking and cornering phases.

Article 9.7 – Differential

• Only mechanical differentials are permitted.
• No electronic control or real-time adjustment is allowed.
• Differential settings may only be changed between sessions, not during live driving.

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9. Weekend Format & Sporting Rules

9.1 Free Practice

• **Friday:**
• FP1: 90 minutes
• FP2: 90 minutes
• No parc fermé restrictions before qualifying
• Full freedom for teams to test components and setups

9.2 Sprint Race

• **Saturday Morning – Sprint Race**
• Grid inversion based on championship standings
• Shorter race (1/3 distance), with mandatory refueling
• Points awarded to Top 8 finishers

9.3 Qualifying Format

• **Saturday Afternoon – Qualifying Duel Format**

- Q1: 8-minute session, top 16 advance
- Q2: Duel Format:
    - Drivers paired in head-to-head runs
    - One flying lap per driver, spaced by 15 seconds
    - Winner progresses, loser enters secondary duel round
    - Final positions sorted by duel rounds and lap times

9.4 Race Day

- **Sunday – Grand Prix (Full Distance)**
- 4 mandatory pit stops (one per stint)
- Refueling and tire change during each stop
- No parc fermé restrictions between qualifying and race
- Teams allowed to adjust setup overnight