FEDERATION INTERNATIONALE DE L'AUTOMOBILE

Lightweight Halo

Call for Expression of Interest

30 April 2024

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1 Introduction

1.1 Overview

The FIA's objective is to appoint approved **Defined Specification Components (DSC)** suppliers whose task will be to ensure the production and delivery of the **Lightweight Halo** in the **2026, 2027, 2028, 2029 and 2030 seasons of the FIA Formula One World Championship** (hereafter referred to as "the Championship").

This **Call for Expression of Interest** is intended to raise awareness of the FIA 2026 Formula 1 Technical Regulations' DSC definition and to invite interested suppliers to submit proposals for the aforementioned **Lightweight Halo.**

1.2. DSC Definition

Article 17 of the FIA 2026 Formula 1 Technical Regulations (to be published before 30 June 2024) will define the **Components' Classification**, and as part of this classification the **DSC** category of components.

The current working draft of this article is given below.

17.7 Defined Specification Components (DSC)

Further information concerning implementation is given in an Annexe document.

17.7.1 **Defined Specification Components** (DSC) are components produced to a technical specification defined by the FIA.

A DSC must be approved by the FIA, who will ensure compliance with the technical specification and with Article 17.7. Once approved, details of the component will be added to a Technical List contained in the Annexe to this Article.

17.7.2 The use of a DSC is mandatory and is limited to components on the relevant Technical List. The particular function of that DSC must not be by-passed, replaced, duplicated or complemented by another component. This provision also applies to any TCC as defined in the Sporting Regulations. In exceptional circumstances, the FIA, at its sole discretion may authorise the use of alternative components.

17.7.3 Any supplier of a DSC must be prepared to supply all Competitors and must treat all the Competitors that they supply on an equitable basis. A supplier of a DSC is only required to supply a Formula One Competitor who agreed a supply contract with the supplier before the date specified in the definition of the specific DSC.

17.7.4 The technical specification of a DSC (to its required level of detail) will be defined by the FIA and communicated to all Competitors via relevant documents in the Annexe to this Article. Changes to the specification will only be made under exceptional circumstances. Should a change become necessary, the details and timescale of the change will be decided after consultation with all interested parties.

17.7.5 A supplier that would like to supply a DSC for year (N) must provide the FIA with a full dossier containing complete technical description and commercial terms for the DSC before the date specified in the definition of the specific DSC. The FIA will examine the dossier in consultation with the Competitors and decide, within 30 days of its receipt, whether to add the DSC component in question to the list of approved DSCs, which will be set out in the Annexe to this Article.

17.7.6 The number of variants that an approved DSC supplier may supply will be defined in the technical specification of the DSC. All variants of the DSC must be made available by the supplier to all Competitors on identical commercial terms. With the exception of changes to the technical specification and design of the DSC that are necessary for reliability or cost reasons, the period that the technical specification and design of the DSC must remain unchanged will be defined in the technical specification of the DSC. Any subsequent changes must follow the approval process and timescales described in Article 17.7.4. Changes to the technical specification or design that are necessary for reliability or cost reasons are subject to the prior approval of the FIA and must be communicated to all Competitors.

17.7.7 A Formula One Competitor must not, either directly or indirectly via a third party or otherwise pass to another Formula One Competitor any information (including but not limited to data, know how, operating procedures, properties and calibrations) or methodology (including but not limited to simulation software, analysis tools, etc.) that could be used by another Formula One Competitor to enhance the performance of a DSC, or receive any such information or methodology from another Formula One Competitor.

Competitor(s) means the racing teams that have been accepted by the FIA to take part in the FIA Formula One World Championship.

2 Terms of Lightweight Halo DSC

2.1 Technical Specification

The **Lightweight Halo** must comply with the draft Technical Specification given in Appendix A.

2.2 Supply Restrictions

The **Lightweight Halo** may not be manufactured or supplied by Competitors or by entities within a Competitor's **Legal Group Structure**[1].

2.3 Number of Variants (TR 17.7.6)

A supplier may only supply a single version of the **Lightweight Halo** in any Championship Season.

2.4 Frequency of Update (TR 17.7.6)

A supplier may not supply an updated version of a **Lightweight Halo** within one year of the introduction of the previous version.

2.5 Submission of Dossier (TR 17.7.5)

A full technical dossier, including details of successful homologation must be submitted to the FIA before 31 March of year N-1.

3 Evaluation Process

3.1 Expression of Interest

Suppliers are invited to register their interest with the FIA to be evaluated as a **Lightweight Halo** supplier to the Championship. Such expression of interest should be supported by evidence that the

[1] As defined in the Formula 1 Financial Regulations (available on the FIA website: www.fia.com).

supplier is capable of developing and supplying a **Lightweight Halo** to the terms of the DSC regulation and the terms of this DSC definition document.

Evidence submitted should include a brief profile of the supplier, their engineering capabilities, manufacturing capabilities and experience in supplying similar products.

The submissions will be evaluated by the FIA. If pre-approved after this initial assessment, the potential suppliers will be requested to sign a non-disclosure agreement and will be provided with additional technical information, including CAD models. The pre-approved suppliers will also be invited to provide feedback to the draft Technical Specification. It is hereby specified that the draft Technical Specification and any update thereto is and will remain FIA's proprietary information.

The pre-approved suppliers will be required to provide interim project reports by 30 September 2024 and 31 December 2024.

3.2 Evaluation of Product

In a further phase of FIA's evaluation, the potential suppliers pre-approved by the FIA in accordance with paragraph 3.1 above will be requested to refine their submission and proposed solution, including pricing. To be accepted as an F1 **Lightweight Halo** supplier, the FIA will then conduct an evaluation of their solution, assessing the proposed component on the basis of the following criteria:

i. Compliance with the Technical Specification given in Appendix A and as subsequently updated, including successful completion of the Performance Assessment in the presence of an FIA witness (see Article 3 of Appendix A);

ii. Detailed information of the supplier's production process and quality control;

iii. The supplier's commitments to sustainability as per Appendix B;

iv. The "Questionnaire Compliance – Due Diligence" as per Appendix C.

The FIA will examine the dossier in consultation with the Competitors and decide whether to add the DSC component in question to the list of approved DSCs, which will be set out in the Appendix to the Technical and Sporting Regulations.

The FIA reserves the right to carry out further due diligence on the interested suppliers.

Final approval will be subject to the suppliers entering into a contract with the FIA that will establish the contractual framework under which they will supply the product directly to the Competitors (not to the FIA).

3.3 Continuing Assessment

To ensure that standards are maintained, an approved supplier may be periodically asked to provide, free of charge, a **Lightweight Halo** to be assessed by the FIA during the lifespan of the product.

4 Project Timing

The development timeline of the **Lightweight Halo** is expected to be the following:

30 April 2024	Publication of Call for Expression of Interest
30 June 2024	Publication of final Technical Specification and DSC terms
31 March 2025	Submission of technical dossier for 2026 supply
31 March (N-1)	Submission of technical dossier for year N supply (new suppliers or new version as permitted)

In order for interested suppliers to contribute to the Technical Specification, the FIA encourages the submission of Expression of Interest dossiers, defined in section 3.1, **by the end of May 2024**.

5 Legal Notice

By participating in this **Lightweight Halo** selection process, interested suppliers: (i) accept to do so at their own risk and cost, (ii) accept that their **Lightweight Halo** offer will be evaluated by the FIA acting at its sole discretion in consultation with the Competitors, (iii) accept not to contest such evaluation by the FIA as well as the potential decision by the FIA not to include their **Lightweight Halo** in the Technical List, and (iv) acknowledge and agree that they won't be entitled to seek any kind of damages, indemnification or compensation from the FIA in connection with this Call for Expression of Interest, the evaluation of their **Lightweight Halo** by the FIA, the decision to include (or not to include) their **Lightweight Halo** in the Technical List, and the selection/use (or absence of selection/use) of their **Lightweight Halo** by the Competitors.

Interested suppliers further acknowledge that nothing in this Call for Expression of Interest or any communication made by the FIA or its employees, affiliates, subcontractors and/or any other third party it may engage in relation to this document shall: (i) constitute an offer or a contract between the FIA and any interested supplier, or (ii) be construed as placing an obligation on the FIA to grant rights to any interested supplier, or (iii) constitute any appointment of an interested supplier by the FIA, or (iv) not act as a representation that any interested supplier will be granted any right(s) or appointed by the FIA in any capacity.

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Expression of Interest dossiers, as defined in Section 3.1, must be submitted to the FIA Administration by e-mail to the following address: tenderingprocedure@fia.com

The FIA reserves the right at any time, without giving reasons therefore and at its sole discretion, to amend, modify or terminate this Call for Expression of Interest (including the evaluation process and evaluation criteria) and/or to issue a new call for expression of interest.

Appendices

A – Technical Specification

B – Commitment to sustainability

C – Questionnaire for Standard Due Diligence

APPENDIX A
Draft Technical Specification

1. Design Requirements

The FIA reserves the right to refuse the homologation if the design and function are deemed unacceptable.

The **Lightweight Halo** shall be produced by the manufacturer in accordance with the following criteria:

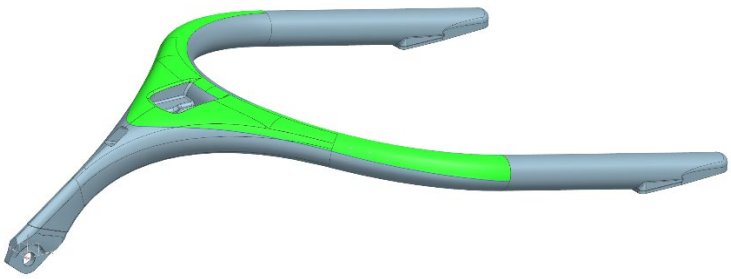
1.1 Geometry

The external geometry and permitted tolerances are given by the model FIA-00000xxx and the associated drawing.

The internal geometry is free.

Where cable passages are indicated, the sizes are a minimum. The design of cable passages must be reviewed with the FIA.

The minimum wall thickness must be respected in the indicated areas.



Wall thickness ≥ 3mm in green area

1.2 Material

The material must be a Titanium Alloy

1.3 Mass

The mass must be greater than 6.0kg

2. Manufacturing Method

The manufacturing method is free. The manufacturer must provide evidence that the chosen method produces consistent quality.

Any changes to the manufacturing method constitutes a change of model, and consequently an authorisation from the FIA is required. Additionally, further testing at an FIA-approved test house may be required.

3. Performance Assessment

A single **Lightweight Halo** sample must be provided free of charge to the FIA-approved test house, where it will be subjected to three separate static load tests, as prescribed below. The FIA may require the tests to be carried out in the presence of a delegate elected by the FIA.

If deemed necessary by the FIA, the design may be subjected to additional tests which must be supervised by the FIA.

A fee will be charged to cover the expenses of the FIA witness and the use of the FIA's test equipment.

3.1. Apparatus

For each test:

- The apparatus shall provide a rigid base for the attachment of the **Lightweight Halo** and a rigid reaction surface for the ram.
- Loadcells will be fitted at each attachment point.
- The **Lightweight Halo** must be attached to the rig with fixings for the front and rear attachments as specified in the Supplementary Technical Information (to be provided by the FIA to potential suppliers).
- The **Lightweight Halo** shall be positioned such that the mounting faces for the rearward fixings are purely horizontal.
- The loads shall be applied using a 150mm diameter pad whose centre is within 5mm of the specified loading position. A radius of 3mm is permissible on the edges of the pad.
- Rubber 3mm thick may be used between the pad and the structure.
- The loads shall be applied by a single cylinder with a constant application direction.
- Deflections shall be measured along the direction of load application.
- The directions of the loads are described with reference to the system's in-car position.

3.2. Test Sample

The **Lightweight Halo** sample shall be a full assembly that meets the complete design requirements as specified in Section 1 of this Specification.

The front bracket and fixings for the front and rear attachments must be sourced by a supplier that has been approved by FIA and shall be in compliance with the drawings contained in the Supplementary Technical Information.

3.3. Instrumentation

A method for measuring the force and displacement of the ram shall be provided.

All instrumentation shall conform to the requirements of a quality system that has been approved by the FIA. Data capture shall be at a minimum of one sample per mm.

The reaction loads at the attachment points will be logged and recorded and will form part of the Technical Dossier.

3.4. Static Test 1

A load 125kN (116kN vertically downward and 46kN longitudinally rearward) must be applied at a position 188mm rearward of the front fixing axis and 176mm above the front fixing axis and positioned on the **Lightweight Halo** centre plane, as shown in Figure A3.4.

Peak loads must be applied in less than three minutes and be maintained for five seconds.

- There must be no structural failure of any part of the structure.
- When the applied load on the structure has reached 125kN, the deflection must not exceed 17.5mm.
- Permanent deformation of the structure must be less than 3mm after the applied load has been released for 1 minute. Permanent deformation will be assessed by an appropriate dimensional inspection.

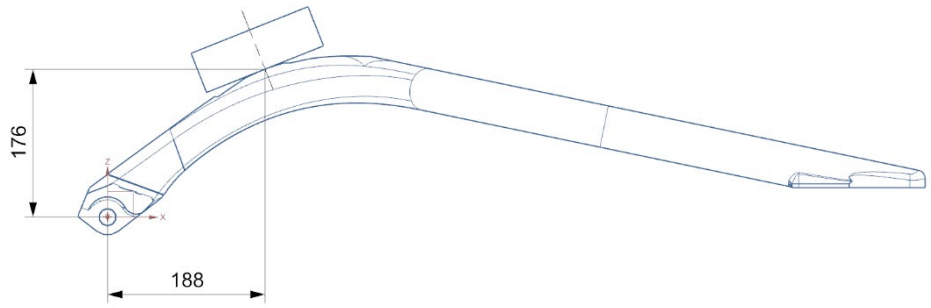


Figure A3.4.1 Load application point for Static Test 1

Figure A3.4.2. Example of test equipment for Static Test 1

3.5 Static Test 2

[Note: deflection and deformation values are provisional]

A load of 90kN (88kN vertically downward and 18kN longitudinally forwards) must be applied at a position 402mm rearward of the front fixing axis and 224mm outboard of the centre plane.

Peak loads must be applied in less than three minutes and be maintained for five seconds.

- There must be no structural failure of any part of the structure.
- When the applied load on the structure has reached 90kN, the deflection must not exceed 17.5mm.
- Permanent deformation of the structure must be less than 3mm after the applied load has been released for 1 minute. Permanent deformation will be assessed by an appropriate dimensional inspection.

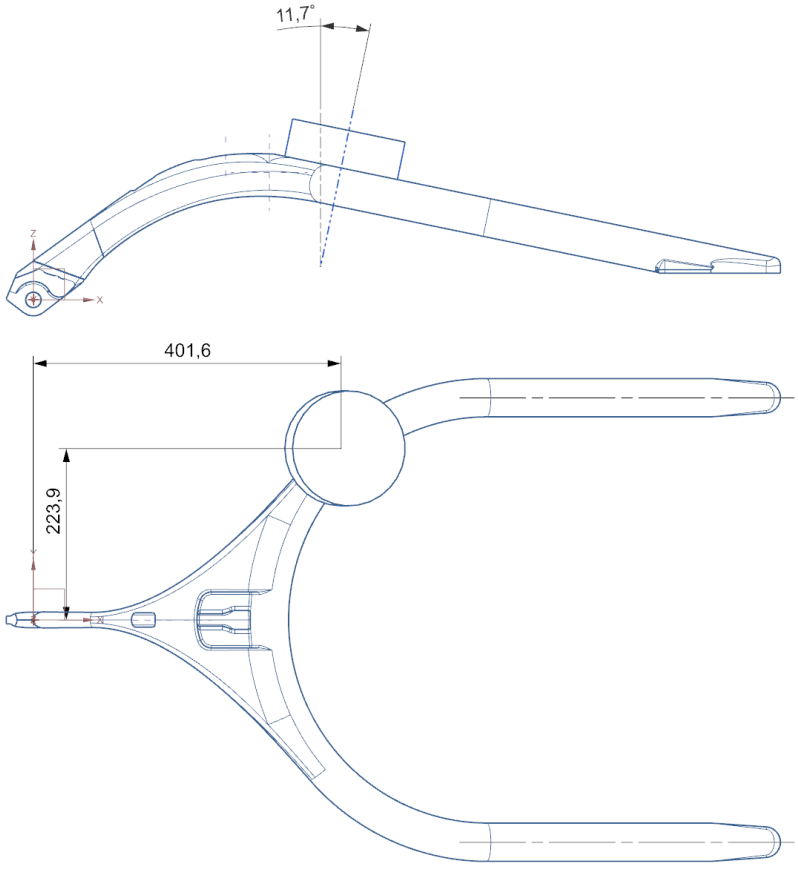


Figure A3.5.1- Load application point for Static Test 2

3.6 Static Test 3

This test must be performed on the side opposite that used for Static Test 2. A load shall be applied laterally inward and longitudinally rearward in an angle of 49° to the centre plane. This load must be horizontally applied at a position 387mm rearward of the front fixing axis and 150mm above the front fixing axis to the outer surface of the structure, as shown in Figure A3.6.1. The part shall be loaded to destruction to identify all sequential failure modes up to a maximum deflection of 100mm. The test shall be completed in less than six minutes.

- The peak load must not be less than 125kN.
- There must be no structural failure before 125kN.
- The deflection must not exceed 45mm before 125kN.
- The minimum energy absorbed during the test is 7kJ.

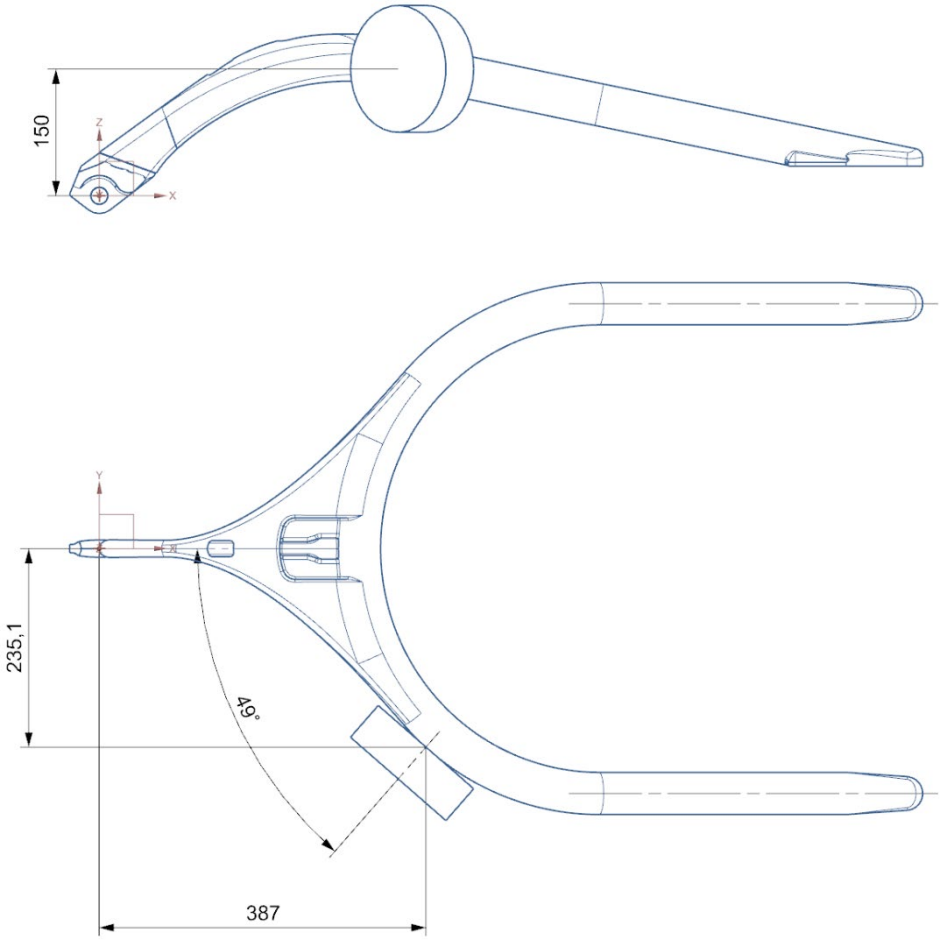


Figure A3.6.1. Load application point for Static Test 3

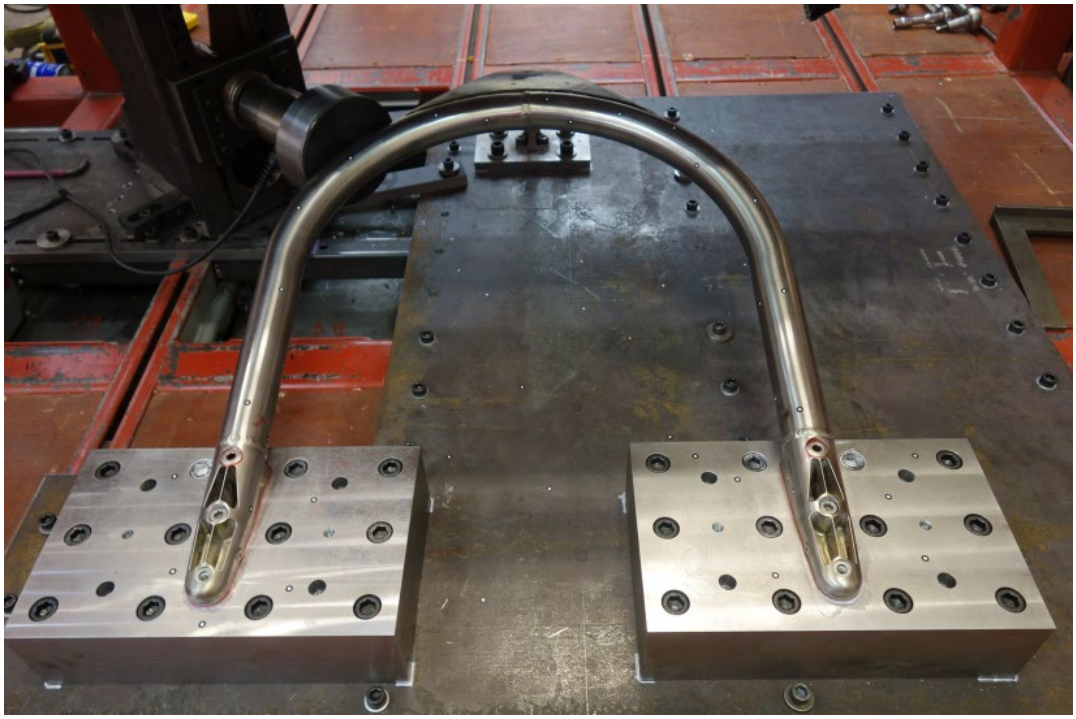


Figure A3.6.2. Example of test equipment for Static Test 3 (Top View)

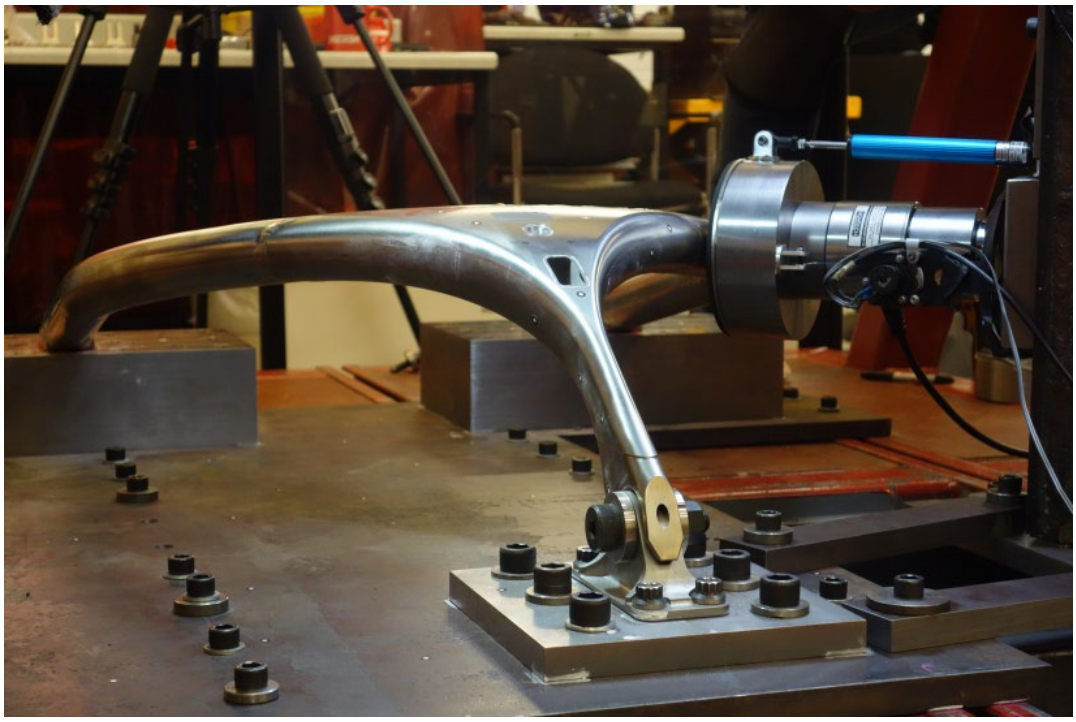


Figure A3.6.3. Example of test equipment for Static Test 3 (Front View)

APPENDIX B
Commitment to Sustainability

As part of its commitment to sustainability, the FIA encourages responsible practices with respect to effective environmental management.

As a minimum requirement, the supplier must comply with any legal requirements related to environmental and social responsibility in force in countries where the organisation operates and be able to provide evidence of compliance, if requested.

We focus our requirements for suppliers in four priority areas. Some of these apply directly to products and services, others to production methods and overall organisation's policy and operations. The supplier's offer and organisation will be assessed according to the following criteria:

PRIORITY AREA	CLARIFICATION	EVIDENCE OF COMPLIANCE (documents to be provided by the supplier)	COMMENTS
CRITERIA APPLICABLE TO THE ORGANISATION			
a. Sustainability in the organisation	Sustainable development is integrated into the supplier organisation's system: certified environmental management e.g. ISO 14001 (efficient use of resources, reduction of waste, transport and travel policy, etc.), environmental/ESG policy, sustainable procurement policy, etc.		
b. Social responsibility	The supplier ensures that its products/services are delivered ethically. Notably, the supplier guarantees the respect of: • Working conditions and social protection • Health and safety of employees, consumers and users • Ethics and anticorruption • Equal opportunities and diversity • Social due diligence in the supply chain: human rights, prevention of discrimination, etc.		

CRITERIA APPLICABLE TO THE PRODUCTS - SUBJECT MATTER OF THE CALL FOR EXPRESSION OF INTEREST			
c. Environmental and carbon footprint	The supplier is aware of the environmental impact generated by the **products** and adopts solutions to minimise impact: • Carbon emissions calculation and reduction plan, carbon compensation scheme for residual emissions • Sustainable energy sourcing and reduction of energy consumption • Measures to reduce negative impact on the natural environment throughout the product/service lifecycle • Prevention of pollution, limitation of use of synthetic materials (e.g. plastics) • Implementation of traceability of materials across the supply chain		
d. Circular economy	The supplier takes into account the principles of circular economy in every stage of **products/goods** lifecycle: • Design and manufacturing: integration of renewable, recycled or reused materials, design for increased lifespan, design for recycling, optimisation of quantities and elimination of surplus materials, prevention of packaging, use of renewable and/or recycled, recyclable and/or compostable materials for packaging • Distribution: optimisation of transport, low-impact delivery modes, carbon neutral logistics • Use: solutions to increase duration of use and consider possibilities of reuse • End of life: propose sustainable end-of-life solutions (take back scheme, recycling/reuse options)		

The supplier is required to describe and provide evidence of how these criteria are met within its organisation and within the value chain. Evidence of compliance includes but is not limited to, certificates, accreditations and labels, business policies and related documents, or any other evidence that attests that the supplier's commitments are accurate. The FIA reserves the right to request further information or evidence.

In addition, the approved suppliers will be required to comply with the following special requirements:

i. The approved suppliers will adhere to the FIA Environmental Strategy and obtain the FIA Environmental Accreditation at a 3-star level during the term of the contract with the FIA (see https://www.fia.com/environmental-accreditation-programme);

ii. The approved suppliers will comply with their commitments to sustainability as set out in the above table;

iii. The approved suppliers will use best endeavours to ship raw materials by sea, road or rail freight only;

iv. The approved suppliers will provide evidence of purchase of Reusable Energy Certificates (RECs) for Scope 1 and 2 emissions at the manufacturing sites;

v. The approved suppliers will be responsible for the management and cost of the product's end of life, and shall provide an evidence-based refurbishment strategy encouraging the re-introduction of recycled materials into subsequent seasons of the Championship. Evidence will have to be provided prior to commencement of supply and during the term of the contract with the FIA.

APPENDIX C
Questionnaire for Standard Due Diligence

Please fill in the following document (available under the section "CALL FOR EXPRESSIONS OF INTEREST" of the FIA website: https://www.fia.com/invitation-tender):

Questionnaire for Standard Due Diligence