



December 15, 2021

To: Users of SFI Specs 2.1
From: SFI Foundation, Inc.
Subject: Spec 2.1C, Revision, effective December 3, 2021

The above referenced SFI Specs for Rear Engine Dragster Roll Cage (Top Alcohol/Methanol) 5.99 Seconds and Quicker have been revised, effective December 3, 2021. The revised version is designated as SFI Specs 2.1C and is immediately available from SFI for use by sanctioning bodies and chassis builders.

The extent of these revisions is indicated by underlining and highlighting as follows, and this document may be used in conjunction with the prior version of each Spec:

Section II.4:

4. Holes in the frame rail between the rear end upright or wing support, whichever is the furthest back and the most forward front suspension mounting point must have visible reinforcement with an oval or circular patch/cap, equal in area to the hole size. Any hole that exceeds 33% of the diameter of the parent tube must have a tube-type reinforcement. Nominal thickness .049" material must be used for all reinforcement and must be welded around the outside perimeter.

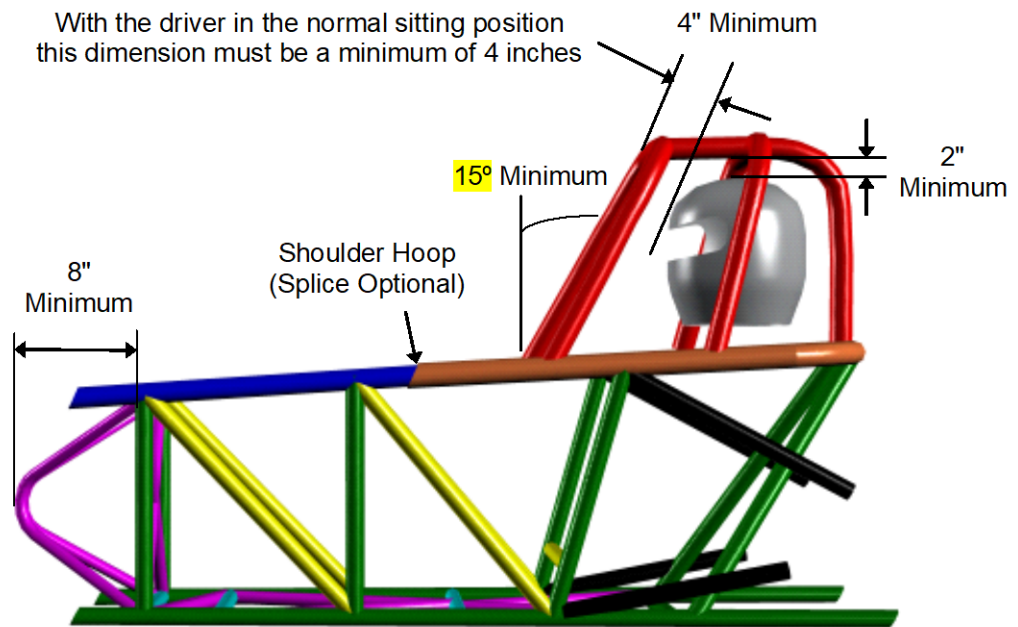
Section II.7:

7. All step-down splice welded joints (e.g., an upper frame rail that steps down from 1-1/2" od to 1-3/8" od) in all roll cage/frame area must be installed at a 30° minimum to 45° maximum angle with respect to the tube axis unless otherwise specified. This does not apply to butt weld joints such as the typical joint in the upper or lower frame rails behind the driver; those joints do require reinforcement as noted in paragraph ii.5 of the specifications.

Section II.8:

- Diagonals and "K" members can be oriented in any direction, unless otherwise specified. Example: left to right, top to bottom, forward to rear, etc. Side bay and floor diagonals, X-members, and K-members must intersect within three tubing diameters of the intersection of the upright or cross member and the frame rail **within the same plane** (measured edge-to-edge, using tube diameter of the diagonal, X, or K.).

Section III.1.c:



- The forward roll cage hoop (#1) must be installed to the shoulder hoops (#3) at a minimum angle of **15°** from vertical.

Section III.2.b:

- b. The forward (#10) and rear (#11) seat uprights (30° from vertical maximum) must be 1 1/4" x .058" tubing. All designs must have two back braces (#19), symmetrically spaced, and each back brace (#19) must be 1 1/4" x .058" tubing. For designs with two back brace/uprights (#19) that connect from the lower frame rail(s) (#16) to the shoulder hoop(s) (#3) with a 45° bend, each back brace (#19) must be 1 3/8" x .065" tubing. For any upright at an angle of 30° or greater from vertical, the required diagonals on both sides of the upright shall be the same diameter and wall thickness as the upright.

Section III.2.d:

- d. The seat must be supported by a 1" x .058" tube cross member (forward seat cross member {#14}) welded directly to either the lower frame rails (#16) or to the forward seat uprights (#10). Alternately, (#14) 1" x .058" specification seat bars/cross members may be multi-piece and may attach to components other than the lower frame rails and uprights, but (#14) must tie into and/or be continuously supported by components of at least 1" x .058" and be supported by components equivalent to the lower frame rails and uprights (such as diagonals).

Section III.2.f:

- f. The foot box must be located in front of the driver's feet when any/all pedals are fully depressed. It is not required that the dragster foot box members be coincident, e.g., the uprights, cross members, and diagonals or "x" members do not all have to be located in or connect within the same plane. The foot box consists of two (2) uprights (#21) of 1 1/4" x .058" tubing, an upper and lower cross member (#24) of 1 1/8" x .058" tubing, and either a foot box diagonal (#25) of 1" x .058" tubing or a foot box "X" (#26) of 3/4" x .058" tubing.

Section III.2.j:

- j. Telescoping continuations of the upper frame rails (#4) into the shoulder hoop(s) (#3) and roll bar reinforcement tubes may be one and the same if the minimum dimensions of each and all are met. Roll bar reinforcement tubes and the butt weld interior sleeves may be one and the same if the minimum dimensions of each and all are met. For requirements of chassis built prior to 2006 without an internal roll bar reinforcement, consult the "SFI 2.1 Legacy Tech Advisory" document available from SFI.

Section III.2.j:

- k. An impact absorption structure (#31) must be located forward of the foot box consisting of 3/4" x .058" must extend a minimum of 8" forward of the tube center line of the forward most component of the foot box. The impact absorption structure (#31) must attach at the intersection of the upper and lower frame rails with the foot box cross member(s).

Section IV.1:

1. DIRECT MOUNTING REAR-ENDS

This system utilizes an axle housing bracket on each side, made of 1/4" (6.4 mm) thickness SAE 4130N steel plate, welded an acceptable minimum of 180° to the axle housing with at least four (4), 7/16" (11.1 mm) diameter SAE Grade 5 (Class 9.8) bolts on each side. Welding the bracket to the housing on only one side is acceptable unless the plate exceeds 1/4" in thickness. The distance from the center of any bolt hole on the axle housing bracket to the edge of the bracket must be at least 1-1/2 times the bolt diameter.

Section IV.2:

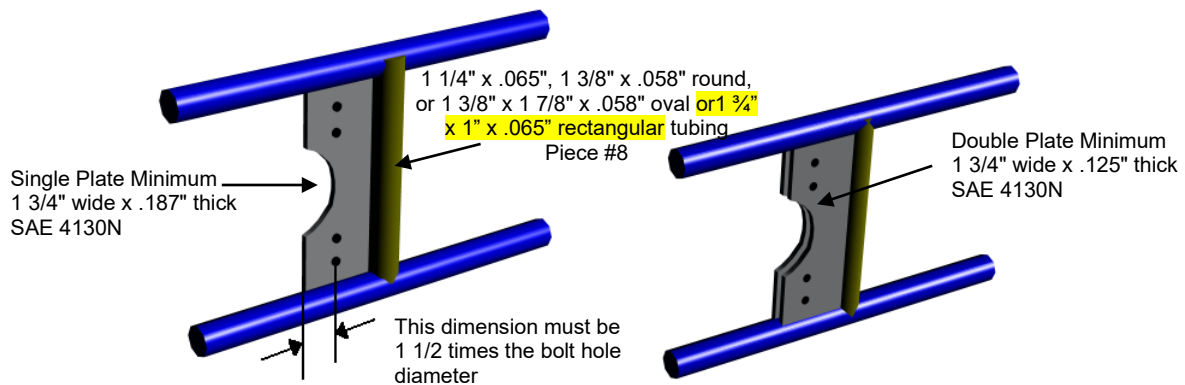
2. INDIRECT MOUNTING REAR-END

1/4" (6.4 mm) steel plates of SAE 4130N or 3/8" (9.5 mm) wrought heat treated aluminum alloy plates of 6061-T6, 7075-T6 or 2024-T3 (no cast tooling plate) are acceptable for attaching the rear-end housing, to the chassis rear-end upright plates. The plates shall be attached to the chassis rear-end upright (#8) plates using at least four (4), 7/16" (11.1 mm) diameter SAE Grade 5 (Class 9.8) Fasteners, per side, clearly marked, and using IFI (Industrial Fastener Institute) recommendations for proper tightening torque. Welding the bracket to the housing on only one side is acceptable unless the plate exceeds 1/4" in thickness.

Section IV.3:

3. REAR-END UPRIGHTS

1 1/4" x .065", 1 3/8" x .058" round or 1 3/8" x 1 7/8" x .058" oval or 1 3/4" x 1" x .065" rectangular tubing on each side of the chassis with either one (1) 3/16" (4.7 mm) SAE 4130N steel plate per side (no bosses required) or two (2) 1/8" (3.2 mm) SAE 4130N steel plates per side with 3/4" (19 mm) minimum outside diameter bosses. Single plates must be fully welded to the rear end uprights (#8) and to the upper (#4) and lower (#16) frame rails on one side of each plate with 1/4" (6.4 mm) minimum wrap around the upper (#4) and lower (#16) frame rails. The other side can be welded with one (1) inch (25.4 mm) minimum skip welds. Double plates must be fully welded to the rear end uprights (#8) and to the upper (#4) and lower (#16) frame rails on one side of each plate with 1/4" (6.4 mm) minimum wrap around the upper (#4) and lower (#16) frame rails.



Section IV.4:

4) GENERAL

Minimum thickness of attachment tab to chassis and sta rod to main support shall be 1/8" (3.2 mm) SAE 4130N. Minimum thickness of attachment tabs to the main strut and sta rod shall be 2 tabs of 1/8" (3.2 mm) AND one tab of 3/16" (4.8 mm), OR 2 tabs of 1/8" (3.2mm) WITH a 3/4" diameter bushing, .250" thick welded in full circumference on the outside plane of both 1/8" (3.2 mm) tabs. Bolts, main strut to rear end plate shall be 3/8" (9.5 mm). Bolts, main strut to wing shall be 3/8" (9.5 mm), sta rod to main strut and sta rod to chassis shall be 3/8" (9.5 mm) for Alcohol. The distance from the center of any bolt hole in the wing support tabs and/or brackets to the edge of the tab/bracket must be at least 1 1/2

times the bolt diameter. Wing stand attachment points must be in double shear. All attaching bolts shall be SAE Grade 5 or better and no PIP pins permitted.

Sta rods must have doubler plates welded where thru bushings appear. Doubler plates Must be minimum 1" diameter (tear drop shape preferred) and .049" Minimum thickness. Each doubler plate must be welded to both the sta rod and the sta rod bushing/boss. The sta rod bushings must be 5/8" (15.9 mm) minimum diameter with no minimum wall requirement and must be welded to the sta rod and the doubler plate. The centerline of the bolt hole in the mounting tab must be within 3" (7.6 cm) of the centerline of any upright tube in the chassis.

No portion of any wing support structure (e.g. main struts, sta rods, adjuster struts, cross bracing, etc. required inspected or certified to SFI 2.1 may be chrome, nickel, etc. plated. Paint and powder coating are permitted.

Thank you,

SFI Foundation, Inc.