



# QUALITY ASSURANCE SPECIFICATIONS™

SFI SPECIFICATION 14.8

EFFECTIVE: APRIL 19, 2019\*

PRODUCT: Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets

## 1.0 GENERAL INFORMATION

- 1.1 This SFI Specification establishes uniform test procedures and minimum standards for evaluating and determining performance capabilities for Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets used by individuals engaged in competitive motorsports.
- 1.2 The procedures, test evaluations and standards contained herein, are intended only as minimum guidelines for construction and evaluation of products. Certification that products meet such minimum standards is made by the product manufacturer and products are not certified, endorsed or approved by SFI under this program.
- 1.3 Use of the "This Manufacturer Certifies That This Product Meets SFI Specification 14.8" logo/designation, the authorized artwork style, or conventional lettering by a manufacturer, on a subject product, is intended only to indicate that the manufacturer of the product has represented that they have submitted the product to the recommended tests, with positive results, in compliance with the standards established herein.
- 1.4 This SFI Specification requires a demonstration that the product of a manufacturer meets or exceeds the requirements when the manufacturer enters the program; and on a periodic basis thereafter. Any manufacturer may participate in the program by providing Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets that meet or exceed the SFI Specification 14.8 test standards, by complying with the requirements of the SFI Specification 14.8 program, and by signing a licensing agreement with the SFI Foundation, Inc.

- 1.5 Compliance with this specification is entirely voluntary. However, when a manufacturer provides Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets in compliance with all requirements of the SFI Specification 14.8 and enters into the licensing agreement with the SFI Foundation, Inc., they may certify that compliance with such standards is in accordance with the guidelines established herein.
- 1.6 Manufacturers wishing to participate in the program, in addition to the other requirements of this specification, must label each of their products with the manufacturer's name, SFI conformance label serial number, trademark or symbol as well as the date of manufacture of the product. This information must be visible when the bracket is installed and in use.
- 1.7 No manufacturer may display the SFI logo/designation on their product unless the manufacturer has signed a licensing agreement with SFI and has successfully complied with all the requirements of this specification and the self-certification program.

## 2.0 DEFINITIONS

- 2.1 Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets are used in conjunction with a supercharger restraint in order to constrain the supercharger and injector device in the event of separation from the engine due to an explosion or mechanical failure.
- 2.2 Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets shall be inspected every two years by the original manufacturer for recertification.
- 2.3 Any restraint device pertaining to this specification shall remain as constructed by the original manufacturer and not modified.
- 2.4 A Certification Card is as a document provided by the original manufacturer indicating the serial number(s) of the bracket to be certified by the original manufacturer as being in conformance with this specification.

## 3.0 CONSTRUCTION

The Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets shall enable the mounting of a nominal 2" wide Nitro-Methane Fuel Supercharger Restraint strap loop to the engine.

## 3.2 ATTACHMENT STRAP ENGINE BRACKETS

The bracket for each engine attachment strap shall be connected to the engine by a minimum of two 3/8-inch (10mm) SAE Grade 5 (Class 9.8) bolts or studs. Any bracket shall be separate from the exhaust header. Welding of attachments to the exhaust header is not acceptable.

## 4.0 MODEL CLASSIFICATION

Any change in material, change in strap retention, reduction in cross sectional area, or reduction in distance between a bolt hole and the edge of the tabs is considered a model change requiring additional testing.

## 5.0 TESTING

### 5.1 TENSILE STRENGTH

#### 5.1.1 SAMPLES

Test samples shall be fully processed new Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets which are representative of Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets currently produced or to be produced. All necessary mounting hardware along with mounting instructions shall be supplied with the restraint device.

#### 5.1.2 APPARATUS

##### A. TEST MACHINE

The test machine shall be capable of applying a minimum tensile load of 15,000 lbs (6,804 kg) with an excursion travel of four to five inches per minute (10.2-12.7 cm/min), and shall have adequate instrumentation to verify the test load. The test machine shall also be in calibration and traceable to the National Bureau of Standards.

##### B. TEST FIXTURE

The test fixture shall duplicate the mounting method of the Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets and be capable of withstanding the applied load.

### 5.1.3 PROCEDURES

#### A. BRACKET TENSILE TESTS

1. The restraint device shall be mounted to the test fixture per manufacturer's instructions with the supplied attachment hardware.
2. The test fixture shall be installed into the test machine. The Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets shall be mounted so that the tensile load will be applied at a 10-degree angle to the Nitro-Methane Fuel Supercharger Restraint Strap Engine Bracket's engine mounting surface.
3. Using an excursion rate between four and five inches per minute (10.2-12.7 cm/min), apply an increasing load to the restraint device. Continue until a load of 6,500 lbs (2,948 kg) is applied. Hold at that level for ten seconds, then release the load.

### 6.0 PROOF OF COMPLIANCE

Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets manufacturers are required to provide the following information to enroll in this program:

#### 6.1 TEST RESULTS

Test results shall be documented in a test report.

##### 6.1.1 TENSILE STRENGTH

The restraint device shall pass all applicable tensile strength tests to be acceptable. Each component shall pass the tensile strength test if it is able to maintain the test load for ten seconds.

## 7.0 TEST REPORTS

A separate test report, or set of test reports if required, shall be submitted for each product model. If more than one test facility is required to complete all necessary tests, then a separate test report shall be submitted from each one. A test report shall be submitted for each component, if tested separately. The test facility shall assign a unique number to each test report. This number along with the report date and page number shall appear on each page. Each test report shall include:

### 7.1 RELEVANT INFORMATION

- 7.1.1 Manufacturer's name, contact name, address and telephone number.
- 7.1.2 Name, address and telephone number of the test facility.
- 7.1.3 Name and signature of the responsible test supervisor.
- 7.1.4 Actual date of the test.
- 7.1.5 Specification number and effective date.
- 7.1.6 Product name, description and model designation.
- 7.1.7 Component name and description.

### 7.2 TESTS

Each test conducted shall be listed showing the test name, apparatus used, procedure used, and test results obtained along with any other appropriate information.

### 7.3 AUTHENTICATION

Test reports shall be authenticated and stamped by a Professional Engineer who is registered in the state in which the testing is conducted. If necessary, SFI may allow an equivalent entity to provide authentication.

## 8.0 INITIAL DESIGN VALIDATION

To receive initial recognition from SFI as a participant in the SFI Specification 14.8 Program, the manufacturer must submit to SFI all information delineated in the Proof of Compliance section. This information shall be provided for each Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets model offered by the applicant that is to be included in the program. Any change in design, materials and/or methods of

manufacturing not specifically excluded is considered a model change and, therefore, requires initial design validation.

## 9.0 PERIODIC REVALIDATION

Test reports with successful test results must be submitted to SFI at least once every **24 month** period following the date of the initial design validation test for each model of Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets manufactured by the participant. If multiple test reports are required to obtain all test results, then the earliest test date shall be used to determine when the periodic revalidation reports are due.

## 10.0 CERTIFICATION OF COMPLIANCE

Upon demonstration of successful compliance with all the requirements of the specification and the self-certification program and upon entering the licensing agreement with SFI, the manufacturer may advertise, present and offer the Nitro-Methane Fuel Supercharger Restraint Strap Engine Brackets for sale with the representation that their product meets the SFI Specification 14.8. Continuing certification is contingent upon the following additional considerations: (1) the product shall be resubmitted for testing following any change in design, materials and/or methods of manufacturing not specifically excluded, and (2) periodic revalidation test reports are submitted when due to SFI.

## 11.0 CONFORMANCE LABELS

The conformance label is a sticker which shall be placed on bracket or certification card. For recertification, the old labels shall be removed, and the foregoing procedure shall be followed using new labels. Besides placing the label on the component or card, the serial number of the label shall be permanently marked on the component. The permanently marked number must be visible when the bracket is installed. The serial numbers should also appear on the customer invoice to aid in identification and tracking.

## 12.0 DECERTIFICATION

Participating manufacturers are subject to decertification when not in compliance with the requirements of this program or when their products are not in compliance with the requirements of this specification. Decertification will provide SFI the right to effect any and all remedies which are available to SFI in the licensing agreement.

### 13.0 APPEAL PROCEDURE

In the event of decertification, the manufacturer is entitled to an appeal of the decision of SFI. Requests for appeal must be received by SFI no later than thirty days following receipt of the notice of decertification. Appeals of such decisions will be heard at the next meeting of the Board of Directors of SFI.

### 14.0 STATEMENT OF LIMITATIONS

Testing procedures and/or standards contained in this specification are intended for use only as a guide in determining compliance with the minimum performance requirements as defined herein. The granting and assignment of the "This Manufacturer Certifies That This Product Meets SFI Specification 14.8" logo/designation is in no way an endorsement or certification of product performance or reliability by SFI. SFI, its officers, directors and/or members assume no responsibility, legal or otherwise, for failure or malfunctions of a product under this program.

### 15.0 COSTS

All costs involved in this program will be absorbed by the submitting manufacturer.

### 16.0 COMPLIANCE PERIOD

As this specification is revised to reflect changes in technology and/or field conditions, to remain current, participating manufacturers in the SFI Specification 14.8, Nitro-Methane Fuel Supercharger Restraint Device, Program, must demonstrate full compliance with the requirements of this specification within ninety (90) days of the latest effective date.

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