

Issued	1995-03
Revised	2003-12
Cancelled	2007-03
Superseding AS7110/9C	

Nadcap  
Requirements for Percussion Stud Welding

RATIONALE

AS7003 at Revision C removed the requirement for AS standards. The Nadcap Weld Task Group have revised their checklists and per AS7003 have not re-written associated standards. The AS standards, therefore, require cancellation.

CANCELLATION NOTICE

This document has been declared "CANCELLED" as of March 2007. By this action, this document will remain listed in the Numerical Section of the Aerospace Standards Index.

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# AEROSPACE STANDARD

**SAE** AS7110/9

REV.  
D

Issued 1995-03  
Revised 2003-12  
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Superseding AS7110/9C

## Nadcap Requirements for Percussion Stud Welding

### 1. SCOPE:

This Aerospace Standard (AS) is to be used to supplement AS7110. In addition to the requirements contained in AS7110, the requirements contained herein shall apply to suppliers seeking Nadcap accreditation for percussion stud welding.

### 2. REFERENCES:

#### 2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AS7110 Nadcap - Requirements for Welding/Brazing

### 3. REFERENCE REQUIREMENTS:

3.1 Applicable customer specifications shall be available at the facility.

### 4. MATERIALS/MATERIAL CONTROL:

4.1 Cleaned studs shall be packaged and protected in a manner consistent with customer requirements.

### 5. EQUIPMENT CONTROL:

5.1 Welding equipment shall meet the requirements of applicable customer specifications.

5.2 Welding machines shall be automatically controlled and capable of consistently producing welds meeting all the requirements of the applicable customer specifications.

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## SAE AS7110/9 Revision D

- 5.3 Automatic machine controls shall provide for the following:
- a. A controlled drop weight
  - b. A controlled stud travel for each weld cycle
  - c. A stabilized capacitor discharge voltage
- 5.4 All fixtures or tooling that come into contact with production parts shall be free of contaminants which are detrimental to the welding process.
- 5.5 Test and measurement equipment shall show evidence of valid calibration status prior to use.
- 5.6 Calibrated torque and/or tensile testing equipment shall be available.
6. QUALIFICATION PROCEDURES/SCHEDULES/MACHINES:
- 6.1 Welding machines shall be qualified in accordance with applicable customer specification, when required.
- 6.2 Welding schedules shall be requalified if welding machines are rebuilt or if significant operational changes are made, when required
- 6.3 Welding procedures/schedules shall be qualified in accordance with customer requirements.
- 6.4 Welding procedures/schedules shall be approved by the customer, when required.
7. PROCESS CONTROL:
- 7.1 Parts shall be properly cleaned prior to welding per applicable customer requirement.
- 7.2 Surfaces of the part details and representative test specimens shall be properly cleaned and free from contaminants such as oxides, scale, oil, dirt, ink, or other surface conditions that are detrimental to the welding process.
- 7.3 Cleaned details shall be protected at all times, as required, until welding can be performed.
- 7.4 After cleaning all part details shall be welded within the time limits specified by the customer.
- 7.5 Test specimens shall be welded and evaluated on production runs as specified by customer requirements.