

DATA ITEM DESCRIPTION			Form Approved GSA No. 0704 0104	
1. TITLE		2. IDENTIFICATION NUMBER		
REPAIR WELDING APPROVAL RECORD FOR FORGINGS OR CASTINGS		DI-FORG-81195		
3. DESCRIPTION/PURPOSE				
3.1 The Repair Welding Approval Record for Forgings or Castings provides repair welding process and welder qualifications data.				
3.2 The Repair Welding Approval Record for Forgings or Castings data is used to determine whether repair welding of forgings or castings should be authorized.				
4. APPROVAL DATE (YYMMDD)	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a. DTC APPLICABLE	6b. GIDEP APPLICABLE	
910502	MR			
7. APPLICATION/INTERRELATIONSHIP				
7.1 This Data Item Description (DID) satisfies the requirements of paragraph 3.5.2 of MIL-S-46172A.				
7.2 This Data Item Description supersedes DI-P-1637				
8. APPROVAL LIMITATION		9a. APPLICABLE FORMS	9b. AMSC NUMBER	
			A6119	
10. PREPARATION INSTRUCTIONS				
10.1 <u>Reference documents</u> . The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as specified in the contract.				
10.2 <u>Format</u> . The Repair Welding Approval Record For Forgings or Castings format shall be contractor selected. Unless effective presentation would be degraded the initially used format arrangement shall be used for all subsequent submissions.				
10.3 <u>Content</u> . The Repair Welding Approval Record For Forgings or Castings content shall be in accordance with the elements of Table I and the Supplementary Data as follows:				
10.3.1 <u>RECORD NO.</u> Contractor assigned (sequential and non-duplicative) record number with appropriate revision letter.				
10.3.2 <u>Forging/Casting Name</u> . Name of the forging or casting.				
10.3.3 <u>Dwg. (Drawing) No.</u> Applicable drawing number.				
10.3.4 <u>Contract No.</u> Applicable contract number.				
10.3.5 <u>Date</u> . Record preparation data.				
11. DISTRIBUTION STATEMENT		(Continued on Page 2)		
DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.				

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10. PREPARATION INSTRUCTIONS (Continued)

10.3.6 WELDING PROCESS. Identify the welding process.

10.3.7 BASE METALS. Identify the Material Specification, the Type or Grade of the base metal(s), the Thickness Range, and the Diameter.

10.3.8 FILLER MATERIAL. When applicable: Identify the Weld Metal Type, the Size of the Electrode or Filler, the MIL (military) Specification, the AWS (American Welding Society) Classification, the Electrode Flux Class, and the Consumable Insert.

10.3.9 GAS. When applicable: Identify the Type of Gas or Gases, Composition of Gas Mixture, Orifice or Gas Cup Size, Shielding Gas, Flow Rate, Gas Backing, and Trailing Shielding Gas Composition.

10.3.10 POSITION. Identify the Position of Groove, Weld Progression (Uphill, Downhill), Method of Backgouging.

10.3.11 PREHEAT. Identify the Preheat Temp (temperature), Interpass Temp (temperature), and Preheat Maintenance.

10.3.12 Electrical Characteristics. Identify the Current (AC or DC), Polarity (Straight or Reversed), Amps (amperage), and Volts (voltage).

10.3.13 TECHNIQUE. When applicable: Identify the technique Travel Speed, String or Weave Bead, Oscillation, Multipass or Single Pass (how many passes per side), Single or Multiple Electrodes, Initial and Interpass Cleaning.

10.3.14 Post Heat. When applicable: Identify the post heat Temperature and Time.

10.3.15 Heat Treatment After Welding. Identify the heat treatment after welding temperature (degrees Fahrenheit), time (minutes) and Quench Media for both Austenitizing, and tempering.

10.3.16 Manufacturer. The name of the manufacturer (contractor).

10.3.17 Signature. Appropriate manufacturer's (contractor's) representative's signature.

10.4 Supplementary Data. The following supplementary data shall be included:

10.4.1 Weld size and location. A dimensioned sketch illustrating the size and location of the weld(s).

10.4.2 Weld repair procedure. Complete information on the weld repair procedure.

10.4.3 Welder qualifications. Complete information on the welder's qualifications.

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TABLE 1. Weld Repair Procedure & Welder Qualification.

RECORD NO. _____

Forging/Casting Name _____

Dwg. No. _____

Contract No. _____

Date _____

WELDING PROCESS _____

TYPES _____

(Manual, Automatic, Semi-Auto)

BASE METALS

PREHEAT

Material Spec. _____

Preheat Temp _____

Type or Grade _____

Interpass Temp _____

Thickness Range _____

Preheat Maintenance _____

Diameter _____

Other _____

FILLER MATERIAL

ELECTRICAL CHARACTERISTICS

Weld Metal Type _____

Current (AC OR DC) _____

Size of Electrode _____

Polarity (Straight or Reverse) _____

or Filler _____

Amps _____ Volts _____

MIL Specification _____

Other _____

AWS Classification _____

TECHNIQUE

Electrode Flux Class _____

Travel Speed _____

Consumable Insert _____

String or Weave Bead _____

Other _____

Oscillation _____

GAS

Multipass or Single _____

Type of Gas or Gases _____

Pass _____

Composition of Gas Mixture _____

(per side)

Orifice or Gas Cup Size _____

Single or Multiple _____

Shielding Gas _____

Electrodes _____

Flow Rate _____

Initial & Interpass Cleaning _____

Gas Backing _____

(Brushing, Grinding, etc.)

Trailing Shielding Gas _____

POST HEAT

Composition _____

Temperature _____

Other _____

Time _____

POSITION

Other _____

Position of Groove _____

HEAT TREATMENT AFTER WELDING

Weld Progression _____

(Uphill, Downhill)

Austenitize _____ OF. _____ minutes

Other _____

Quench Media _____

Methods of Backgouging _____

Tempering _____ OF. _____ minutes

Other _____

Quench Media _____

Manufacturer _____

Signature _____