

STATEMENT OF WORK FOR
DISASSEMBLY, REPAIR, AND REASSEMBLY OF THE AUGMENTER TUNNEL
LOCATED IN BUILDING 4188, THE F402 ENGINE TEST CELL,
FLEET READINESS CENTER EAST, MCAS, CHERRY POINT, NORTH
CAROLINA

1.0 Scope: This Statement Of Work (SOW) defines the minimum requirements for disassembly, repair, and reassembly of the augmenter tunnel in Building 4188, the F402 engine test cell. A test cell condition assessment has been conducted by the Navy and the scope of work shall be limited to specific items identified in the condition assessment. Specifically addressed in this SOW are: 1) The repair and replacement of 3 rows of interior liner sheets (approximately 50 sheets total) and the corresponding rows of acoustic pillows (approximately 100 pillows total)). 2) Replacement and repair of approximately 6 fasteners in the vertical portion of the augmenter. 3) Corrosion repair on the augmenter framing structure and the cap of the augmenter exit plenum (2 locations).

In addition, a separately priced option to include recommendations for passivation of the flow straighteners and diffuser sections of the inlet plenum shall be provided as a part of this specification. The requirements of this option are explained in more detail in Paragraph 3.2 of this SOW. This option and associated pricing will be exercised or refused by the government at the time of award.

This test cell is critical to the F402 engine program and is a major component of the engine test cell. Cleanliness and control of foreign objects will be of a critical nature during the exercise of this work. The contractor should understand cleanliness and attention to detail will be of a critical nature.

2.0 Applicable Documents

2.1 Government Documents:

- 2.1.1 Test Cell Drawings SA1 – SA19 for building 4188.
- 2.1.2 OPNAVINST 5100.23 (series), Chapter 27

2.2 Non-Government Documents:

- 2.2.1 29 CFR 1910.146.

3.0 Requirements.

3.1 Repair Tasks to be performed: The contractor shall provide all equipment, parts, and labor to accomplish the repair and refurbishment of the augmenter in accordance with the tasks in this section. When finished, the repaired components shall function as new and perform in accordance with the original design.

- 3.1.1 Remove and discard rows 2-4 of liner sheets in the augmenter tunnel section. A representative example of the interior of the augmenter is included in Appendix 2.

3.1.2 Remove and discard the acoustic pillows underneath rows 2-4 of liner sheets.

3.1.3 While the liner sheets are removed, perform corrosion control of the augments framing in the form of chemically passivating existing rust, prime and epoxy paint oxidized surfaces. Final surface treatment shall be recommended by the contractor and approved by the government prior to application.

3.1.4 Repair any test cell augments thermocouple probes that are not functional in the area where the sheets have been removed. Contractors should estimate 6 thermocouples for replacement. Thermocouple description is: Type J, grounded junction, ¼ in diameter 304 stainless steel “CERAMO” tube, 12 inch immersion length, 1 ¾ x 1 ¾ x 1/8 flat 304 stainless steel weld pad, 96 inch fiberglass insulated cable.

3.1.5 Install new acoustic pillows in the area where they were removed previously. New pillows shall be of the type specified in the drawings referenced in Section 2.0. No substitutions will be allowed. Drawings SA14, SA17 should be used as reference for acoustic pillows. A total of 100 pillows are estimated for replacement.

3.1.6 Install new liner sheets. Liner sheets shall be of the type called out in the drawing SA15 as referenced in Section 2.0. No substitutions will be allowed. Any threaded studs damaged as a part of removal or installation shall be repaired by welding per drawing SA15. Studs shall be of the type called out in SA1-SA19, no substitutions shall be allowed. Welding shall be by an AWS certified welder. Welding performed as a portion of this SOW shall be dye penetrant or magnetic particle inspected per AWS. AWS D1.1/D1.1M shall be followed in the welding and inspection process. Inspectors shall be provided by the contractor. The procedure and allowable limits shall be reviewed with the government prior to inspecting any welds.

3.1.7 All liner sheets shall be installed using new washers and nuts. These nuts and washers must be of the type specified in the drawings referenced in Section 2.0. Missing fasteners and washers identified on additional liner sheets shall also be replaced. No substitutions will be allowed. A representative example of missing fastener assemblies is included in Appendix 2. Typical installation of a sheet and fasteners is provided in SA15. The government requires the contractor to plan for 10% additional fasteners beyond what is needed for the actual sheet installation. This buffer should cover additional areas needed.

3.1.8 In the exhaust stack, damaged or missing fasteners shall be repaired and replaced. Fasteners to be repaired and their location will be identified by the government at the time of contractor award. The government estimates 15 fasteners requiring repair. A representative identification of fasteners to be repaired is contained in Appendix 4. Drawings for the identified sections are SA16 – SA19 as referenced in Section 2.

3.1.9 When the repair to the exhaust stack is complete, all fasteners installed as a part of this effort, shall be restored to the condition called out within the original augments

section drawings. An estimate for fastener quantity in this area is 30 assemblies. A typical assembly is shown in SA15.

3.1.10 The exposed metal that forms the weather cap on the perimeter of the exhaust stack shall be replaced with a like dimension cap made from 305 Stainless Steel. The purpose of repair to the cap is corrosion control. The cap shall be returned to like new condition as part of this SOW. A representative example of the existing condition is contained in Appendix 3.

3.1.11 In the exhaust stack, accessed only from outside, a fallen panel and a broken fastener shall be repaired. The repair shall consist of securing the panel and replacing the broken fastener. This area is considered a confined space and regulations listed in section 2.1.2 and 2.2.1 shall apply.

3.1.12 Corrosion control shall be performed underneath the augments, and in the last section of the augments before entering the turning vane and exhaust stack. This area is represented in Appendix 1 as to the type of repair required. Corrosion control shall include removing the liner sheets and acoustic pillows to expose the area to be repaired. Repair shall consist of chemically passivating the corroded area and then top-coating with epoxy paint. The contractor shall propose materials for the repair, and the materials shall be approved by the government prior to installation. Corrosion control shall be performed both on the interior and exterior side of this augments section. Repairs shall be made to thermocouples and fasteners identified in the area. Representative issues are included in Appendix 1. Hardware securing the liner sheet shall be replaced with new hardware. If the liner sheet or acoustic pillows are corroded or damaged, these items shall be replaced with new. Estimates of the quantities required for this installation are included in prior estimates. Liner sheets or acoustic pillows damaged as a part of this repair effort shall be the responsibility of the contractor to procure and install. Typical thermocouple description is: Type J, grounded junction, 1/4 in diameter 304 stainless steel "CERAMO" tube, 12 inch immersion length, 1 3/4 x 1 3/4 x 1/8 flat 304 stainless steel weld pad, 96 inch fiberglass insulated cable.

3.1.13 The government shall be notified to inspect all repairs prior to reassembly. This inspection shall occur in the exhaust stack and in the corrosion repair of the augments. The augments inspection shall be conducted prior to the re-installation of the liner sheets and the acoustic pillows.

3.1.14 The contractor shall be responsible to clean work area to remove any and all construction debris generated during the repair process. The government will visually inspect the area during construction, and at the completion of the project. The contractor shall submit a plan for cleaning and FOD prevention to be followed during the repair phase of the project.

3.2 Optional Inlet Passivation

3.2.1 The contractor shall, as a contract option, submit a plan to chemically passivate the inlet portion of the test cell to prevent further corrosion of the exposed metal surfaces.

3.2.2 To be included in the passivation are the diffuser section, and the flow straighteners.

3.2.3 The contractor shall provide suggestions as to the passivation chemicals used. Paint or other surface coatings are not permitted. Only a chemically bonded solution shall be allowed.

3.2.4 The contractor shall present to the government the research into the intended passivation chemicals and demonstrate, on like materials, the final surface after passivation.

3.2.5 Research shall also be submitted to demonstrate the acoustic material contained in the diffuser section will not be harmed. Materials are identified in the drawings referenced in Section 2.

4.0 Period of Performance:

4.1 The overall period of performance shall not exceed 160 days after contract award.

4.2 A site visit with a Plan of Action and Milestones shall be delivered to the government no later than 2 weeks after contract award.

4.3 The contractor shall coordinate with the government to start the work. The agreed start date shall be no later than 130 days after contract award. Once the work has begun, the contractor shall complete the work assigned above within 30 days of the agreed date to start work.

4.4 Test cell downtime shall not exceed 30 calendar days.

4.5 The test cell will be made available by the government to the contractor during daylight hours. Government personnel will be available 06:30 to 15:00 Monday thru Friday except federal holidays. Additional support from the government may be made available upon request.

5.0 Delivery:

5.1 Product shall be delivered to Building 4188, Naval Air Depot, MCAS Cherry Point.

6.0 Notes:

6.1 Point of Contact

Appendix 1 – Underside of Augmenter



Appendix 2 - Augmenter Plenum



Appendix 3 – Exterior Cap for Augmenter



Appendix 4 – Interior Fasteners for Augmenter

