

SECTION 15051

PANTOGRAPH - HOSE END TYPE

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Scaled assembly drawings identifying components and showing dimensions and tolerances.

1.2.2 Manufacturer's Data

Complete technical literature shall be submitted on specific function equipment. Submittals shall include but not necessarily be limited to the following:

- a. Pressure Fueling Nozzle
- b. Swivel Joints
- c. Pressure Gage Assembly
- d. Aviation Fueling Hose
- e. Emergency Breakaway Coupling

1.2.3 Certificates of Compliance

- a. Materials of construction
- [b. AFSSEA Approval]

NOTE: CONTACT COMMAND FUEL FACILITIES ENGINEER FOR DIRECTION

1.2.4 OMSI Submittals

OMSI information shall be submitted for the equipment items or systems listed below. Refer to Section entitled "Operating and Maintenance Support Information (OMSI)", for the information to be submitted for various types of equipment and systems.

- a. Pressure Fueling Nozzle
- b. Swivel Joints
- c. Pressure Gage Assembly
- d. Aviation Fueling Hose
- e. Emergency Breakaway Coupling

PART 2 PRODUCTS

[2.1 PANTOGRAPH:

Pantograph submitted under this specification shall have been approved by the AFSSEA Team in accordance with AFR 127-6.]

NOTE: CONTACT COMMAND FUEL FACILITIES ENGINEER FOR DIRECTION

2.2 DESIGN CONDITIONS:

Design Conditions shall be as specified in section entitled "Mechanical Equipment, Fueling". Components to be ANSI B16.5 Class 150 (275 psig at

100 degrees F, except swivel joints and pressure fueling nozzles shall be 125 psig at 100 degrees F).

2.3 CONSTRUCTION

2.3.1 The hose end pantograph assembly shall include [two] [three], [3] [4] inch diameter Schedule 10s stainless steel or Schedule 80 ASTM B241, aluminum alloy 6061-T6 [24] [12] [] foot pipe arm sections. Components shall be constructed of aluminum alloy or stainless steel. Swivel joints shall be aluminum or stainless steel. Swivel joints shall have flanged connections capable of 360 degree rotation. Pantograph tires shall be 8 inch diameter solid oil resistant polymer tires and may be mounted independent of swivel joints or as part of the swivel joint. Swivel joints shall be warranted for two years against leakage. Swivel joints shall be of the non-lubricated type with non-lubricated bearings. The Pantograph assembly shall also include pressure gages, an emergency breakaway coupling, a 10 foot length of 3 inch aviation fueling hose, a dry break coupling and pressure fueling nozzle with shut-off valve and 40 mesh strainer. Provide a pull handle for positioning of pantograph. The assembly shall be factory assembled including required gasket, brackets, nozzle holder and support casters. The hose dispensing end shall be designed to couple to aircraft at heights of 12 inches to [] feet above apron. Assembly shall have an electrical conductivity reading throughout the entire length of the pantograph including hardware and nozzle. Pantograph shall be provided within an attached hose tray with drilled holes or slots for draining of rain water.

NOTE: DIAMETER OF PANTOGRAPH, NUMBER OF ARMS, LENGTH OF ARMS AND COUPLING HEIGHT SHALL BE AS DIRECTED BY THE COMMAND FUEL FACILITIES ENGINEER

2.3.1.1 Pressure Fueling Nozzle: MIL-N-5877, 2 1/2 inch (D-1) nozzle shall be provided. Design shall be for single point fueling of aircrafts at a flow rate of 600 gpm with a maximum pressure drop of 30 psig. Nozzle shall be provided with a permanently installed quick disconnect coupler, aluminum dust plug. Gammon GTP-235-3/8 Jet Test QD meets this specification. Provide pressure gage with 0-100 psig indicating range mounted on actuator for use with quick disconnect coupler. Nozzle shall be provided with 40 mesh stainless steel strainer and dry break coupling.

2.3.1.2 Aviation Fueling Hose: NFPA 407 and API 1529, Grade 3, Type A or Type C, semi-hardwall, 3 inch hose designed for use with specified fuel for a working pressure of 300 psig. Hose shall be constructed of braided synthetic cord surrounded by an interior rubber tube and an exterior rubber cover. Provide permanent brass couplings and bonding wire wrapped with a minimum of 10 coils around the exterior of the hose and connected to both couplings.

2.3.1.3 Emergency Breakaway: Connect the hose to the last swivel in the pantograph assembly through a 3 inch axial type emergency break away coupling to allow dry breakaway at 200 pounds tensile loading. Unit shall operate independently of internal pressure and shall be capable of reinstallation without replacement parts.

2.3.1.4 Pressure Gages: ANSI B40.1 single style, metal case for fuel with 4 1/2 inch dial, pressure scrubber, dry break disconnect and isolation valve with scale range of 0-100 psig. A ball valve shall be

provided for each gage. Gage shall have all parts immersed in silicone oil. Gage construction shall be stainless steel.

2.3.2 To avoid sagging, reinforcing shall be welded to the underside of pipe sections.

2.4 MATERIALS

The type of materials which come in contact with the fuel shall be noncorrosive. Refer to Section Entitled ["Mechanical General Requirements"] ["General Requirements"] for metallurgic specification.

PART 3 EXECUTION

3.1 INSTALLATION

The pantograph shall be tested as described in Section, "System Start-up, Fueling".

-End of Section--