

INCH-POUND

MIL-DTL-25427/2
08 December 2009

DETAIL SPECIFICATION SHEET

COUPLING HALF, AIRCRAFT MOUNTING, HYDRAULIC,
SELF-SEALING, QUICK DISCONNECT

This specification is approved for use by all Departments and Agencies of the Department of Defense. The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-25427.

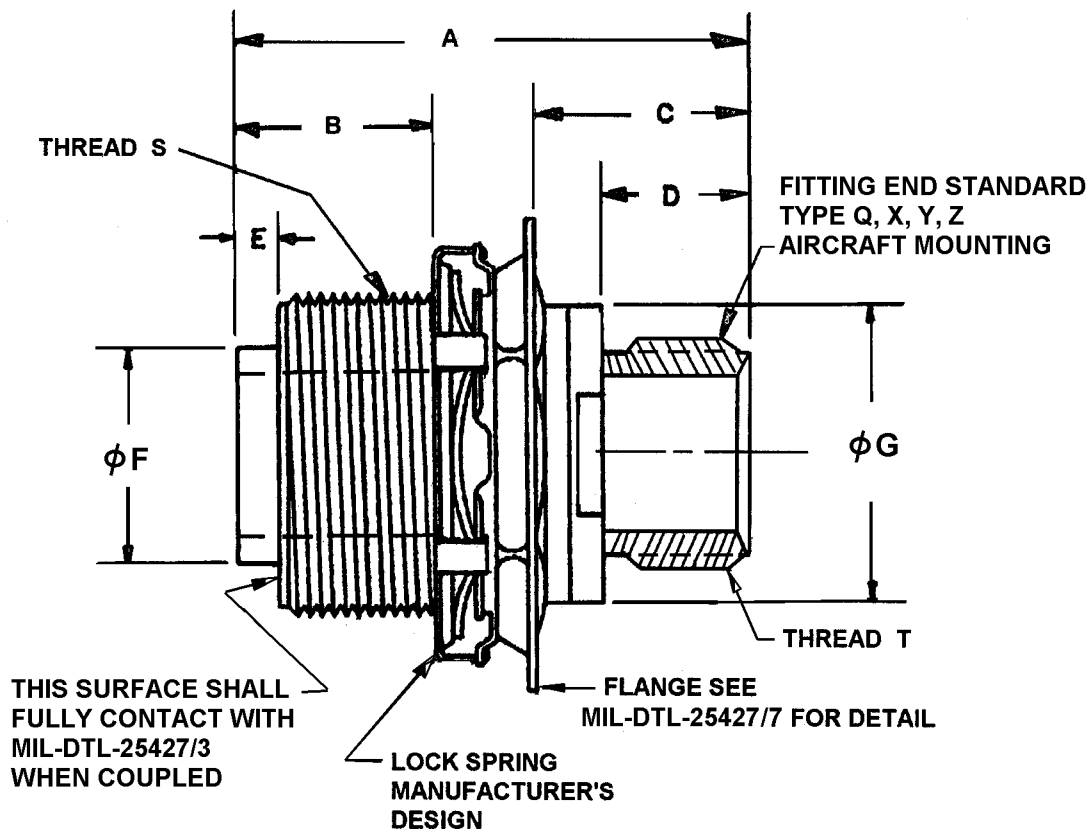


FIGURE 1. Coupling half aircraft mounting dimensions and configuration.

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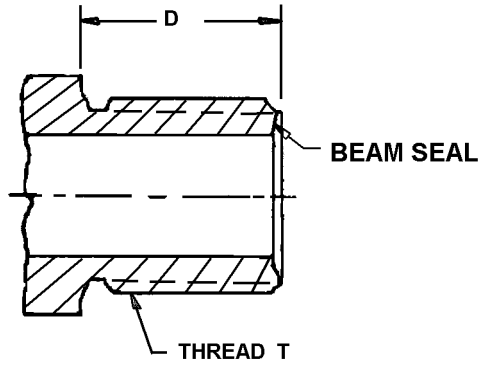


FIGURE 2. Type Q-fitting end per SAE-AS85421/2 style 2 standard beam seal.

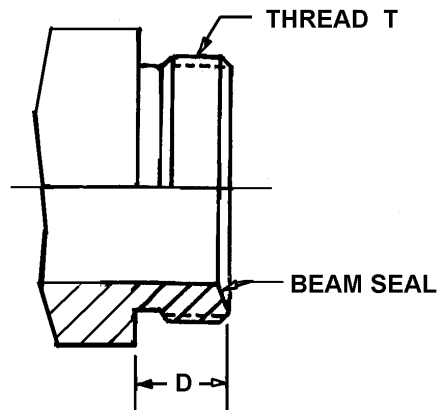


FIGURE 3. Type X-fitting end per SAE-AS85421/1 style 1 standard beam seal.

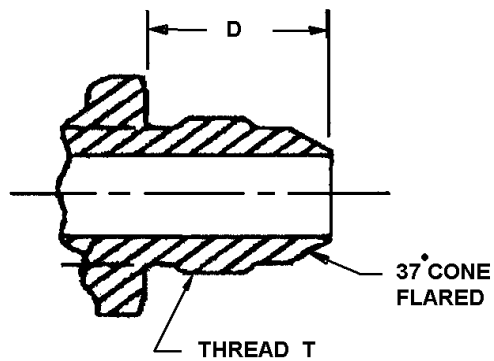
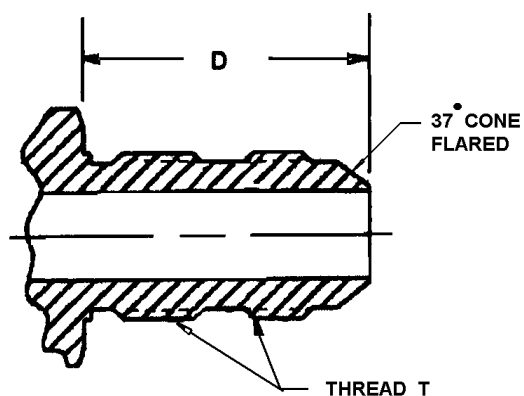


FIGURE 4. Type Y-fitting end per SAE-AS4395 style E standard flared.

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FIGURE 5. Type Z-fitting end per SAE-AS4396 style H bulkhead flared.TABLE I. Dimensions and design data.

Dash No.	Tube OD	Thread T SAE-AS8879 class 3A		Thread S (FED-STD-H28/2)		B (max)
		SAE-AS85421/1 SAE-AS85421/2	SAE-AS4395 SAE-AS4396	Size Class 3A	leads	
-4	0.250	0.4375-24UNJS	0.4375-20UNJF	0.9375-20UN	10	0.608
-6	0.375	0.5625-20UNJS	0.5625-18UNJF	1.1250-18UN	8	0.742
-8	0.500	0.7188-20UNJS	0.7500-16UNJF	1.1250-18UN	8	0.742
-10	0.625	0.8438-18UNJS	0.875-14UNJF	1.6250-12UN	6	0.869
-12	0.750	1.0000-16UNJ	1.0625-12UNJ	1.6250-12UN	6	0.869
-16	1.000	1.2500-14UNJS	1.3125-12UNJ	1.8750-12UN	6	1.121
-20	1.250	1.5781-14UNJS	1.625-12UNJ	2.1250-12UN	8	0.936
-24	1.500	1.8438-14UNJS	1.875-12UNJ	2.3750-12UN	8	1.057

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TABLE I. Dimensions and design data – Continued.

Dash No.	A (max)				C (max)			
	Type Q	Type X	Type Y	Type Z	Type Q	Type X	Type Y	Type Z
-4	2.020	1.552	1.827	2.187	0.991	0.523	0.798	1.158
-6	2.348	1.861	2.122	2.556	1.141	0.654	0.915	1.349
-8	2.415	1.874	2.223	2.739	1.208	0.667	1.016	1.532
-10	2.854	2.238	2.624	3.129	1.452	0.836	1.222	1.727
-12	2.950	2.278	2.730	3.315	1.548	0.876	1.328	1.913
-16	3.198	2.522	2.973	3.511	1.566	0.850	1.301	1.839
-20	3.025	3.312	2.813	3.356	1.545	0.832	1.333	1.876
-24	3.295	2.497	3.038	3.472	1.688	0.890	1.431	1.865

TABLE I. Dimensions and design data – Continued.

Dash No	D (max)				E	F	G
	Type Q	Type X	Type Y	Type Z			
-4	0.695	0.290	0.565	0.925	0.21	0.56	0.80
-6	0.734	0.310	0.571	1.005	0.21	0.75	1.03
-8	0.770	0.323	0.672	1.188	0.21	0.75	1.03
-10	0.909	0.387	0.773	1.278	0.23	1.00	1.47
-12	1.005	0.427	0.879	1.464	0.23	1.00	1.47
-16	1.097	0.475	0.926	1.464	0.24	1.24	1.74
-20	1.091	0.472	0.973	1.516	0.24	1.50	1.99
-24	1.261	0.557	1.098	1.532	0.24	1.75	2.25

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NOTES:

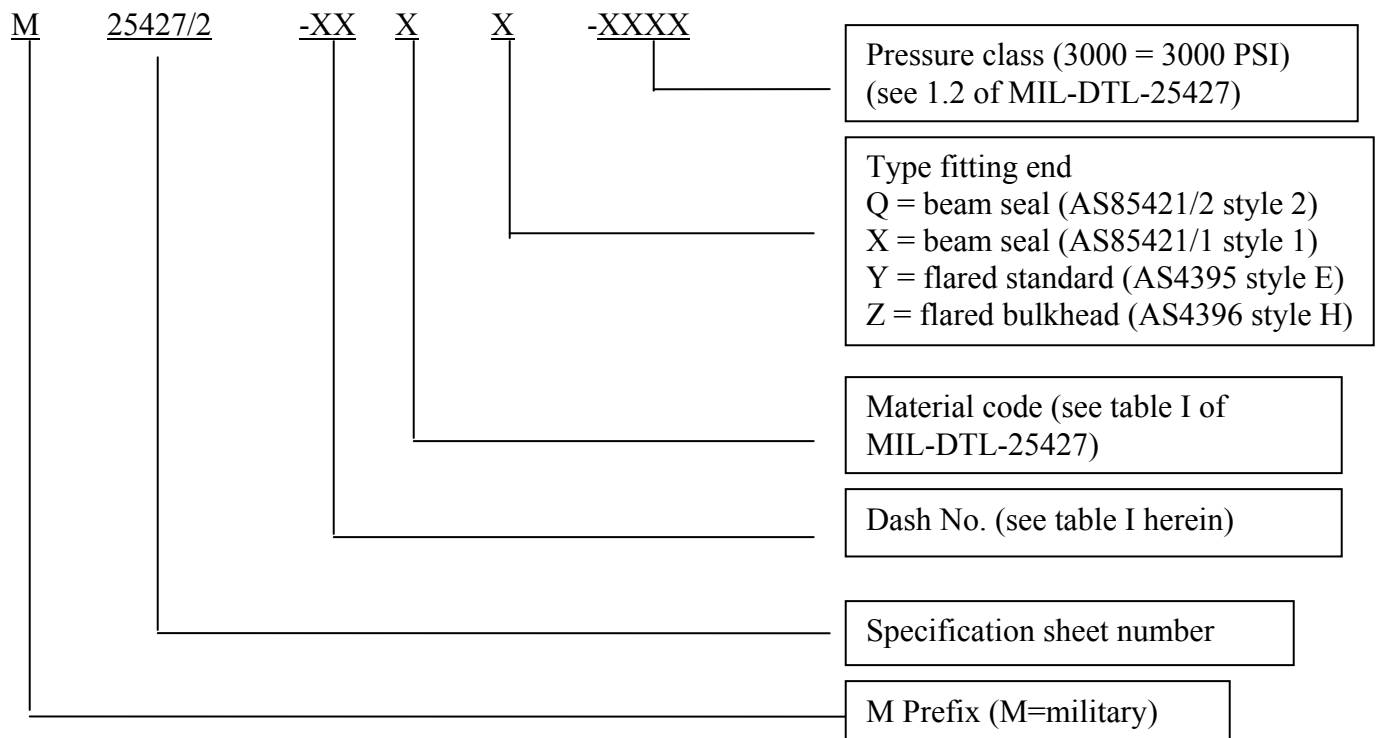
1. Dimensions are in inches, unless otherwise specified, tolerance decimals ± 0.010 .
2. Thread "S" shall conform to FED-STD-H28/2.
3. Thread "T" shall conform to SAE-AS8879.
4. Break all sharp edges and remove all hanging burrs and slivers.
5. Serrated teeth of the lock spring assembly shall engage with the serrated teeth on the inner sleeve of MIL-DTL-25427/6 coupling nut to ensure positive locking.
6. For design feature purposes, this specification sheet takes precedence over the procurement document.
7. Referenced documents shall be of the issue in effect on date of contract award.
8. This aircraft bulkhead male coupling half shall mate and lock with female hose attaching coupling half when coupled. This aircraft bulkhead coupling half shall be interchangeable for the same size and pressure class regardless of manufacturers.
9. Connecting and disconnecting of coupling torque shall be in accordance with the procurement specification.

REQUIREMENTS:

1. Material-for materials requirements, see procurement specification MIL-DTL-25427.
2. Finish-for finish requirements, see procurement specification MIL-DTL-25427.
3. Pressure class-for pressure class requirements, see procurement specification MIL-DTL-25427.
4. Aluminum alloy parts. The surface of the aluminum alloy parts, after anodizing, sealing, and surface treatment shall be free from pits, powder coatings, discontinuities such as scratches or breaks and shall be uniform in appearance.
5. External threads. External threads shall be produced by die cutting or machining by the single point method.
6. Marking. Marking shall consist of the complete specification sheet part number and manufacturer's name, trademark, or CAGE code and shall be impression stamped or laser etched and shall be protected from corrosion.

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7. Flange. In accordance with MIL-DTL-25427/7.
8. Interchangeability. This coupling half shall be interchangeable having the same tube size and pressure class. This coupling half configuration and dimensions are known to be similar to Parker coupling half 44106, Eaton coupling half 155S/145S, and Hydraulic International coupling half MP/MPB. Suppliers seeking to be on QPL-25427 are responsible for interchangeability and shall perform the manual operation test to ensure their manufactured coupling half is interchangeable with other supplier's coupling half and vice versa.
9. Operation. Connection and disconnection of this bulkhead coupling half with MIL-DTL-25427/3 hose attaching coupling half assembly or MIL-DTL-25427/4 coupling cap shall be easily accomplished by using one hand with no tool required. This bulkhead coupling half shall function as required in MIL-DTL-25427 when connected to MIL-DTL-25427/3 hose attaching coupling half or MIL-DTL-25427/4 coupling cap. When mating with MIL-DTL-25427/3 hose attaching coupling half, the coupled coupling assembly may have a partially coupled and unlocked position that shall remain stable and shall permit fluid flow.
10. Test requirements. The coupling half sample shall be performed in accordance with applicable test requirements of MIL-DTL-25427. Suppliers seeking qualification of new couplings are responsible for interchangeability of their coupling half with the existing qualified coupling half or couplings. The qualifying activity will perform the manual operation test of the coupling half provided by manufacturers whenever necessary to ensure interchangeability and leakage within the allowable limit.
11. Part or identification number (PIN). The PIN consists of the letter M, the specification sheet number, a dash number from table I, material code, end fitting type, and pressure class.



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Example: M25427/2-8CZ3000 represents .5 OD tube carbon steel coupling half, aircraft mounting, hydraulic self sealing, flared bulkhead fitting end, 3000 PSI operating pressure.

12. Intended use. These coupling halves are mounted on aircraft known as bulkhead halves used as assembly when connected with ground coupling halves for delivery of hydraulic fluid from ground cart to aircraft operating at 1000, 3000, and 5000 PSI with Type II system hydraulic fluid having temperature range -65 °F to +275 °F. These coupling halves are intended for use in military aircraft and aerospace vehicles where the bulkhead mounting half and protective cap are a part of the aircraft and the hose attaching half and protective plug are a part of the ground support equipment.

CONCLUDING MATERIAL

Custodians:

Army-AV
Navy-AS
Air Force-99

Preparing activity:

Navy-AS

(Project 4730-2008-125)

Review activities:

Army-AT, MI
Navy-SA
Air Force-11, 71
DLA-CC

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.daps.dla.mil>.