

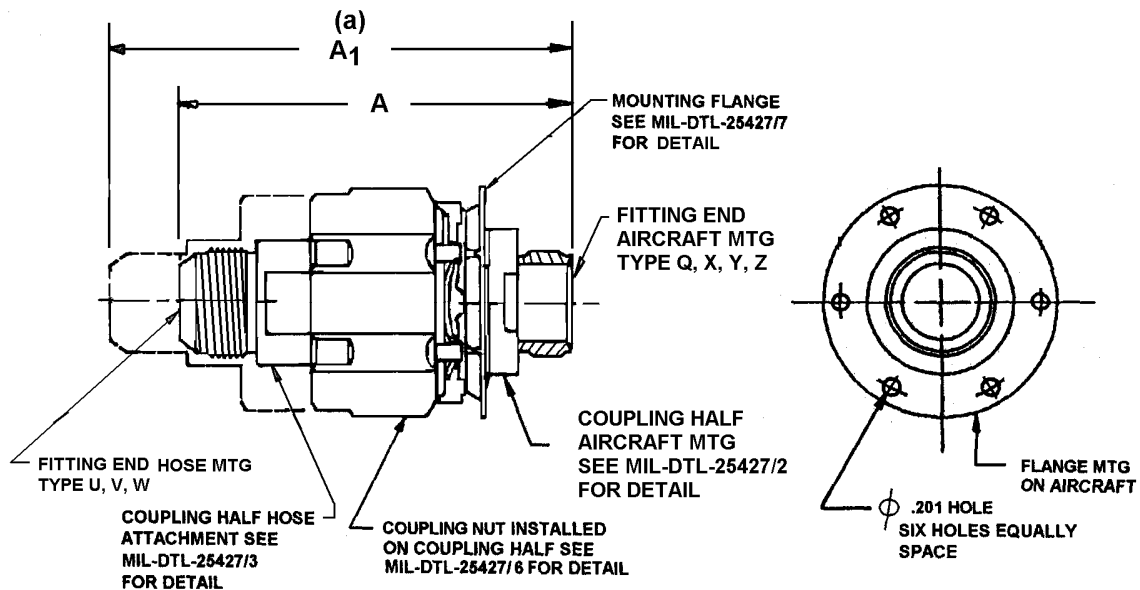
INCH-POUND

MIL-DTL-25427/1
08 December 2009

DETAIL SPECIFICATION SHEET

COUPLING ASSEMBLY, AIRCRAFT HYDRAULIC, SELF-SEALING,
QUICK DISCONNECT, GROUND SUPPORT

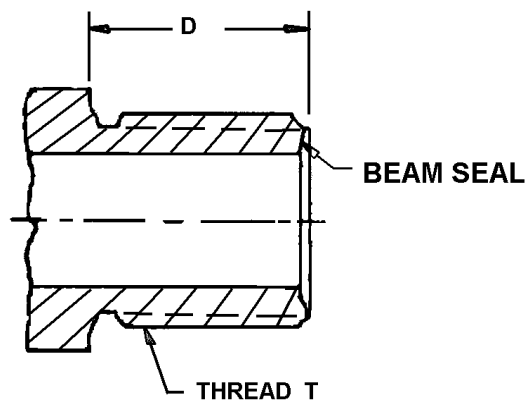
This specification is approved for use by all Departments and Agencies of the Department of Defense. The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-25427.



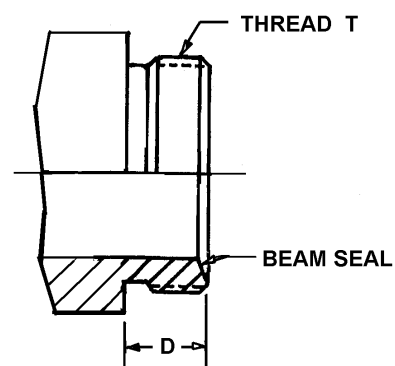
(a) Indicates complete separation of coupling halves, allowing lateral displacement without interference between coupling halves.

FIGURE 1. Coupling assembly dimensions and configuration.

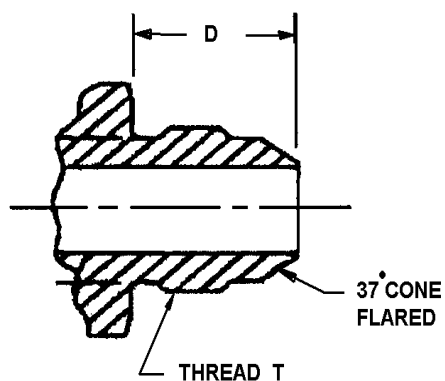
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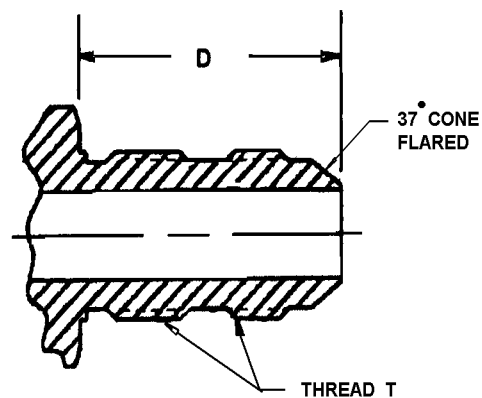
Type Q. SAE-AS85421/2 style 2
Fitting end standard beam seal



Type X. SAE-AS85421 style 1
fitting end standard beam seal



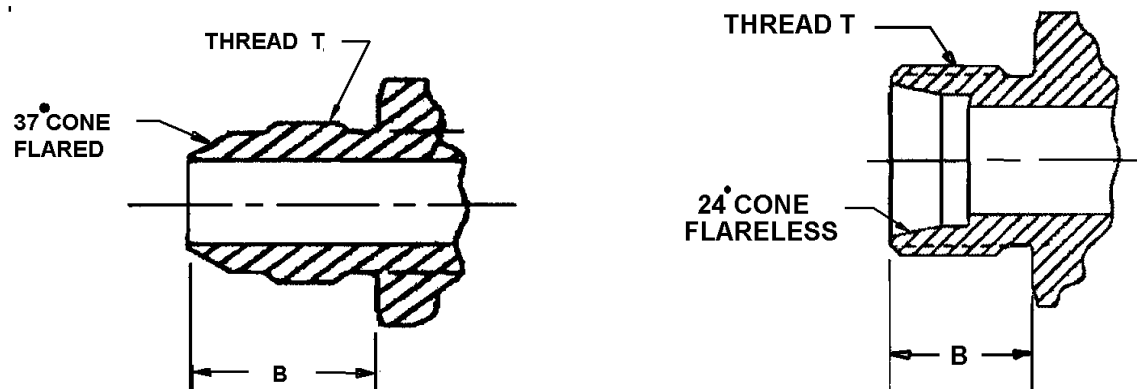
Type Y. SAE-AS4395 style E
Fitting end standard flared



Type Z. SAE-AS4396 style E
fitting end standard bulkhead flared

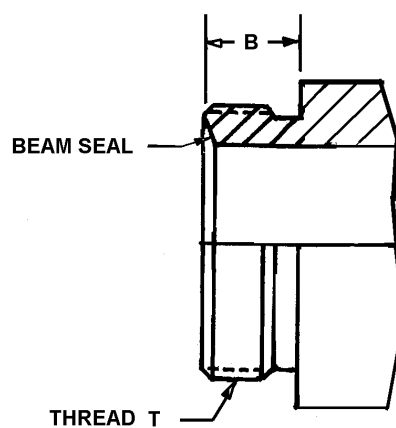
FIGURE 2. Types Q, X, Y, Z fitting end standards, coupling half, aircraft mounting.

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Type U. SAE-AS4395 style E
fitting end standard flared

Type V. SAE-AS4375 style E
Fitting end standard flareless



Type W. SAE-AS85421/1 style 1
Fitting end standard beam seal

FIGURE 3. Type U, V, W fitting end standards, coupling half, hose attachment.

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TABLE I. Coupling assembly dimensions with type U hose attachment half and type QXYZ aircraft mounting halves.

Dash No.	Tube OD	A (max)			
		Coupling halves aircraft mounting			
		Type Q	Type X	Type Y	Type Z
-4	0.250	3.354	2.886	3.135	3.52
-6	0.375	3.457	2.970	3.505	3.91
-8	0.500	3.626	3.085	3.718	4.19
-10	0.625	4.706	4.090	4.465	4.98
-12	0.750	4.738	4.066	4.505	5.10
-16	1.000	5.727	5.011	4.825	6.00
-20	1.250	5.158	4.445	4.685	5.49
-24	1.500	5.283	4.485	5.015	5.46

TABLE I. Coupling assembly dimensions with type U hose attachment half and type QXYZ aircraft mounting halves – Continued.

Dash No.	A ₁ (approx)			
	Coupling halves aircraft mounting			
	Type Q	Type X	Type Y	Type Z
-4	4.343	3.875	4.15	4.510
-6	4.578	4.091	4.352	4.786
-8	4.746	4.205	4.554	5.070
-10	5.716	5.100	5.486	5.991
-12	5.748	5.076	5.528	6.113
-16	6.337	5.661	6.112	6.650
-20	6.058	5.345	5.846	6.389
-24	6.463	5.665	6.206	6.640

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TABLE II. Coupling assembly dimensions with type V hose attachment half and type QXYZ aircraft mounting halves.

Dash No.	Tube OD	A (max)			
		Coupling halves aircraft mounting			
		Type Q	Type X	Type Y	Type Z
-4	0.250	3.252	2.784	3.059	3.46
-6	0.375	3.365	2.879	3.140	3.91
-8	0.500	3.526	2.985	3.334	4.19
-10	0.625	4.568	3.952	4.338	4.93
-12	0.750	4.557	3.885	4.338	5.06
-16	1.000	5.499	4.783	5.234	5.33
-20	1.250	4.883	4.170	4.671	5.20
-24	1.500	4.883	4.085	4.626	5.41

TABLE II. Coupling assembly dimensions with type V hose attachment half and type QXYZ aircraft mounting halves – Continued.

Dash No.	A ₁ (approx)			
	Coupling halves aircraft mounting			
	Type Q	Type X	Type Y	Type Z
-4	4.226	2.648	3.48	3.84
-6	4.471	3.999	4.26	4.83
-8	4.471	3.169	4.18	4.68
-10	5.563	3.994	5.13	5.64
-12	5.552	3.872	5.18	5.76
-16	6.134	4.232	5.62	6.15
-20	5.768	3.930	5.32	5.87
-24	6.048	4.380	5.770	6.20

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TABLE III. Coupling assembly dimensions with type W hose attachment half and type QXYZ coupling halves aircraft mounting.

Dash No.	Tube OD	A (max)			
		Coupling halves aircraft mounting			
		Type Q	Type X	Type Y	Type Z
-4	0.250	3.063	2.330	3.100	3.46
-6	0.375	3.182	2.71	3.47	3.91
-8	0.500	3.262	2.739	3.685	4.19
-10	0.625	4.305	3.354	4.430	4.93
-12	0.750	4.272	3.232	4.481	5.06
-16	1.000	5.261	3.467	4.798	5.33
-20	1.250	4.645	3.370	4.665	5.20
-24	1.500	4.727	3.650	4.980	5.41

TABLE III. Coupling assembly dimensions with type W hose attachment half and type QXYZ coupling halves aircraft mounting - Continued

Dash No.	A ₁ (approx)			
	Coupling halves aircraft mounting			
	Type Q	Type X	Type Y	Type Z
-4	4.053	2.648	3.48	3.84
-6	4.302	3.83	4.091	4.661
-8	4.382	3.169	4.18	4.68
-10	5.315	3.994	5.13	5.64
-12	5.281	3.872	5.18	5.76
-16	5.911	4.232	5.62	6.15
-20	5.545	3.930	5.32	5.87
-24	5.907	4.380	5.770	6.20

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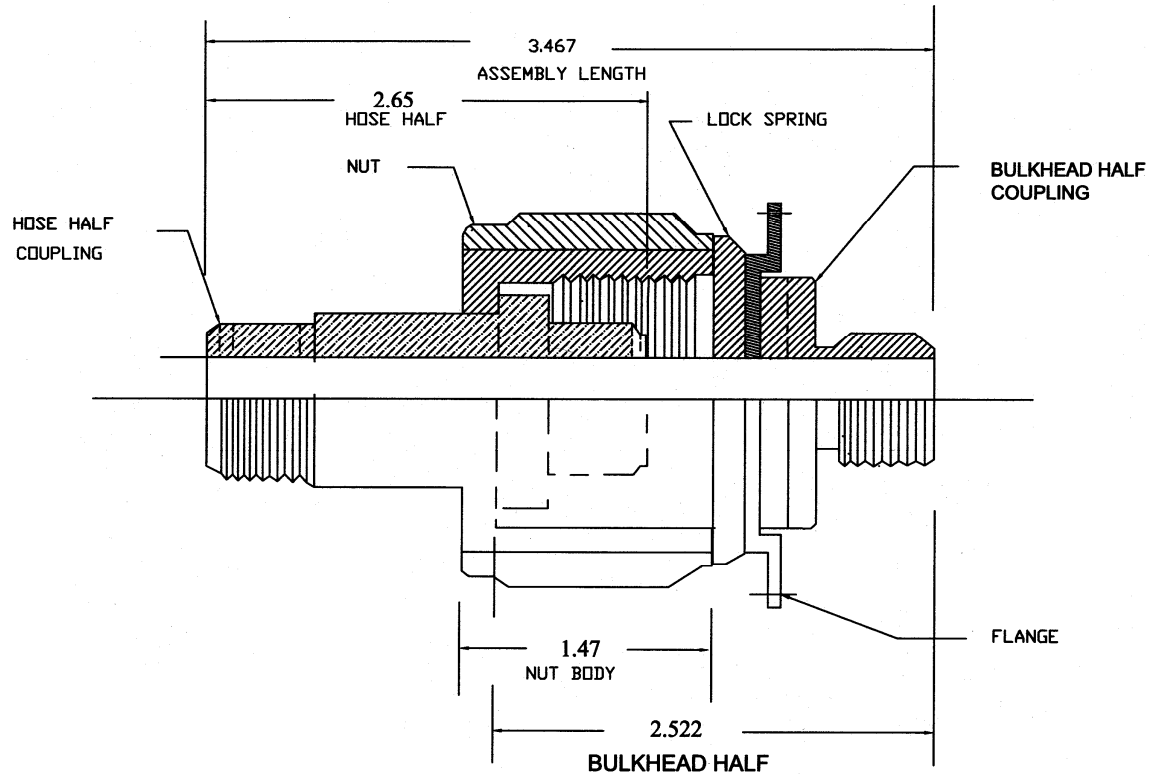


FIGURE 4. -16 coupling assembly, coupled with type U hose half and type X aircraft mounting half by coupling nut.

NOTES:

1. Dimensions are in inches, unless otherwise specified, tolerances ± 0.010 .
2. Ratchet teeth of the MIL-DTL-25427/2 bulkhead half lock spring assembly must engage with the serrated teeth on the inner sleeve of the MIL-DTL-25427/6 coupling nut ensuring positive locking.
3. For design feature purposes, this specification sheet takes precedence over the procurement document.
4. Referenced documents shall be of the issue in effect on date of contract award.

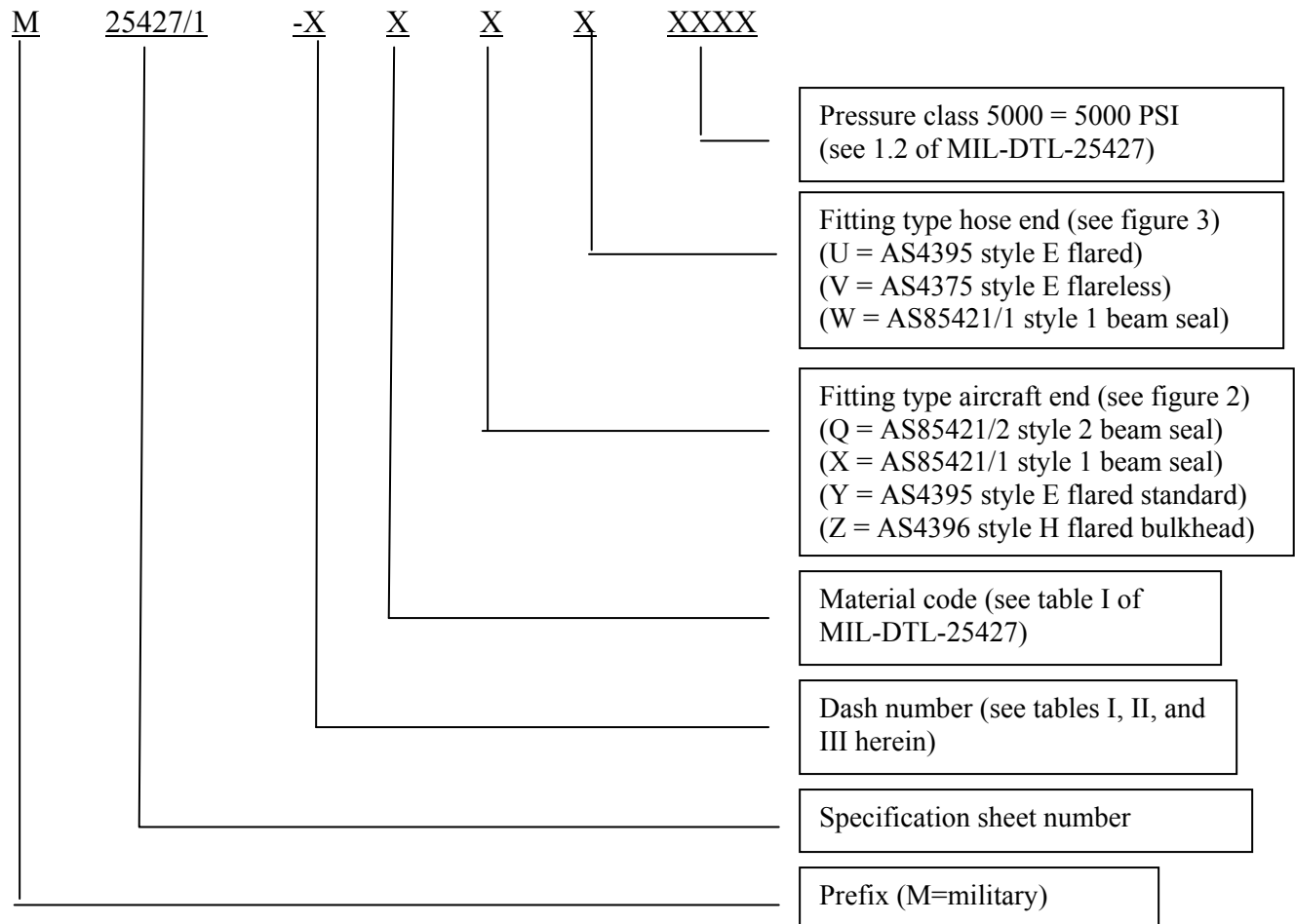
REQUIREMENTS:

1. Material. For material requirements, see procurement specification MIL-DTL-25427.
2. Finish. For finish requirements, see procurement specification MIL-DTL-25427.

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3. Pressure class. For pressure class requirements, see procurement specification MIL-DTL-25427.

4. Part or identification number (PIN). The PIN consists of the letter M, the specification sheet number, a dash number from table I, material code, fitting type aircraft end, fitting type hose end and pressure class.



Example: M25427/1-8SZW5000 represents 0.5 inch hydraulic stainless steel coupling assembly with flared fitting on aircraft end, beam seal fitting on hose end operating at 5000 PSI.

5. Coupling assembly. Coupling assembly shall be assembled with internal components of same material except flange.

6. Seal. If standard seals are unavailable, non-standard seals may be used with the approval of the qualifying activity.

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7. Operation. Connection and disconnection of the coupling assembly shall be accomplished by using one hand with no tools required. The coupling assembly shall function as required in MIL-DTL-25427 with quick connection and disconnection of coupling halves. When connected, the coupling half assembly may have a partially coupled and unlocked position that shall remain stable and permit fluid flow.

8. Test requirements. In accordance with the applicable test requirements of MIL-DTL-25427. Suppliers seeking qualification of new couplings are responsible for interchangeability of their couplings with the existing qualified couplings. The qualifying activity will perform the manual operation tests of the couplings provided by manufacturers whenever necessary to ensure interchangeability and leakage within the allowable limit.

9. Interchangeability. Coupling assemblies, coupling halves or coupling parts shall be interchangeable having the same tube size and pressure class. These coupling assemblies' configuration and dimensions are known to be similar to Parker coupling 44000, Eaton coupling 155/145, and Hydraulic International coupling CPB-L-A. Suppliers seeking to be on QPL-25427 are responsible for interchangeability and shall perform the manual operation test to ensure the manufactured coupling is interchangeable with other supplier's coupling and vice versa.

10. Marking. Marking shall consist of the part identification number, manufacturer's name, trademark or CAGE code and shall be impression stamped or laser etched. The marking shall be protected from corrosion.

11. Intended use. These quick disconnect couplings are intended for delivering hydraulic fluid from ground cart to aircraft operating at 3000 and 5000 pound pressure with type II system fluid operating temperature range -65 °F to +275 °F. For larger sizes -20 and -24 are intended for return lines with operating pressure not more than 1000 PSI. These couplings are intended for use in military aircraft and other hydraulic ground servicing equipment where the mounting bulkhead half and protective cap are mounted in aircraft and the other hose attaching half and protective plug are part of the ground support equipment.

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CONCLUDING MATERIAL

Custodians:

Army-AV

Navy-AS

Air Force-99

Preparing activity:

Navy-AS

(Project 4730-2008-124)

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>.