

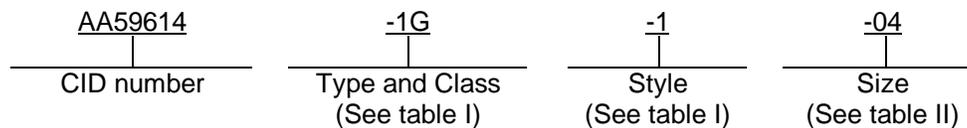
[INCH-POUND]
A-A-59614
August 21, 2001
SUPERSEDING
WW-C-624E
August 21, 1989

COMMERCIAL ITEM DESCRIPTION

COUPLING ASSEMBLY, HOSE (GARDEN, WATER, AND WATER SUCTION)

The General Services Administration has authorized the use of this commercial item description for all federal agencies.

1. SCOPE. This CID covers the general requirements for couplings used with garden, water, and water suction hose. Coupling assemblies covered by this CID are intended for commercial/industrial applications.
2. CLASSIFICATION. This CID uses a classification system which is included in the Part Identification Number (PIN) as shown in the following example (see 7.1).



2.1 Type, Class, Styles and Size. The coupling assemblies are of the following types, classes, styles, and sizes as specified below (see 7.1):

Type I - Ribbed shank (see figure 1).

Style 1 - Short shank with octagon or hex swivel.

Style 2 - Short shank with pin lug swivel.

Style 3 - Long shank with octagon or hex swivel.

Style 4 - Long shank with pin lug swivel.

Class A - Garden hose.

Sizes - .50, .625, and .75 inch (nominal).

Class AA - Water hose.

Sizes - .75, 1.00, 1.25, 1.50, 2.00, 2.50, 3.00, 3.50, 4.00, 4.50, 5.00, and 6.00 inches (nominal).

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any data which may improve this document should be sent to: Defense Supply Center, Columbus, ATTN: DSCC-VAI, Post Office Box 3990, Columbus OH 43216-5000, or telephone (614) 692-0538, or facsimile (FAX) (614) 692-6939.

AMSC N/A
DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

FSC 4730

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Type II - Expansion shank or compression ferrule (see figure 2).

- Style 5 - Expansion shank.
- Style 6 - Compression ferrule.

Class A - Garden hose.

Sizes - .50, .625, and .75 inch (nominal).

Class AA - Water hose.

Sizes - .50, .625, .75, and 1.00 inch (nominal).

Type III - Expansion ring (see figure 3).

- Style 7 - Rocker lug swivel.
- Style 8 - Pin lug swivel.
- Style 9 - Long handle swivel.

Class AA - Water hose.

Sizes - 1.50, 2.00, 2.50, 3.00, 3.50, 4.00, 4.50, 5.00, and 6.00 inches (nominal).

Class B - Water suction hose.

Sizes - 1.50, 2.00, 2.50, 3.00, 3.50, 4.00, 4.50, 5.00, and 6.00 inches (nominal).

TABLE I. Pin codes for type, class, and style.

Type	Class	Style	Pin type and class code	Pin style code
I	A	1	1G	1
		2	1G	2
		3	1G	3
		4	1G	4
	AA	1	1W	1
		2	1W	2
		3	1W	3
		4	1W	4
II	A	5	2G	5
		6	2G	6
	AA	5	2W	5
		6	2W	6
III	AA	7	3W	7
		8	3W	8
		9	3W	9
	B	7	3S	7
		8	3S	8
		9	3S	9

TABLE II. Size codes for all types. 1/

Class A size	Class AA size	Class B size	Pin size code
.50	—	—	-04
.625	—	—	-05
.75	.75	—	-06
—	1.00	—	-08
—	1.25	—	-10
—	1.50	1.50	-12
—	2.00	2.00	-16
—	2.50	2.50	-20
—	3.00	3.00	-24
—	3.50	3.50	-28
—	4.00	4.00	-32
—	4.50	4.50	-34
—	5.00	5.00	-40
—	6.00	6.00	-48

1/ The size indicates the nominal size of the coupling to fit the hose with that ID. For example, size .50 is for a coupling to fit the .50 inch ID hose.

3. SALIENT CHARACTERISTICS.

3.1 Dimensions. Coupling assemblies supplied to this CID shall be as specified herein.

3.2 Materials. Materials used shall be as specified herein. However, materials not specified herein shall be of a quality that will enable the coupling assembly to meet the requirements of this CID.

3.3 Interchangeability. Parts having the same classification under a specific contract shall be functionally and dimensionally interchangeable.

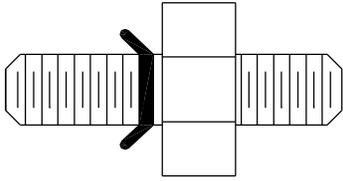
3.4 Design. Couplings shall consist of the various components specified in 3.5.1, 3.5.2, and 3.5.3 and similar to the applicable figures. Components of the coupling shall not be mixed in the sense of dissimilar metals that will be subject to galvanic corrosion when the coupling sections are connected and a flow is produced through the hose and coupling assembly (see 7.6).

3.5 Coupling components.

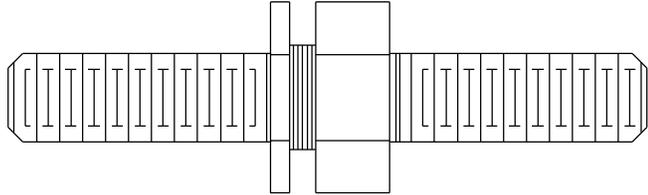
3.5.1 Type I couplings. Unless otherwise specified (see 7.4), type I coupling parts shall be cast or machined from copper alloy (brass), zinc-base alloy, stainless steel, or steel and coupling components shall consist of the following (see figure 1):

- a. Female section.
- b. Swivel nut for female section (see 3.7).
- c. Male section.
- d. Gasket recess in swivel (recess may be omitted provided the standard commercial gasket does not fall out when the two sections are disconnected).
- e. Clamps (one for each male and female section, or ferrules (outside crimp) (one for each male and female section, for styles 1 and 2).

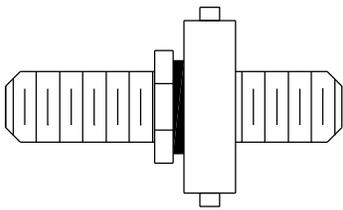
3.5.1.1 Dimensions, figure 1. Dimension A shall be sized so as not to restrict the free flow of the hose attached; B shall be as required to accommodate the hose specified; and C shall be as required to meet the pull-off and leakage requirements and to accommodate the required clamp(s) or ferrule(s) (see table III). Clamps or ferrules shall not extend closer than .062 inch to the end of the shank.



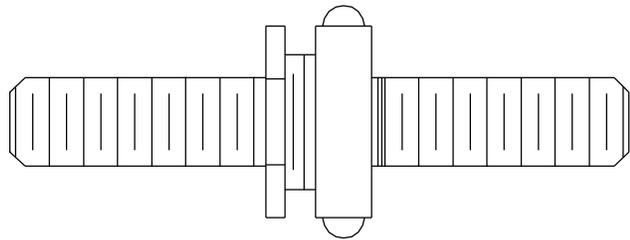
CLASS A, AA, STYLE 1



CLASS A, AA, STYLE 3



CLASS A, AA, STYLE 2



CLASS A, AA, STYLE 4

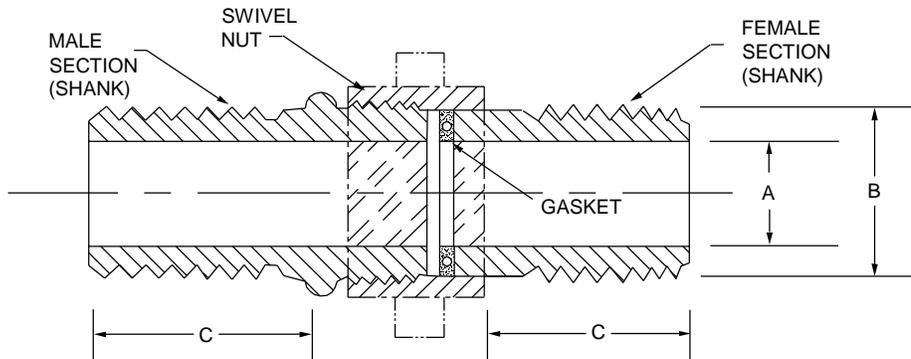


FIGURE I. Type I couplings.

Table III. Dimension C (minimum) (inches).

For hose size	Styles 1 and 2	Styles 3 and 4
.50	1.125	1.125
.625	1.125	1.125
.75	1.125	1.125
1.00	1.125	1.125
1.25	1.75	2.00
1.50	1.75	2.50
2.00	2.187	3.50
2.50	2.50	4.00
3.00	3.25	5.00
3.50	3.875	5.50
4.00	4.375	5.75
4.50	4.50	5.875
5.00	5.375	5.875
6.00	6.375	6.50

3.5.2 Type II couplings. Unless otherwise specified (see 7.4), type II couplings shall be cast, machined, pressed or extruded from copper alloy (brass), cartridge brass, stainless steel, steel, zinc-base alloy, or heat stabilized 6/6 nylon and coupling components shall consist of the following (see figure 2):

- a. Female section with expandable smooth shank for ribbed ferrules or ribbed shank for compression ferrules.
- b. Swivel nut for female section (see 3.7).
- c. Male section with expandable smooth shank for ribbed ferrules or ribbed shank for compression ferrules.
- d. Gasket recess in swivel (recess may be omitted provided the standard commercial gasket does not fall out when the two sections are disconnected).
- e. Ribbed ferrule or compression ferrule for each male and female section

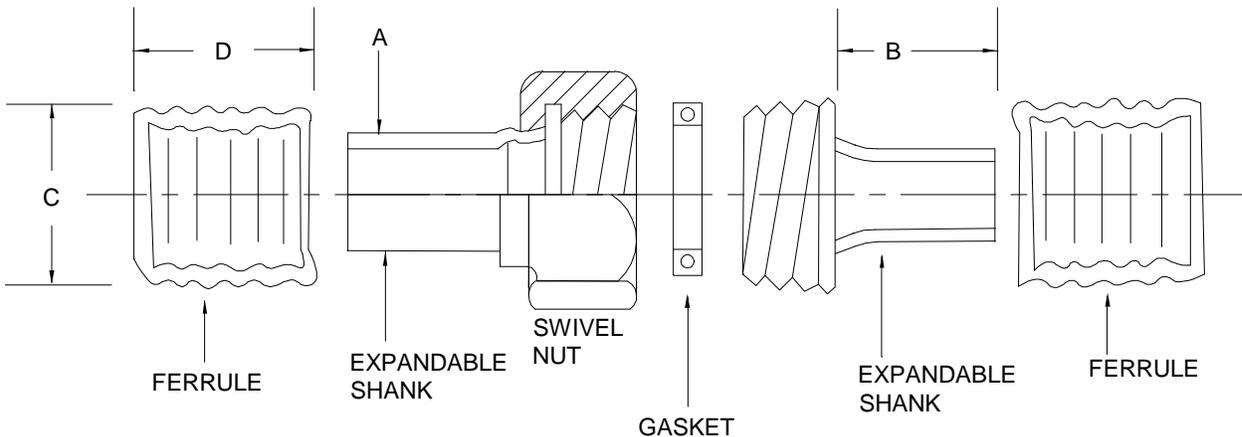


FIGURE 2. Type II, class A and AA, style 5 and 6.

3.5.2.1 Dimensions, figure 2. Dimension A shall be sized so as to suit the inside diameter (ID) of the hose specified; B shall be as required to meet the pull-off and leakage requirements; and C and D shall be sized to suit the outside diameter of the hose specified and meet the pull-off and leakage requirements. Dimension D shall not exceed dimension B and shall not extend closer than .062 inch to the end of the shank.

3.5.3 Type III couplings. Unless otherwise specified (see 7.4), type III couplings shall be cast or machined from copper alloy (brass), stainless steel, or steel and coupling components shall consist of the following (see figure 3):

- a. Female section.
- b. Swivel nut for female section with nut to bowl retainer (see 3.7).
- c. Male section.
- d. Gasket recess in swivel.
- e. Expansion ring, one for each male and female section.

3.5.3.1 Dimensions, figure 3. Dimensions A, B, F, and G shall be required to fit the specified hose and meet the pull-off and leakage requirements. Dimension C shall be so sized as not to restrict the free flow of the hose. Dimensions D and E shall be as required to accommodate the appropriate standard spanner wrench. (See table IV.)

TABLE IV. Dimensions B and F (minimum) (inches).

For hose size	B	F
1.50	1.50	1.25
2.00	1.50	1.25
2.50	1.75	1.50
3.00	2.25	1.875
3.50	2.25	2.00
4.00	2.25	2.00
4.50	2.25	2.00
5.00	2.25	2.00
6.00	2.25	2.00

3.5.3.2 4.50 X 4.00 inch coupling. The 4.50 X 4.00 inch coupling shall have a 4.50 inch NH thread and shall accommodate the 4.00 inch ID hose.

3.5.3.3 Detail sections AA and BB of figure 3. Pellets, ball bearings, or square-cross-section piston-ring attachment of the swivel to the hose bowl may be used in place of still thread or groove shown.

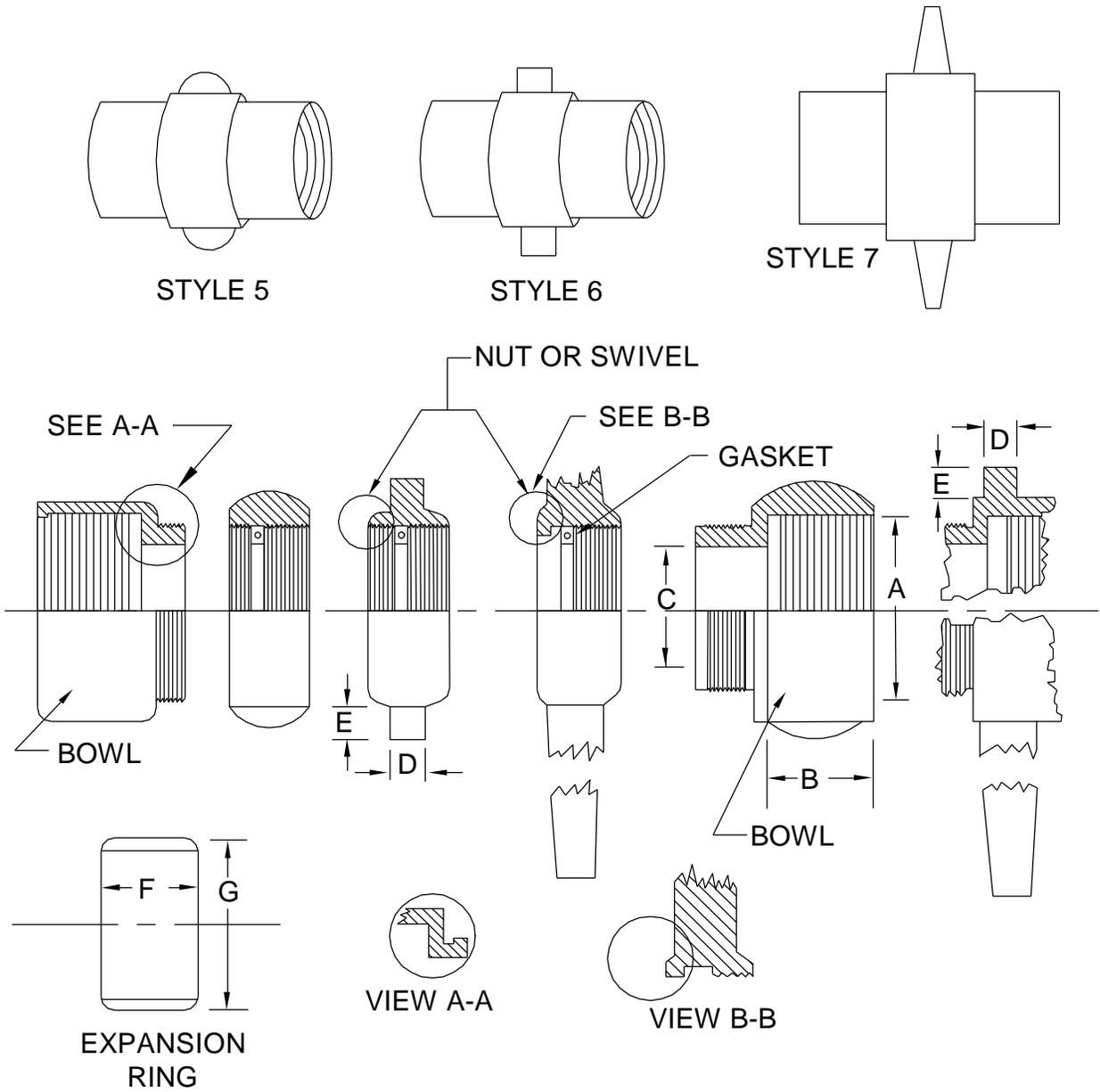


FIGURE 3. Type III expansion ring coupling, class AA and B.

3.6 Tightening provisions.

3.6.1 Type I. The male section shall have either lugs or wrench flats, and the swivel nut on the female section shall have rocker lugs, pin lugs, or wrench flats. When specified (see 7.4), wrench surfaces may be as specified in 3.6.2.

3.6.2 Type II. Wrenching surfaces may be octagon, hexagon, ridged, or knurled and shall be located on the swivel nut only.

3.6.3 Type III. Unless otherwise specified (see 7.4), rocker lugs, pin lugs, or long handles shall be located on the swivel nut only. When specified (see 7.4), rocker lugs, pin lugs, or long handles shall be located on both male and female sections.

3.7 Swivel nuts. Swivel nuts shall be of the same material as the male and female sections or of other suitable material that is compatible with and will not cause galvanic action in the coupling and shall meet the requirements of 3.13 through 3.13.2.1 (see 7.4).

3.8 Expansion rings. Unless otherwise specified (see 7.4), expansion rings for type III couplings shall be made from seamless copper alloy (brass) tubing. Expansion rings shall be sized for the particular application specified to prevent pull-off and leakage.

3.9 Ferrules. Unless otherwise specified (see 7.4), ferrules for styles 1 and 2, type I and for type II couplings shall be made from sheet, tubing, or locking straps of copper alloy (brass), stainless steel, or zinc-coated steel.

3.10 Gaskets. Unless otherwise specified (see 7.4), gaskets shall be made of natural or synthetic rubber, a combination of these materials or polyvinyl chloride. Gaskets shall be of nominal size for the specific coupling and shall be the standard commercial size and shall not fall out of the coupling when the two sections are disconnected.

3.11 Clamps for type I couplings. Unless otherwise specified (see 7.4), clamps shall be types A through F, conforming to A-A-52506.

3.12 Threads. Threads as specified (see 7.4), shall be NH or NPSH of FED-STD-H28/10 for type I and type III couplings. Threads for type II, class A couplings shall be NHR (rolled) of FED-STD-H28/10 when design of the coupling is of thin material that will not permit cut-threads and still meet the requirements of 3.13 and 3.13.1. Threads shall be NH (cut) on the swivel nut for the female section and NH (cut or cast) on the male shank for type II, class A couplings designed of thick material and for type II, class AA couplings.

3.13 Performance requirements. All couplings shall be able to withstand a 150 lb load pull for at least one minute, when attached to hose specified in 3.4.

3.13.1 Types I and II, class A couplings. When attached to hose specified in 3.4, types I and II, class A couplings (garden hose) shall be able to withstand an internal hydrostatic pressure of 100 psi for at least one minute without showing any signs of leakage.

3.13.2 Types I, II, and III, class AA couplings. When attached to hose specified in 3.4, types I, II, and III, class AA couplings shall be able to withstand an internal hydrostatic pressure of 300 psi for sizes .50 through 1 inch, 250 psi for sizes 1.25 and 1.50 inch, 200 psi for sizes 2.00 through 4.00 inch, and 100 psi for sizes 4.50 through 5 inch, for at least one minute without showing any signs of leakage.

3.13.2.1 Type III, class B couplings. When attached to hose specified in 3.4, type III, class B couplings shall be able to withstand an internal hydrostatic pressure as specified in 3.13.2 and a 22-inch mercury vacuum for at least one minute without loss of coupling seal or where the hose joins the coupling.

3.14 Finish. All nonmating surfaces shall be made smooth by grinding, polishing, shot blasting, sand blasting, or wire brushing and shall be free of burrs. All mating and gasket surfaces shall be 125 µin rms finish or smoother. On all castings, the external corrugations shall be a uniform annular groove around the periphery of the shanks and shall have a clean parting line.

3.14.1 Zinc-base alloy couplings. Zinc-based alloy couplings shall have zinc corrosion-resisting coating. When zinc corrosion-resisting can not meet the intended performance requirement, corrosion-resisting coating of chromium, cadmium, or chromate can be used at the option of the manufacturer, after threading.

3.14.2 Steel couplings. Steel couplings shall be zinc coated, after threading.

3.15 Workmanship. Couplings shall be uniform in quality and shall be free from sharp edges, burrs, defects, or irregularities that may adversely affect its service performance.

3.16 Marking. Couplings supplies to this CID shall be marked with the manufacturer's (MFR's) standard commercial PIN.

4. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

5. PRODUCT CONFORMANCE PROVISIONS.

5.1 Product conformance. The products provided shall meet the salient characteristics of this CID, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

6. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order.

7. NOTES.

7.1 PIN. The PIN should be used for Government purposes to buy commercial products to this CID. See section 2 for PIN format example.

7.2 Commercial and Government Entity (CAGE) code. For ordering purposes, inventory control, and submission of these coupling assemblies to DSCC under the Military Parts Control Advisory Group (MPCAG) evaluation program, CAGE code 58536 should be used.

7.3 Source of documents.

Federal Specifications

A-A-52506 - Clamp, Hose

Federal Standard

FED-STD-H28/10 - Hose Coupling and Fire Hose Coupling Screw Threads

(Copies of federal specifications and standards are available from the Document Automation and Production Service, Building 4/D (DPM-DODSSP), 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

7.4 Ordering data. The contract or order should specify the following:

- a. CID document number, revision, and CID PIN.
- b. Type, style, and class of coupling required (see 2.1). When combinations of class AA and B nut styles are required, specify the particular combinations selected (see 3.6.3, 7.1, and figure 3).
- c. Size of couplings required and particular hose application (see 2.1).
- d. Material required for coupling (see 3.2, 3.4, 3.5.1, 3.5.2, and 3.7).
- e. Gasket recess required (see 3.5.1 and 3.5.2).
- f. Whether clamps or ferrules required for class A and AA couplings (see 3.5.1 and 3.11).
- g. Type of shank and ferrule required (see 3.5.3a and 3.5.3c).
- h. Wrench surface required (see 3.6.1).
- i. Different expansion ring required (see 3.8).
- j. Different ferrules required (see 3.9).
- k. Different gasket required (see 3.10).
- l. Threads required (see 3.12).
- m. When coupling only is required, specify intended application and type and size hose to be used (see 3.13.3).
- n. Packaging requirements.

7.5 Class AA and B coupling combinations. Any combination of style 7, 8, or 9, type III couplings are permissible, when specified. For example, couplings, could be ordered with style 8 on the swivel section and style 9 on the male section. To prevent galvanic corrosion, material compatibility should be considered.

7.6 Hose. Coupling assemblies are intended to be used with water hose conforming to ZZ-H-601 at pressures up to 150 psig, garden hose conforming to A-A-59270 at pressures to 75 psig and water suction hose conforming to ZZ-H-561 at zero psi absolute.

7.7 Commercial products. As part of the market analysis and research effort, this CID was coordinated with the following manufacturers of commercial products. At the time of CID preparation and coordination, these manufacturers were known to have commercial products that would meet the requirements of this CID. (NOTE: This information should not be considered as a list of approved manufacturers or be used to restrict procurement to only the manufacturers shown.)

<u>MFR's CAGE</u>	<u>MFR's name and address</u>
1U339	Labarge Products, Inc. 2900 Brannon Avenue St. Louis, MO 63139 Phone number: 1-314-776-2900 Fax number: 1-314-776-6444
30659	Moon American Inc. 167-B SW Cutoff Worcester, MA 01604 Phone number: 1-507-798-8887 Fax number: 1-508-798-7839

7.8 Part number (P/N) supersession data. These CID part numbers supersede the following Federal specification part numbers as shown. This information is being provided to assist in reducing proliferation in the Government inventory system.

TABLE V. P/N data.

Part number (see section 2)	Superseded part number	MFR's CAGE	MFR's P/N <u>1/</u>	NSN
AA59614-1G-1-04	WWC624-1G-1-04			4730-01-139-1673
AA59614-1G-1-05	WWC624-1G-1-05	1U339		4730-00-203-3544
AA59614-1G-1-06	WWC624-1G-1-06			4730-00-203-3545
AA59614-1W-1-06	WWC624-1W-1-06			4730-00-585-2289
AA59614-1W-2-20	WWC624-1W-2-20			4730-00-926-4234
AA59614-1W-3-12	WWC624-1W-3-12			4730-00-289-4623
AA59614-XX-X-XX	WWC624-XX-X-XX	30659		4730-00-640-0590
AA59614-XX-X-XX	WWC624-XX-X-XX			4730-00-726-4641

1/ The manufacturer's P/N shall not be used for procurement to the requirements of this CID. At the time of preparation of this CID, the aforementioned commercial products were reviewed and could be replaced by the CID PIN shown. For actual part marking requirements see 3.16.

7.9 Government users. To acquire information on obtaining these compressors from the Government inventory system, contact one of the following Defense Supply Center Columbus' codes: DSCC-ADB, DSCC-LDA, or DSCC-MEA, Post Office Box 3990, Columbus, OH 43216-5000, or telephone (614) 692-3869, (614) 692-3719, or (614) 692-2079, respectively.

7.9.1 National stock number (NSN). Table V includes a list of NSN's assigned which correspond to this CID. The list is for information only and may not be indicative of all possible NSN's associated with the CID. For up to date information on assigned NSN's, please contact the aforementioned DSCC office (see 7.9).

7.10 Subject term (key words) listing.

Ferrule
Gasket
Nut, swivel

MILITARY INTERESTS:

Custodians:

Air Force - 99
Army - AT
Navy - SH
DLA - CC

Review activities:

Air Force - 71
Navy - SA

CIVIL AGENCY COORDINATING ACTIVITY:

GSA/FSS

Preparing activity:
DLA - CC

(Project 4730-2103-001)