

INCH-POUND

A-A-52480A

July 29, 2002

SUPERSEDING

A-A-52480

October 29, 1993

COMMERCIAL ITEM DESCRIPTION

CONTROL ASSEMBLY, PUSH-PULL

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

1. **SCOPE.** This CID covers push-pull control assemblies, of the single core wire type, for general applications, used to regulate and actuate many internal combustion engine and vehicular accessories, such as: throttles, idle controls, chokes, defrosters, and governors.

2. CLASSIFICATION.

2.1 Mechanism types. Push-pull control assemblies will have one of the following four different mechanism types:

- Type I - Friction lock (figure 1)
- Type II - Ratchet lock (figure 2)
- Type III - Vernier adjust (figure 3)
- Type IV - Turn-to-lock (figure 4)

2.2 Handle styles. Push-pull control assemblies will have one of the following four different handle styles:

- Style 1 - Knob handle (figure 1)
- Style 2 - T-handle (figure 2)
- Style 3 - Locking knob handle (figure 3)
- Style 4 - L-handle (figure 4)

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent by letter to: U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E/AEIT, 6501 E. 11 Mile Road, Warren, MI 48397-5000.

AMSC N/A

FSC 2990

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

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2.3 Conduit classes. Push-pull control assemblies will have one of the following two different classes of wire conduit, class I or class II.

3. SALIENT CHARACTERISTICS.

3.1 Materials. Unless specified herein, materials shall be in accordance with the manufacturer's material specifications. The use of recovered material made in compliance with regulatory requirements is acceptable providing that all requirements of this CID are met (see 4).

3.2 Design and construction. The general design and construction features of the push-pull type control assemblies are shown in figures 1 through 4. The four different control assemblies consist primarily of various styles of control handles attached to various locking mechanisms and class of conduit. A plunger rod shall permanently and rigidly attach the handle to a core wire which can be actuated backwards and forwards inside a flexible conduit. The conduit shall be in the form of a closed helix. When specified (see 7.3), the conduit shall be provided with a plastic inner lining or encased in a plastic or rubber sleeve. The plunger rod shall be able to slide freely inside a threaded mounting adapter that is attached to a guide tube. Mounting hardware shall be provided with each assembly. Detailed and specific features and dimensions will be determined according to specific applications and as specified in Table I.

3.2.1 Configuration. Many of the general design features (handles, styles, cover plates, conduit classes, etc.) shown in any of the four figures may be installed on different control assemblies. Handle style 2 (see figure 2) may have a horizontal or vertical locking position.

3.3 Performance. All control assemblies (figures 1 through 4) shall be capable of operating satisfactorily in a temperature range of minus (-) 65 to plus (+) 115 degrees Fahrenheit (°F), with up to 30 pounds (lb) of push-pull actuating force. Unless otherwise specified (see 7.3), control handles shall withstand the steady, gradually applied pull load that is given for each control assembly type without separation from or damage to the assembly. They shall operate smoothly throughout the entire travel length without binding. The conduits shall show no permanent set from a minimum bend radius of 3 inches (in.).

3.3.1 Friction lock (Type I). Type I assembly (figure 1) shall require 3 to 8 lb to adjust and be able to withstand a maximum pull load of 120 lb. With a minimum conduit bend radius of 3 in., the assembly shall function smoothly with up to a 20 lb push-pull actuating force.

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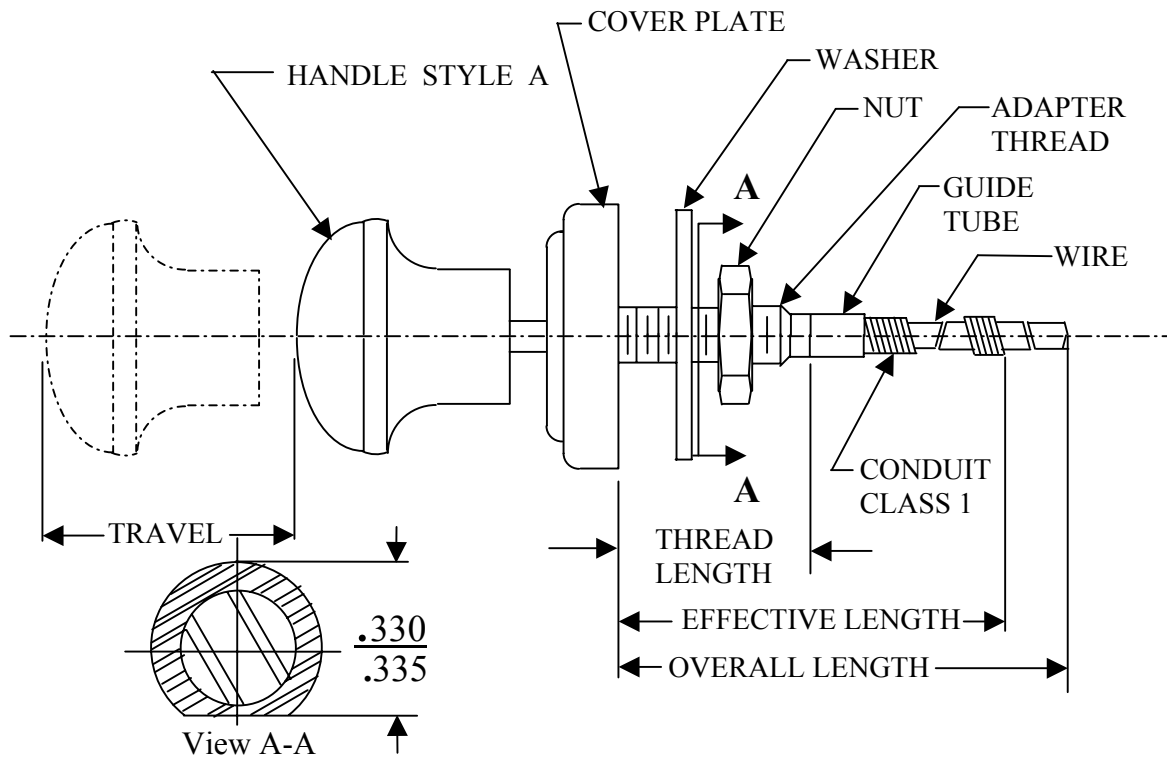


FIGURE 1. Type I – Friction lock.

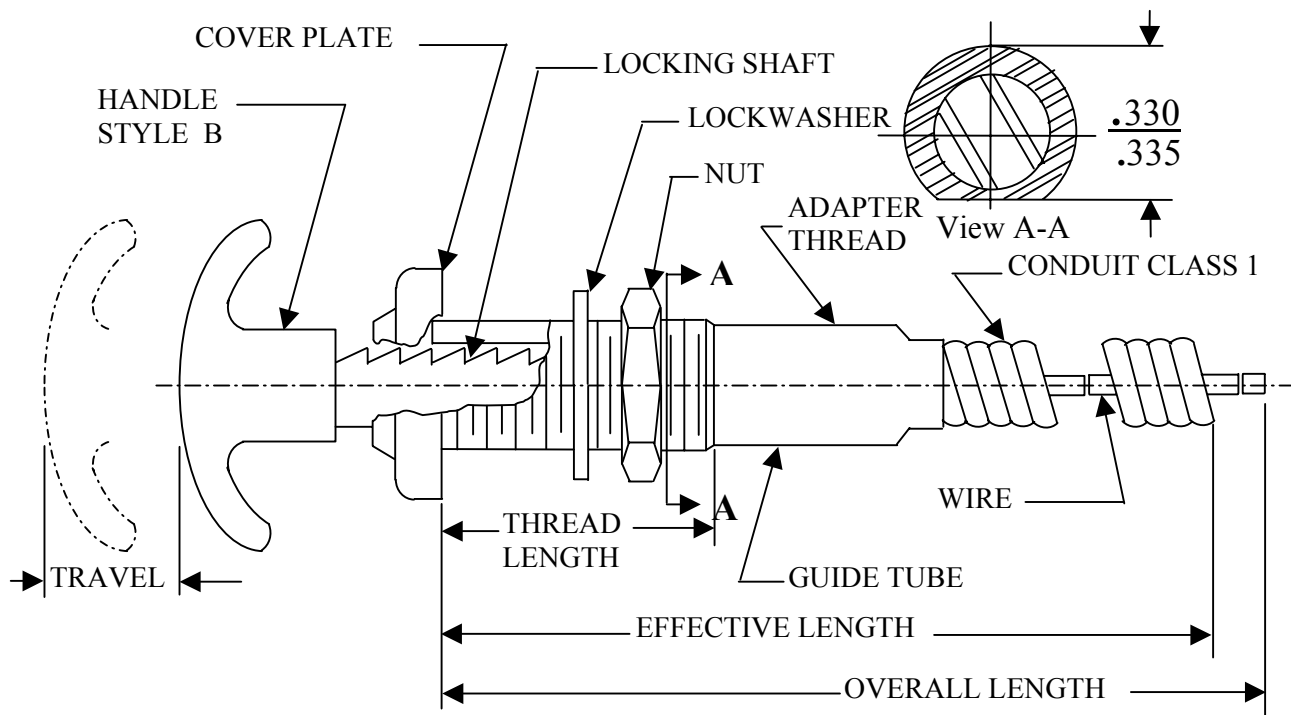


FIGURE 2. Type II – Ratchet lock.

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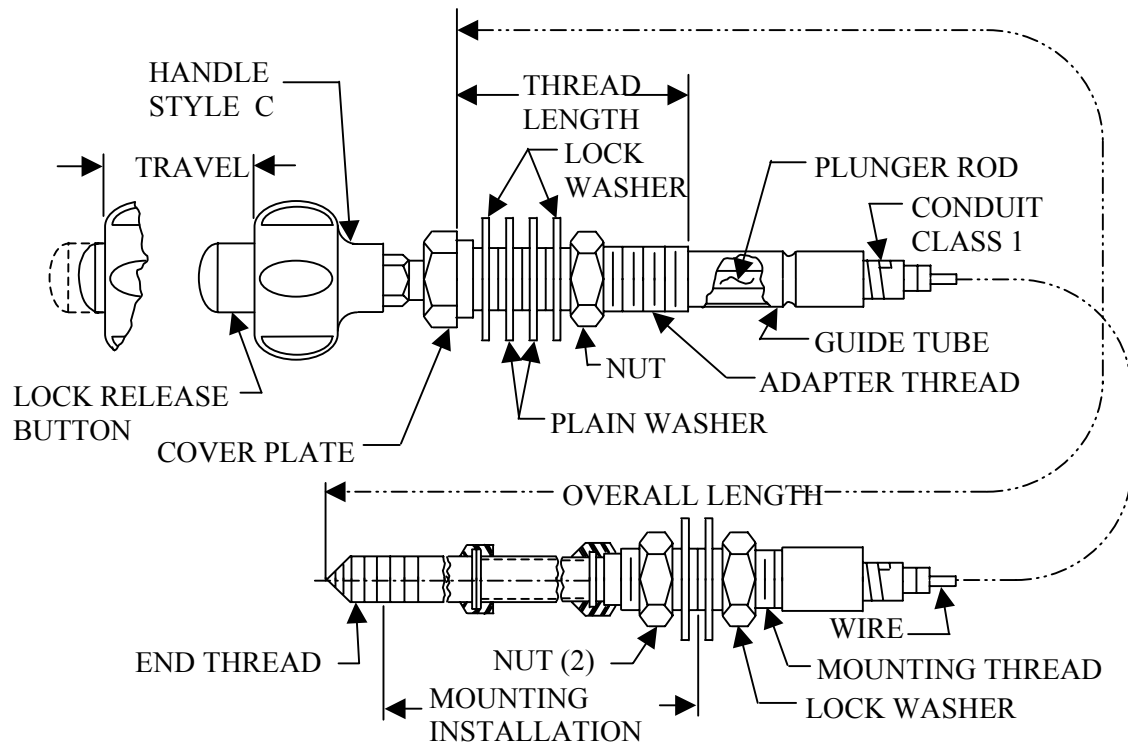


FIGURE 3. Type III – Vernier adjust.

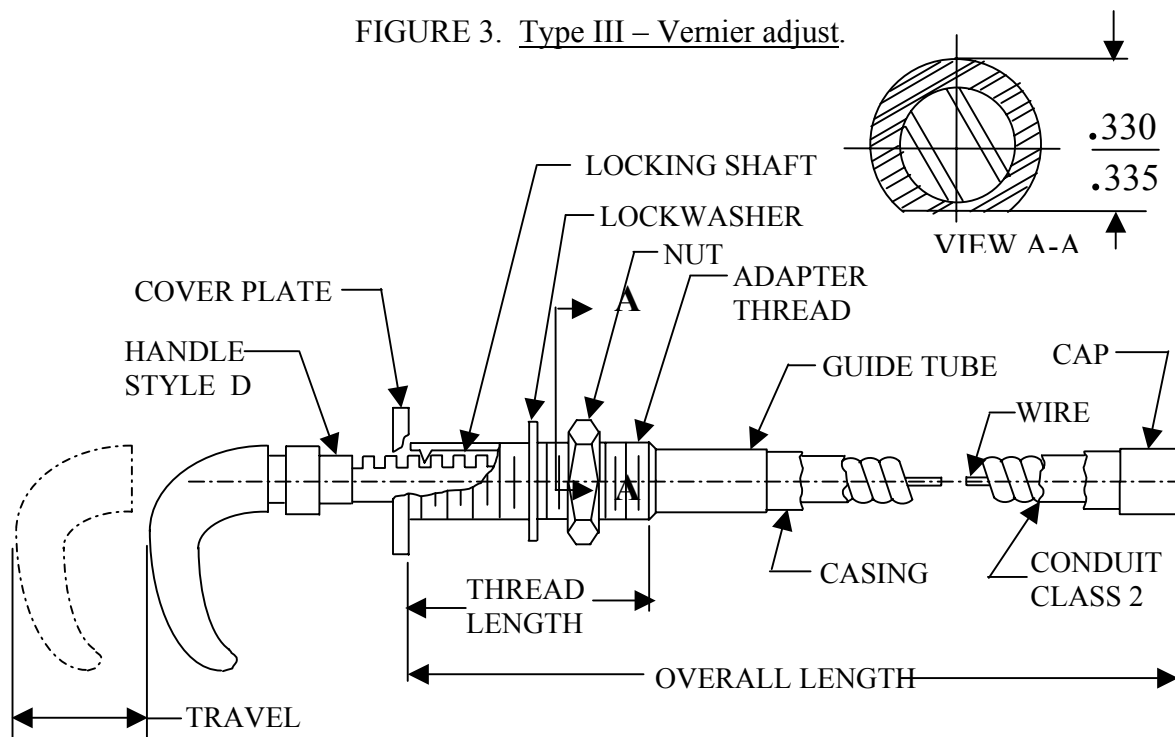


FIGURE 4. Type IV – Turn-to-lock.

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TABLE I. Push pull control construction – see figures 1 through 4.

New reference No.	NSN	Old reference No.	Handle		Dimensions					Mechanism control type	Conduit	
			imprint	Style	A 1/	B 2/	C 3/	D 4/	E 5/		Class	Wire dia.
AA52480-1	2990-00-990-1304	MIL-C-62191-1	Choke	A	.375-24	.500	163.000	166.000	2.250	Friction	1	.054
AA52480-3	2990-00-590-2666	MIL-C-62191-3	Choke	B	.375-24	1.500	60.000	65.000	3.000	Friction	1	.054
AA52480-5	2590-00-996-7284	MIL-C-62191-5	Choke	A	.437-20	1.750	92.000	94.500	2.250	Friction	1	.054
AA52480-8	2990-00-822-3283	MIL-C-62191-8	Throttle	A	.375-24	.375	34.000	38.000	2.250	Friction	1	.054
AA52480-9	2990-00-768-7370	MIL-C-62191-9	T	A	.375-24	.500	53.125	55.750	2.250	Friction	1	.047
AA52480-10	2990-00-774-5571	MIL-C-62191-10	Not marked	A	.375-24	.500	140.500	144.000	2.750	Friction	1	.054
AA52480-11	2990-00-273-7139	MIL-C-62191-11	Not marked	B	.375-24	.531	88.000	90.000	2.250	Friction	1	.055
AA52480-13	2590-00-540-6524	MIL-C-62191-13	Not marked	B	.500-20	1.187	108.000	113.000	4.500	Friction	1	.090
AA52480-16	2540-00-273-8832	MIL-C-62191-16	Not marked	B	.437-20	2.000	28.000	32.000	2.500	Friction	1	.072
AA52480-17	2990-00-204-3179	MIL-C-62191-17	Not marked	B	.500-20	.750	216.000	221.000	3.000	Friction	1	.062
AA52480-18	2590-00-287-7466	MIL-C-62191-18	Detent	B	.375-24	1.500	72.000	73.812	2.250	Friction	1	.054
AA52480-21	2990-00-131-6151	MIL-C-62191-21	Emergency engine stop	B	.375-24	1.438	59.750	66.125	3.000	Lock	1	.054
AA52480-22	2590-00-410-2263	MIL-C-62191-22	V	A	.375-24	.625	32.000	33.750	2.250	Friction	1	.054
AA52480-25	2990-00-580-7379	MIL-C-62191-25	Throttle	B	.375-24	1.500	79.000	84.000	2.250	Lock	1	.054
AA52480-27	2990-00-407-7791	MIL-C-62191-27	Throttle	B	.437-20	2.000	32.000	36.000	3.000	Lock	1	.054
AA52480-28	2590-00-039-8916	MIL-C-62191-28	Aux. choke	B	.500-20	1.500	34.000	37.500	3.000	Lock	1	.072
AA52480-29	2990-00-294-6472	MIL-C-62191-29	Not marked	B	.375-24	1.500	88.000	92.000	3.000	Lock	1	.054
AA52480-31	2590-00-019-4568	MIL-C-62191-31	Not marked	B	.437-20	2.000	132.000	135.750	3.000	Lock	1	.054
AA52480-32	2990-00-896-2166	MIL-C-62191-32	Not marked	B	.437-20	1.750	72.000	88.000	3.000	Lock	1	.054
AA52480-34	2990-00-698-0384	MIL-C-62191-34	Not marked	B	.437-24	2.000	33.750	38.50	2.500	Lock	1	.072
AA52480-38	2990-00-392-4417	MIL-C-62191-38	Not marked	C	.750-16	2.500	144.000	147.000	3.250	Vernier	1	.080
AA52480-39	2990-00-992-4429	MIL-C-62191-39	Not marked	C	.750-16	2.375	63.000	69.250	4.000	Vernier	1	.080
AA52480-40	2990-00-640-3853	MIL-C-62191-40	Not marked	C	.750-16	2.562	113.500	118.000	3.000	Vernier	1	.062
AA52480-41	2590-00-931-2231	MIL-C-62191-41	Not marked	C	.750-16	2.562	72.000	76.000	3.000	Vernier	1	.062
AA52480-42	2990-00-334-5831	MS500043-5	Throttle	B	.375-24	11.438	47.500	51.000	3.00	Lock	1	.054
AA52480-43	2990-00-411-9536	MS500043-4	Throttle	B	.375-24	1 7/16	37	40 1/2	3 min.	Ratchet	1	.055
AA52480-44	2990-01-029-5606	MS500043-3	Throttle	B	.375-24	1.438	32	36	3 min.	Ratchet	1	.047
AA52480-45	2990-01-234-8890	MS500073-2	Not marked	A	.375-24	1.125	14.750	18.250	1.500	Friction	1	.054
AA52480-46	2590-00-319-5927	MS500074-7	Not marked	D	.375-24	± 1/4 1 1/8 ± 1/4	157 1/4	161	3 min.	Ratchet	2	.072

NOTES:

- 1/: "A" denotes the size of the "adapter thread".
 2/: "B" denotes the linear length of "thread length".
 3/: "C" denotes the "effective length".
 4/: "D" denotes the "overall length".
 5/: "E" denotes the "minimal travel".

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3.3.2 Ratchet lock (Type II). Type II assembly (figure 2) shall possess the capability of being pulled outwards into locked positions, at not more than 0.125 in. intervals, without turning the handle. Unlocking is necessary only to actuate inward and shall require a 1/4 to 3/4 turn of the handle to the right or left. The assembly shall withstand a maximum pull load of 75 lb. With a minimum conduit bend radius of 3 in., the assembly shall function smoothly with up to a 20 lb push-pull actuating force.

3.3.3 Vernier adjust (Type III). Type III assembly (figure 3) shall use a push-button lock release mechanism to provide coarse adjustment throughout the entire travel range and a knob for fine adjustment to the coarse setting. This vernier adjustment shall automatically become operable when the coarse adjustment button is released. The assembly shall withstand a maximum pull load of 75 lb. With a minimum conduit bend radius of 3 in., vernier adjustment shall be capable with a maximum force of 10 inch-pounds (in-lb).

3.3.4 Turn-to-lock (Type IV). Type IV assembly (figure 4) shall possess the capability of push-pull actuation throughout its entire travel length until it is locked into position with a 1/4 to 3/4 turn of the handle to the right or left. The locking positions shall be set at not more than 0.125 in. intervals. The assembly shall withstand a maximum pull load of 75 lb. With a minimum conduit bend radius of 3 in., the assembly shall function smoothly with up to a 20 lb push-pull actuating force.

3.3.5 Lock holding ability (Type II, III, and IV). These assemblies shall not allow core movement of more than 0.031 in. after application of an 8 ounce (oz) load in alternating directions along the horizontal axis of the core, away from and towards the control handles, for a complete test cycle of 50 times in each direction. There shall be no change of pre-set control adjustment positions nor damage to the control assemblies.

3.3.6 Conduit classes. These four push-pull control assemblies shall use one of two classes of conduit respectively (see figures 1 through 4).

3.4 Surface treatments. Unless otherwise specified (see 7.3), handles and cover plates shall be painted green 383 according to the Army Drawing 12369000, Chemical Agent Resistant Coatings (CARC) Paint System Index.

3.5 Identification and markings. Identification and markings shall be permanent, legible and shall include as a minimum, the manufacturer's identification code (CAGE), the contract number, and the Part or Identification Number (PIN) (see 7.1).

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).

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5. **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 marketplace. The Government reserves the right to require proof of such conformance.

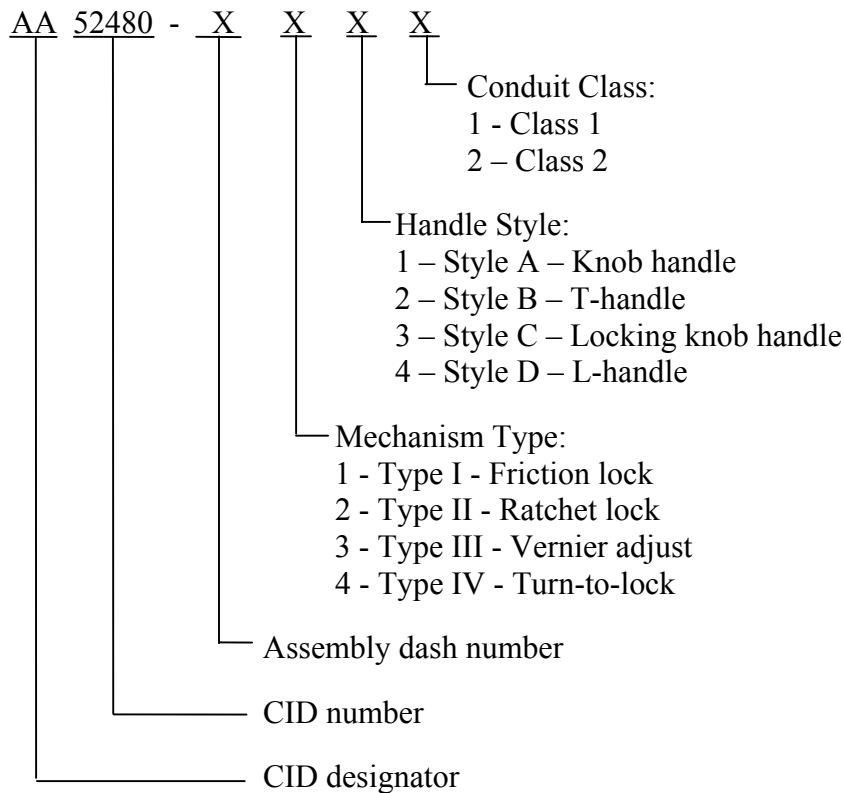
5.1 Responsibility for inspection. The contractor is responsible for the performance of all inspections (examinations and tests).

6. **PACKAGING.** Preservation, packing, and marking shall be as specified in the contract or order (see 7.3).

7. **NOTES.**

7.1 Part or Identification Number (PIN). The following PIN procedure is for Government purposes and does not constitute a requirement for the contractor. The PINs to be used for control assembly, push-pull type acquired to this CID are created as follows:

This example describes a part numbering system for CID A-A-52480. Example of reference part number; AA52480-11A2



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7.2 Source of documents.

7.2.1 Addresses for obtaining copies of Army drawings. Copies of Army Drawing 12369000, "Chemical Agent Resistant Coatings (CARC) Paint Systems Index", are available from the Contracting Officer, U.S. Army Tank-automotive and Armaments Command, 6501 E. 11 Mile Road, Warren, MI 48397-5000.

7.2.2 The Code of Federal Regulations (CFR) may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

7.3 Ordering data. Acquisition documents must specify the following:

- a. Title, number and date of this CID.
- b. Part number and quantity required.
- c. If the conduit is to be provided with other than as specified in 3.2.
- d. If an inner lining or an outer covering is required.
- e. If the control handle is to withstand other than the maximum steady applied pull load.
- f. If the color of paint is other than green 383.
- g. If packaging is other than as specified in the contract.

7.4 Supersession and cross-reference data. This CID is interchangeable/substitutable with, and supersedes/replaces MIL-C-62191, MS500043, MS500073, MS500074, dated 29 October 1993; MS500044 and MS500045 dated 28 November 1997. These documents have been cancelled.

7.5 Key words.

Choke control
Defroster control
Idle control
Throttle control

MILITARY INTERESTS:

Custodians:

Army - AT
Navy - MC
Air Force - 99

Review Activities:

Army - CR4
Air Force - 11, 70
DLA - CC

CIVIL AGENCY COORDINATING ACTIVITY:

GSA-FSS

Preparing Activity:

Army - AT

(Project 2990-0131)