

METRIC

A-A-52155B

September 20, 2002

SUPERSEDING

A-A-52155A

July 25, 1995

COMMERCIAL ITEM DESCRIPTION

ENGINE ACCESSORY DRIVE V-BELTS

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

1. SCOPE. This CID covers requirements for standard and heavy duty V-type engine accessory drive belts of various lengths and belt widths. The belts are either plain or notched or cogged base.

2. CLASSIFICATION. Belts shall be of the following grades, styles and nominal belt widths (SAE sizes):

2.1 Grade.

A - Standard duty.

B - Heavy duty.

2.2 Style.

P - Plain base.

C - Notched or cogged base.

2.3 Nominal belt width (SAE size).

0.380 inch (in).

0.500 in.

11/16 in.

3/4 in.

7/8 in.

1.0 in.

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/PWR/AEIT, 6501 E. 11 Mile Road, Warren, MI 48397-5000.

AMSC N/A

FSC 3030

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

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2.3 Nominal belt width (SAE size).

0.380 in.
0.500 in.
11/16 in.
3/4 in.
7/8 in.
1.0 in.

3. SALIENT CHARACTERISTICS.

3.1 Materials. Belt cord shall be pre-stretched and impregnated with a rubber compound. Cord for grade A belts shall be natural or synthetic fibers. Grade B belts shall have polyester cord. The use of recovered materials made in compliance with regulatory requirements is acceptable providing that all requirements of this CID are met (see 4).

3.2 Construction. The construction of stock V-belts shall consist of tension members (inserts) and a compression member (cushion) molded into an endless loop having a trapezoidal cross-section. The belt dimensions, tolerances, and method of measurement shall be in accordance with SAE J636.

3.2.1 Belt lengths. Unless otherwise specified (see 7.3), the effective lengths for each nominal width classification of belts shall be as shown in table I.

3.2.2 Belt grade. Unless otherwise specified (see 7.3), the belts shall be grade A.

3.2.3 Belt style. The belt style (see 2), shall be as specified in the contract or order (see 7.3). If any belt style is acceptable, it shall be so stated in the contract or order (see 7.3).

3.3 Belt matched sets. When specified (see 7.3), belts shall be furnished in matched sets of the size and number of belts required.

3.4 Performance.

3.4.1 Fatigue. The belts shall not break nor any portion of the belt chunk out during a 100 hour operating period when tested for fatigue in accordance with SAE J637. For belt widths 20 millimeter (mm) (7/8 in.) and greater, the fatigue test horsepower (hp) loads shall be as listed in table II.

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TABLE I. Effective belt lengths.

Nominal belt widths						PIN Dash No.	Effective length		Nominal belt widths						PIN Dash No.	Effective length	
<u>1/</u>	<u>2/</u>	<u>3/</u>	<u>4/</u>	<u>5/</u>	<u>6/</u>		mm	in.	<u>1/</u>	<u>2/</u>	<u>3/</u>	<u>4/</u>	<u>5/</u>	<u>6/</u>		mm	in.
X	X		X			-20	508	20	X	X	X	X	X	X	-47	1194	47
X	X		X			-21	533	21	X	X	X	X	X	X	-48	1219	48
X	X		X			-22	559	22	X	X	X	X	X	X	-49	1245	49
X	X		X			-23	584	23	X	X	X	X	X	X	-50	1270	50
X	X		X			-24	610	24	X	X	X	X	X	X	-51	1295	51
X	X	X	X			-25	635	25	X	X	X	X	X	X	-52	1321	52
X	X	X	X			-26	660	26	X	X	X	X	X	X	-53	1346	53
X	X	X	X			-27	686	27	X	X	X	X	X	X	-54	1372	54
X	X	X	X	X	X	-28	711	28	X	X	X	X	X	X	-55	1397	55
X	X	X	X	X	X	-29	737	29	X	X	X	X	X	X	-56	1422	56
X	X	X	X	X	X	-30	762	30	X	X	X	X	X	X	-57	1448	57
X	X	X	X	X	X	-31	787	31	X	X	X	X	X	X	-58	1473	58
X	X	X	X	X	X	-32	813	32	X	X	X	X	X	X	-59	1499	59
X	X	X	X	X	X	-33	838	33	X	X	X	X	X	X	-60	1524	60
X	X	X	X	X	X	-34	864	34		X	X		X	X	-62	1574	62
X	X	X	X	X	X	-35	889	35	X	X	X		X	X	-64	1626	64
X	X	X	X	X	X	-36	914	36		X	X		X	X	-66	1676	66
X	X	X	X	X	X	-37	940	37			X	X	X	X	-68	1727	68
X	X	X	X	X	X	-38	965	38			X	X	X	X	-70	1778	70
X	X	X	X	X	X	-39	991	39					X	X	-72	1829	72
X	X	X	X	X	X	-40	1016	40		X			X	X	-74	1880	74
X	X	X	X	X	X	-41	1041	41		X		X	X	X	-76	1930	76
X	X	X	X	X	X	-42	1067	42					X	X	-78	1981	78
X	X	X	X	X	X	-43	1092	43					X	X	-80	2032	80
X	X	X	X	X	X	-44	1118	44					X		-82	2083	82
X	X	X	X	X	X	-45	1143	45					X		-84	2134	84
X	X	X	X	X	X	-46	1168	46					X		-86	2184	86

1/ 9.6 mm (0.380 in.)4/ 19.1 mm (3/4 in.)2/ 12.7 mm (0.500 in.)5/ 22.2 mm (7/8 in.)3/ 17.5 mm (11/16 in.)6/ 25.4 mm (1 in.)

- NOTES:
1. The PIN dash numbers and the prior slash sheet dash numbers are the same.
 2. Fractional effective lengths shall be designated by adding a two-digit number representing hundredths of an inch to PIN dash number, i.e. 64.50 effective length = 6450.

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TABLE II. Fatigue test loads.

Nominal belt width	Belt effective length (in.)	HP loads	Tension weight (pounds)
7/8	Under 40.0	13.0	130
	44.0 - 55.0	14.0	140
	55.0 and over	15.0	150
1.0	Under 40.0	13.0	130
	44.0 - 55.0	14.0	140
	55.0 and over	15.0	150

3.4.2 Resistance to temperature. The belts shall not break or require more torque than specified in table III when subjected to temperature extremes of plus 150 degrees Fahrenheit (°F) and minus 20°F under the following conditions: Place the unrestrained belt in a heat chamber in a horizontal position so that it does not contact the sides of the chamber. Next subject the belt to 150 +2°F for 12 hours duration followed by 30 minutes cooling at ambient temperature. Following the cooling period, place the belt on the same pulley arrangement used for the fatigue test (see 3.4). Apply and set tension to the belt equivalent to the tension applied when measuring the belt per SAE J636 (see 3.2). Next, subject the assembly to -20°F for 12 hours duration and while still at the cold temperature, rotate the drive pulley not less than 2 revolutions. Measure and record the torque required to start and to continue rotation.

TABLE III. Maximum torque requirements.

Nominal belt width (in.)	Torque required to start rotation (maximum-foot pounds)	Torque required to continue rotation (maximum-foot pounds)
0.380 and 0.500	20	12.5
11/16 and 3/4	25	15.0
7/8 and 1.0	30	20.0

3.4.3 Oil resistance. When “oil resistant” is specified (see 7.3), the belt thickness shall increase no more than 20 percent nor decrease more than 1 percent when immersed in ASTM oil No. 1 and ASTM IRM 903 oil as cited in ASTM D471 under the following conditions: Immerse two 7.6 mm (3 in.) long sections of hose in 70°C (158°F) oil bath for 22 hours. The average of three measurements-the center point and 2 inch from each end shall constitute the thickness.

3.5 Age. When specified (see 7.3), the age of the belts shall be not more than 12 months (4 quarters) old from the time of manufacture to the date of acceptance by the Government.

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3.6 Identification and markings. Identification and markings of the belts shall be permanent and legible. The belts shall be marked on the outside circumference. Each belt shall be marked with the nominal top width, the effective length, the contractors identification code (CAGE) or trademark, the date of manufacture.

3.6.1 Matched sets. Each belt in a matched set shall be marked as specified in 3.6. In addition, all belts of a matched set shall be tied together. A tag or separate label shall include the following notice: **“WARNING: THIS IS A MATCHED SET. DO NOT BREAK TIES EXCEPT AT INSTALLATION.”**

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. 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.

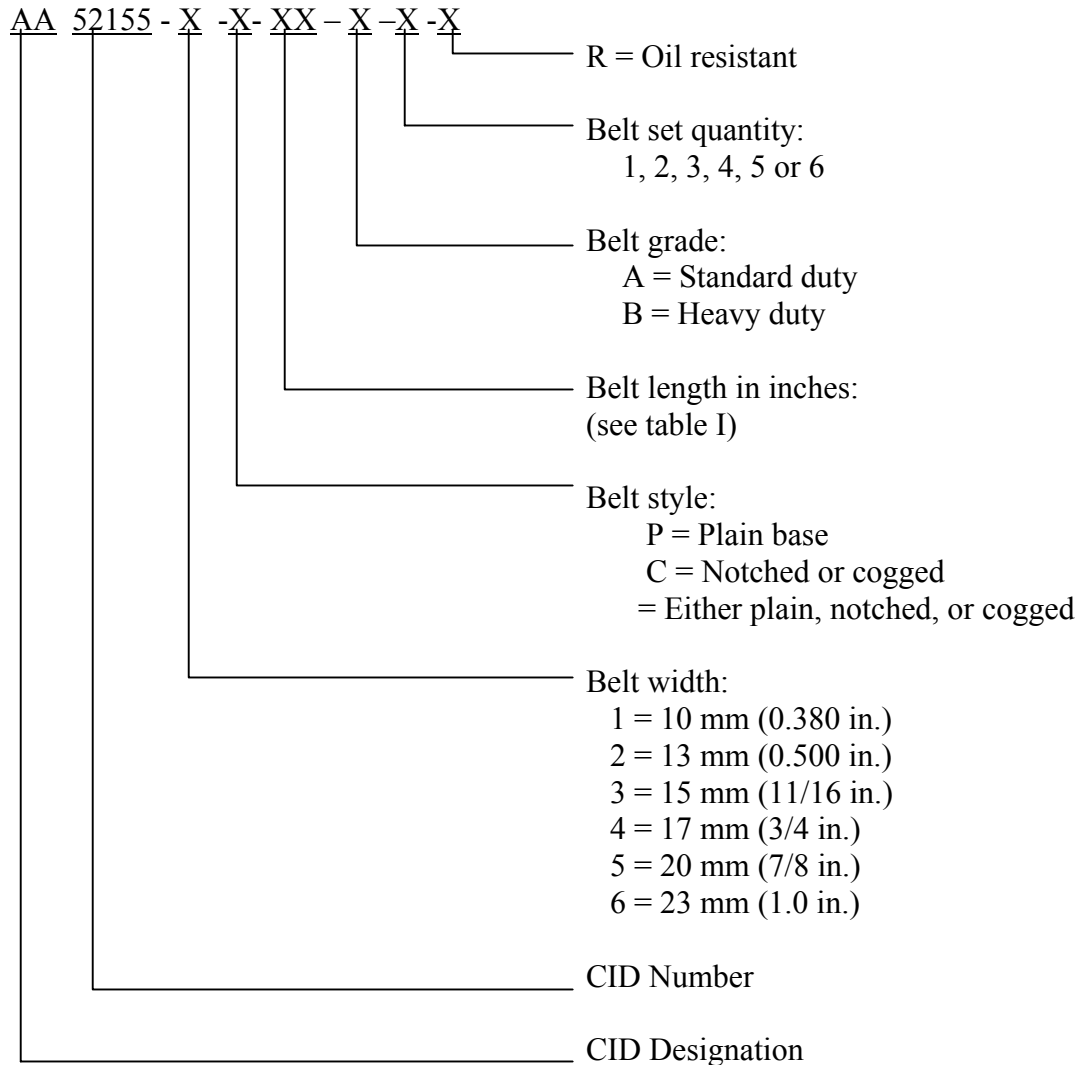
5.1 Responsibility for inspection. The contractor is responsible for the performance of all inspections (examinations and tests).

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 V-Belts acquired to this CID are created as follows:

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7.2 Source of documents.

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

7.2.2 Copies of ASTM D471 "Standard Test Method for Rubber Property-Effect of Liquids" are available from the Society for Testing and Materials, 100 Barr Harbor Dr., West Conshohocken, PA 19428-2959 or website: <http://www.astm.org>

7.2.3 Copies of SAE J636 "V-Belts and Pulleys, Standard" and SAE J637 "Automotive V-Belt Drives, Recommended Practices" are available from the Society of Automotive Engineers, Inc., 400 Commonwealth Dr., Warrendale, PA 15096-0001 or website: <http://www.sae.org>

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

- a. Title, number, and date of this CID.
- b. Issue of DODISS to be cited in the solicitation.
- c. PIN number and quantity of belts required.
- d. If Grade B (heavy duty) belts are required.
- e. Belt style, if particular style is required.
- f. If any belt style is acceptable.
- g. Belt effective length when not in accordance with table I.
- h. When matched belt sets are required and size and number of belts in each set.
- i. When oil resistance is required.
- j. When age of belts will not be more than 12 months.
- k. Selection of applicable level and packaging requirements.

7.4 Cross-reference data. Belts conforming to this CID are interchangeable/substitutable with belts conforming to ZZ-B-190C.

7.5 Key words.

Cogged Base
Notched Base
Plain Base
V-Type

MILITARY INTERESTS:

Custodians:

Army - AT
Navy - SH
Air Force - 99

Review Activities:

Air Force - 71
Navy - MC
DLA - IS

CIVIL AGENCY COORDINATING ACTIVITY:

GSA-FSS

Preparing Activity:

Army - AT

(Project 3030-0210)