

Cap Screw Hex Head, Grade 8, ZnCr Plated, Coarse Threads

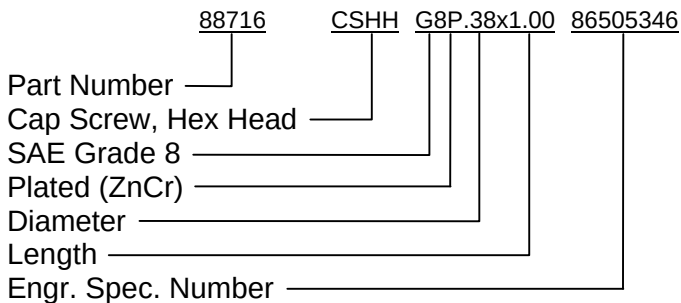
1. SCOPE

1.1 The fasteners defined by this specification are gold zinc chromate (ZnCr) plated Grade 8 Hex Headed Cap Screws with coarse threads.

1.2 The Cap Screw Hex Head Grade 8 ZnCr plated fastener is used only when higher strength is required.

2. DESIGNATION

2.1 Typical call-out on a drawing shall be:



NOTE: The above typical description is required for use in all company-wide computer generated documents. The description on hand drawn assembly drawings should follow the same practice.

2.2 Table 2 lists the non-preferred part numbers which should be avoided in future designs.

2.3 When requesting a new part number, refer to the instructions in standard 86505922 (FNHA-3-A-005.00).

3. RELATED SPECIFICATIONS

3.1 REFERENCE STANDARDS

86508305 (FNHA-2-H-500.00)—Zinc Electroplating on Ferrous Surfaces

86505922 (FNHA-3-A-005.00)—Assignment of Standard Part Numbers

ANSI/ASME B1.1—Unified Inch Screw Threads

ANSI/ASME B18.2.1—Square and Hex Bolts and Screws

SAE J429—Mechanical and Material Requirements for Externally Threaded Fasteners

SAE J123—Surface Discontinuities on Bolts, Screws, and Studs

3.2 This standard replaces the following company standard:

Versatile (Partial)

1-A-002

4. REQUIREMENTS

4.1 MATERIAL

4.1.1 SAE Grade 8 according to SAE J429—Medium carbon alloy steel, quenched and tempered, with .28 to .55% Carbon, max. of .040% Phosphorus, and max. of .045% Sulfur. The minimum hardenability of the material shall be such that it will achieve a hardness of Rockwell C47 upon quenching, measured at the center of the transverse section.

4.1.2 The head markings shall be according to SAE J429 (see Table 1).

					NAME	STD CSHH G8 ZNCR UNC		
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4.2 PLATING

The plating shall be gold zinc chromate (ZnCr) electroplate 86508316 (FNHA-2-H-500.25) per standard 86508305 (FNHA-2-H-500.00). Baking (86512106) per 86508305 (FNHA-2-H-500.00) is required for hydrogen embrittlement relief.

4.3 MECHANICAL REQUIREMENTS

Grade	Nominal Diameter	Proof Load	Min. Tensile Strength	Min. Yield Strength	Max. Surface Hardness	Core Hardness Rockwell*	
	Inches	psi	psi	psi	Rockwell 30N	min.	max.
8	1/4 to 1-1/2	120000	150000	130000	58.6	C33	C39

* To be measured at 1/2 radius of threaded transverse section at a distance of one diameter from the end of the product (average of four readings).

4.4 MECHANICAL DIMENSIONS

The screw thread geometry shall conform to ANSI/ASME B1.1 UNC-2A before plating. The general dimensions shall meet the requirements in Table 1.

4.5 SURFACE DISCONTINUITIES

All products under this specification shall meet the Surface Discontinuities on Bolts, Screws, and Studs per SAE J123 requirements.

5. SUPPLIER RESPONSIBILITY

5.1 Suppliers shall perform the necessary test for sample approval for initial lots. After this approval, suppliers are not required to perform the specific tests, but ascertain that their product will conform to the specification limits. These specified requirements will be used to reconcile any disputed values.

5.2 All materials supplied to this specification shall be equivalent in all characteristics to the material upon which approval was originally granted. Prior to making of any changes in the properties, composition, construction, color, dimensions, processing or labeling of the material originally approved under this specification, the supplier shall notify Purchasing and the affected Materials Engineering activity of the proposed changes and obtain the written acknowledgement of the Materials Engineering activity. Test data, test samples and a new identification code are to be submitted with the request.

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