

(Obsolete)

Cap Screw Hex Head, Grade 5, Zn Cr Plated, Fine Threads

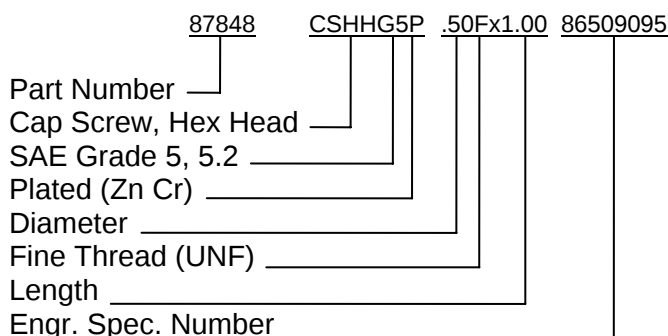
1. SCOPE

1.1 The fasteners defined by this specification are gold zinc chromate (Zn Cr) plated Grade 5 Cap Screws Hex Headed with fine threads.

1.2 The Cap Screw Hex Head Zn Cr Plated with fine threads are used in critical and high strength applications and for adjustment accuracy.

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 not be used 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 J1061—Surface Discontinuities on General Application Bolts, Screws, and Studs

3.2 This standard replaces the following company standards.

Versatile (Partial)

1-A-002

4. REQUIREMENTS

4.1 MATERIAL

4.1.1 Grade 5 according to SAE J429—Medium carbon steel quenched and tempered steel with .28 to .55% Carbon, max. of .048% Phosphorus, and max. of .058% Sulfur.

4.1.2 Grade 5.2 according to SAE J429—Low carbon martensite steel fully killed fine grain quenched and tempered with .15 to .25% Carbon, min. of .74% Magnesium, max. of .048% Phosphorus, max. of .058% Sulfur, and min. of .0005% Boron.

					NAME	STD CSHH G5 UNF ZNCR		
						 NEW HOLLAND		
ALL	L	BJF	119263	29AUG02				
ALL	K	BJF	117333	22JAN02				
ALL	J	BJF	116564	13SEP01				
ALL	H	BJF	115815	28MAR01				
FRAME NO.	REV	BY	ECN NO.	DATE	THE INFORMATION HEREON IS THE CONFIDENTIAL AND PROPRIETARY PROPERTY OF NEW HOLLAND N. V. AND/OR ITS SUBSIDIARIES. ANY USE, EXCEPT THAT FOR WHICH IT MAY BE LOANED, IS PROHIBITED.	FRAME 1 OF 4		
APP.	DRAWN	BJFJR	10/93			PART NUMBER		
KHH 11/93	CHECKED					86509095		

Standard Parts / Inch Fasteners

FNHA-1-B-030.00

(Obsolete)

4.1.3 The head markings shall be according to SAE J429 (See Table 1).

4.2 PLATING

The plating shall be gold Zinc Chromate (Zn Cr) Electroplate 86508316 (FNHA-2-H-500.25) per standard 86508305 (FNHA-2-H-500.00). Baking is not 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.
5	1/4 to 1	85000	120000	92000	54	C25	C34
	over 1 to 1 1/2	74000	105000	81000	50	C19	C30
5.2	1/4 to 1	85000	120000	92000	56	C26	C36

* Take measurement 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 UNF-2A per ANSI/ASME B1.1 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 General Application Bolts, Screws, and Studs per SAE J1061 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.

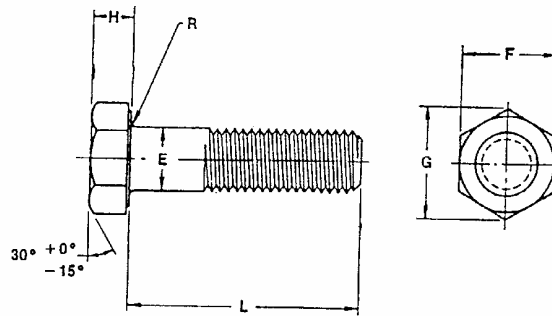
5.2 All materials supplied to this specification shall be equivalent in all characteristics to the material upon which approval was originally granted. Prior to making of any changes in the properties, composition, construction, color, dimensions, processing or labeling of the material originally approved 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.

 NEW HOLLAND	NAME				PART NUMBER	
	STD CSHH G5 UNF ZNCR					
	ENGINEERING SPECIFICATION	REV. L	FRAME 2	OF 4	86509095	

Standard Parts / Inch Fasteners

FNHA-1-B-030.00

(Obsolete)
Table 1



SAE J429 — Grade 5



SAE J429 — Grade 5.2

			1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	
Number of Threads per Inch			28	24	24	20	20	18	18	16	14	
Proof Load lbs			3100	4900	7450	10100	13600	17300	21800	31700	43300	
Min. Tensile lbs			4350	6950	10500	14200	19200	24400	30700	44800	61100	
Body Diameter - (E)		Max.	.250	.3125	.375	.4375	.500	.5625	.625	.750	.875	
		Min.	.245	.3065	.369	.4305	.493	.5545	.617	.741	.866	
Width Across Flats - (F)		Max.	.438	.500	.562	.625	.750	.812	.938	1.125	1.312	
		Min.	.428	.489	.551	.612	.736	.798	.922	1.100	1.285	
Width Across Corners - (G)		Max.	.505	.577	.650	.722	.866	.938	1.083	1.299	1.516	
		Min.	.488	.557	.628	.698	.840	.910	1.051	1.254	1.465	
Head Height - (H)		Max.	.163	.211	.243	.291	.323	.371	.403	.483	.563	
		Min.	.150	.195	.226	.272	.302	.348	.378	.455	.531	
Radius - (R)		Max.	.025	.025	.025	.025	.025	.045	.045	.045	.065	
		Min.	.015	.015	.015	.015	.015	.020	.020	.020	.040	
Thread Length	L ≤ 6"	Max.	1.00	1.153	1.312	1.482	1.635	1.792	1.955	2.250	2.556	
		Min.	.75	.875	1.000	1.125	1.250	1.375	1.500	1.750	2.000	
	L > 6"	Max.	1.25	1.403	1.562	1.732	1.885	2.042	2.205	2.500	2.806	
		Min.	1.00	1.125	1.250	1.375	1.500	1.625	1.750	2.000	2.250	
Length Tolerance (L)		To 1"	+0, -.03									---
		> 1" to 2.5"	+0, -.04			+0, -.06		+0, -.08			-10	
		> 2.5" To 4"	+0, -.06			+0, -.08		+0, -.10			-14	
		> 4" To 6"	+0, -.10									-16
		> 6"	+0, -.18									-20



NAME

STD CSHH G5 UNF ZNCR

ENGINEERING SPECIFICATION

REV.
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FRAME
3

OF
4

PART NUMBER

86509095

(Obsolete)

Table 2: CSHH G5 Zn Cr UNF (Non-Preferred)

Length	Diameter								
	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8
.375	280338								
.50	280640	280683							
.625	280781	20677	15603						
.75	88989	280559	280266		280197				
.875	280276	86977738	47525		280347				
1.00		280483	88374	86509452	87848	86509455			
1.125	280182		280372						
1.25	280158	280199	86631589	88443	87847		280217	86509458	
1.50	86637928	280252	280373	12929	88338	88969	88112	280245	
1.75	280371	280387	88117	50096			86509456	86509459	86509461
1.88			87020863						
2.00	86637929	60451	87753		88848			280198	
2.25	88664		88465		88009		88114	280226	
2.50		88118	280630		86622971	88694		87631	
2.75	86050273		280343		86509453				
3.00	280990		86977739	86977743	88849		88438		
3.25		281063	280421	88287	86509454		86509457		
3.50					86622973		280340	1688	
3.75			9849628		280184				
4.00		86509451					50154	50503	
4.50			86509460						
5.00							280174		
5.50		280422	280888				280674		
6.50							281053		
7.00							280573		280666
8.00				88624					280314
10.50								9842685	

NOTE: Parts above the heavy line are fully threaded.