



Standard Internally Gaged 12-Point Cap Screws, SDH Series

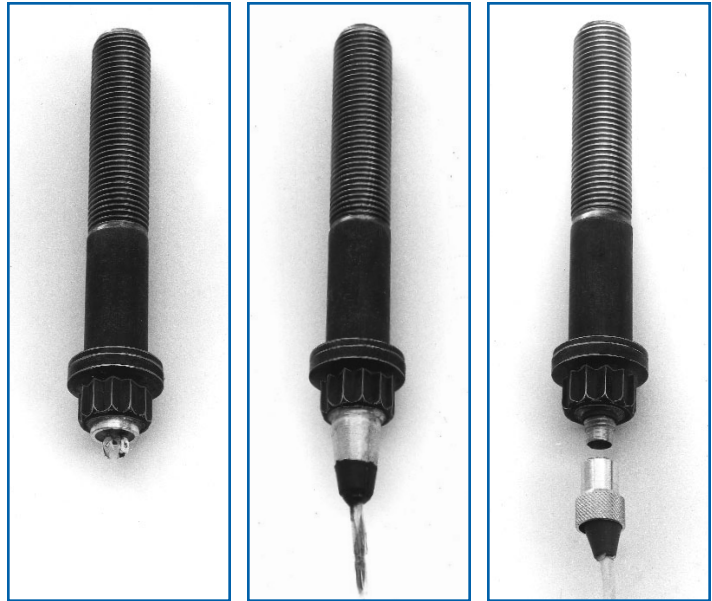
Steel Alloy

**To measure accurate
preload, service load
and overload of bolted
assemblies**

**For maximum uniformity,
efficiency and reliability
in bolted assemblies**

**For effective research,
testing and manufacturing
of bolted assemblies**

*(Ferry Cap Counter-Bored Screws
interchangeable with most Socket
Head Cap Screws)*



U.S. Patent No. 2,873,341

MECHANICAL SPECIFICATIONS

Material	SAE 4140
Hardness	Rockwell C37 to C43
Ultimate Tensile Strength	170,000 psi Minimum
Threads	Class 3A, rolled to 1" dia.; Class 2A, rolled 1-1/8" dia. & larger.
Finish	Black Satin Finish

ELECTRICAL SPECIFICATIONS

ITEM	CHARACTERISTIC
Gages Type	Metal Foil
Gage Factor	2.00
Service Temperature	150°F or 300°F
Non-Linearity	±1% of Allowable Load
Non-Repetition	±0.1% F.S.
Bridge Resistance	350 or 120 Ohms (Nominal)
Configuration	Quarter-Bridge (QB) or Full-Bridge (FB)
Output Signal (nominal, at allowable load)	FB: 3.5 mv/V QB: 1.4 mv/V
Excitation	350-ohm FB: 12V (Maximum) 350-ohm QB: 6V (Maximum) 120-ohm FB: 3V (Maximum)

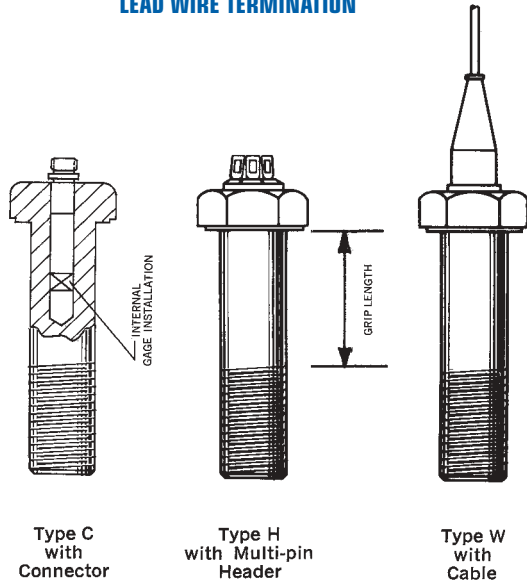
ALLOWABLE LOADS

Allowable loads for Straininsert 12-Point Cap Screws, as tabulated below, are based on approximately 70% Yield Strength of the threads, in pounds.

SCREW DIA.	LOAD CAPACITY LBS.	
	FINE THREADS	COARSE THREADS
1/4	2,700	2,700
5/16	5,400	4,800
3/8	8,200	7,200
7/16	11,000	10,000
1/2	15,000	14,000
5/8	25,000	22,000
3/4	36,000	32,000
7/8	50,000	44,000
1	67,000	59,000
1-1/8	–	74,000
1-1/4	–	92,000
1-1/2	–	136,000

Each cap screw is proof-loaded to above indicated load as part of quality control procedure. Both the value of proof-load and mv/V signal obtained are furnished to customer on a no-charge basis. See calibration section for additional calibration certification.

LEAD WIRE TERMINATION



Type C – screw type miniature connector, requires mating cable assembly.

Type H – a multi-pin header for soldered lead wire connections

Type W – factory installed cable

Over 130 different STRAINSERT 12-Point Cap Screws are stocked, ready for gaging.

U.S. Patent #2,873,341

ORDERING INFORMATION

SDH - FB 1/2-13NCx4 (350Ω / 300°F) C T3 K(L0) So

**S = Signal Trimmed to †
Specific Endpoint
So = No Signal Trim**

**K(L0) = Load Only Calibration, *
K(LU) = Load & Unload Calibration
Ko = No Calibration, Proof Load Only**

**To = No Temperature Compensation †
T1 = Temperature Compensation to 150°F
T3 = Temperature Compensation to 300°F**

**C = Connector
W = Permanently Attached Cable
H = Header Style**

150°F or 300°F Service Temperature (Max.)

350Ω or 120Ω

**Bolt Thread Size
(Diameter - Threads per Inch X Length)**

**FB = Full Bridge Strain Gage Circuit
QB = Quarter Bridge Strain Gage Circuit**

SDH = Steel Alloy, 12-Point

* See Strainsert Calibration Services (Page 94)

† Not Available for Quarter-Bridge Bolts.