



BOLT REQUIREMENTS for SAE J518 4-BOLT SPLIT FLANGE CONNECTIONS

Bolts for use with these connections shall be of the size and lengths as indicated in Table 1 of the SAE STD J518 JUN93. They shall be of SAE Grade 5 material or better as specified in SAE J429. Socket head cap screws of SAE Grade 5 material or better are acceptable.

ADACONN® and INSERTA® BOLT KITS

ADACONN® Hexagon Head Bolt Kits include SAE Grade 5 or better Hexagon Head Cap Screws in the size and lengths indicated in Table 1 of SAE Standard J518 JUN93.

ADACONN® and INSERTA® Socket Head Bolt Kits include industry standard 1960 Series Socket Head Cap Screws in the size and length specified by the customer. They meet or exceed the strength requirements of ASTM Standard A574.

INCH FASTENER COMPARISONS

This general information is provided to illustrate some basic differences between the Grade 5 Hexagon Head Cap Screws that are acceptable per SAE Standard J518 for connecting the 4-Bolt split flanges and other higher strength Hexagon Head and Series 1960 Socket Head Cap Screws.

QUALITY	GRADE 5 HHCS	GRADE 8 HHCS	INDUSTRY SHCS	UNBRAKO® SHCS*
APPLICABLE STANDARD	SAE J429	SAE J429	ASTM A574	ASTM A574
STRENGTH UTS-KSI min (SIZES)	120 (1/4 thru 1)	150 (1/4 thru 1 1/2)	180 (≤ 1/2) 170 (> 1/2)	190 (≤ 1/2) 180 (> 1/2)
PROOF STRENGTH PTS – KSI	85 (1/4 thru 1)	120 (1/4 thru 1 1/2)	140 (≤ 1/2) 135 (> 1/2)	148 (≤ 1/2) 140 (> 1/2)
ROCKWELL HARDNESS	C25 – C34	C33 – C39	C39 – C45 C37 – C45	C39 – C43 C38 – C43
MATERIAL STEEL	MEDIUM CARBON STEEL	MEDIUM CARBON ALLOY STEEL	MEDIUM CARBON ALLOY STEEL	MEDIUM CARBON ALLOY STEEL
MARKING	THREE RADIAL LINES	SIX RADIAL LINES	SHCS CONFIGURATION	MFG'S ID

* UNBRAKO® is a registered trade-mark of SPS Technologies.

ADACONN® Blue Bell, PA 19422	BOLT REQUIREMENTS		
--	------------------------------	--	--

BOLT KIT AVAILABILITY WITH 1960 SERIES SOCKET HEAD CAP SCREWS (UNRC COURSE THREAD SERIES- INCH SIZES)

ADACONN® and INSERTA® offer Bolt Kits that include Alloy Steel 1960 Series Socket Head Cap Screws that conform to ASTM A574. Sizes through 1/2" size have minimum ultimate tensile strength of 180,000 PSI and those over 1/2" have minimum ultimate tensile strength of 170,000 PSI. They are furnished with a thermal black finish. The threads are Unified standard: Class 3A, UNRC series for screw sizes through 1 inch, and Class 2A UNRC series for sizes over 1 inch. The availability of these Socket Head Cap Screws is listed in the following chart.

LENGTH (INCH)	SIZE - THREADS PER INCH											
	8-32	10-24	1/4-20	5/16-18	3/8-16	7/16-14	1/2-13	5/8-11	3/4-10	7/8-9	1 1/8-7	
.50	S											
.63	S	S	S									
.75		S	S									
.88		S	S									
1.00	S	S	S	S	S							
1.25	S	S	S	S	S	S	S					
1.50	S	S	S	S	S	S	S	S				
1.75	S	S	S	S	S	S	S	S	S			
2.00		S	S	S	S	S	S	S	S			
2.25			S	S	S	S	S	S	S	S		
2.50			S	S	S	S	S	S	S	S	S	
2.75				S	S	S	S	S	S	S		S
3.00				S	S	S	S	S	S	S		SS
3.25				S	S		S	S	S	S		
3.50				S	S	S	S	S	S	S		
3.75				SS	SS		S	S	S	S		
4.00				S	S	S	S	S	S	S	S	SS
4.50				SS	S	S	S	S	S	S	S	
5.00				SS	S	S	S	S	S	S	S	SS
5.50				SS	S		S	S	S	S	S	
6.00				SS	S		S	S	S	S	S	SS
6.50					SS		S	S	S	S	S	
7.00					SS		S	S	S	S	S	SS
7.50				SS			S	S				
8.00					SS		S	S	S	S	S	SS
8.50							SS	SS	SS			
9.00							SS	SS	SS			
10.00							SS	SS	SS			
11.00							SS	SS	SS			
12.00							SS	SS	SS			
13.00									SS			
14.00									S			

S = STANDARD, NORMALLY IN STOCK

SS = SEMI-STANDARD, MAY NOT BE IN STOCK

ORDERING INFORMATION

IBK — SH 4 038 — 16 x 1.00

ADACONN® OR INSERTA®

A = ADACONN®
I = INSERTA®

BOLT KIT

TYPE

SH = SOCKET HEAD CAP SCREW

BOLTS PER BOLT KIT

4 = 4 BOLTS PER BOLT KIT
2 = 2 BOLTS PER BOLT KIT

BOLT LENGTH

1.00 = 1.00 LONG

SIZE-THREADS PER INCH

008-32 = #8-32 050-13= 1/2-13
010-24 = #10-24 063-11= 5/8-11
025-20 = 1/4-20 075-10= 3/4-10
031-18 = 5/16-18 088-9 = 7/8-9
038-16 = 3/8-16 112-7 = 1 1/8-7
044-14 = 7/16-14