

## 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.

 Blue Bell, PA 19422	<b>BOLT REQUIREMENTS</b>		
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## 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	S	SS
3.25				S	S		S	S	S	S	S	
3.50				S	S	S	S	S	S	S	S	
3.75				SS	SS		S	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