

# FASTENER SELECTION

The selection of a Dzus Standard Line assembly is relatively simple to achieve and the following guide may be used for all fastener and spring/welding plates except spring types SB and SC.

The calculation is based on the individual conditions of the application concerned. It is essential that the cumulative dimensions of the structure to be clamped between fastener head and seating of spring or weld plate be taken into account in determining fastener length.

This must include fastener retainer where appropriate (see note 1). Panel thickness 'P' (or depth on return edge panels),

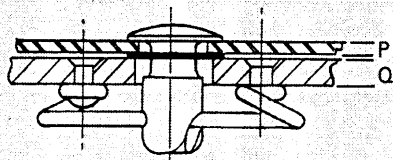
interposed gaskets or sheets, if used, and support thickness 'Q' onto which spring or welding plate is mounted.

Add to this cumulative dimension spring or weld-plate height 'H' and SUBTRACT deflection for appropriate spring type range (see table below). This resultant figure, which is the required fastener 'L' dimension, must have either a one place decimal figure or two place decimal figure of which the second figure must be '5'. For example: .350" (-35 'L' dimension) or .400" (-40 'L' dimension).

**Examples with diagrams** (These are just five of many possible conditions. All calculations are on the same basis. If in doubt consult Dzus).

## AJ4 Fastener, GH4 Grommet, S4 Spring

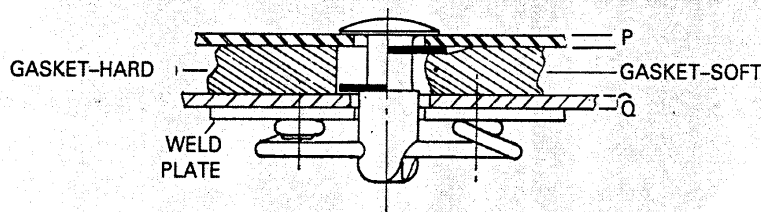
Gap caused between materials by thickness of Retainer.



'P' Panel	: .064
Retainer Thickness	: .025 (Gap GH4) -
'Q' Support	: .080
	: .169
Spring 'H' dim.	: .225 (S4-225)
	: .394
Less deflection	: .044 (see table)
Fastener 'L' dim.	: .350 (AJ4-35)

## AJ5 Fastener, GH5 Grommet, X414 Weld Plate

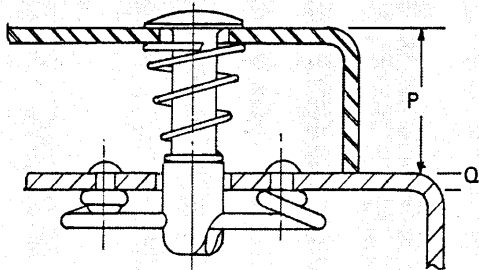
Retainer absorbed in interposed gasket.



'P' Panel	: .064
Gasket	: .125 (Uncompressed
'Q' Support	: .128 (retainer absorbed
	: .317 in gasket)
Weld plate 'H' dim.	: .335 (X414-335)
	: .652
Less deflection	: .052 (see table)
Fastener 'L' dim.	: .600 (AJ5-60)

## AJ5 Fastener, Retaining Spring, S5 Spring

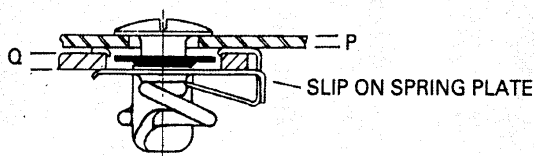
Retaining spring centres fastener nose to facilitate engagement, for long fasteners.



'P' Panel (inc.gap)	: .650
'Q' Support	: .080
	: .730
Spring 'H' dim.	: .200 (S5-200)
	: .930
Less deflection	: .030 (see table)
Fastener 'L' dim.	: .900 (AJ5-90)

## AJ5 Fastener, GP5 Grommet, SL5 Spring Slip

Gap caused between materials by thickness of Retainer.



'P' Panel	: .080
'Q' Support	: .080
	: .160
Spring Slip 'X' dim.	: .280 (SL5-280)
	: .440
Less deflection	: .040 (see table)
Fastener 'L' dim.	: .400 (AJ5-40)

**Special Note** - Applications using metric materials are calculated in exactly the same manner. An example using condition similar to Fig. 1:

'P' Panel	: 1,5 mm
'Q' Support	: 2,0 mm
Convert total	: 3,5 mm = .138"
Retainer Thickness	: .025" (Gap GH4)
	: .163
Spring 'H' dim.	: .225 (S4-225)
	: .388
Less deflection	: .038 (see table)
Fastener 'L' dim.	: .350 (AJ4-35).

### Notes:

- 1 Where support is dimpled or counterbored no gap is caused by retainer.
- 2 Where Retaining Rings are used, hole in support 'Q' must be opened up to accommodate ring diameter.
- 3 In order to achieve gasket compression select higher spring deflection.

**Spring Deflection Table.** Deflection range - 50% + 20% of actual recommended deflection.






To special order

Spring	S3-	S4-	S5-	S6-	S7-
Weld Plate	X735-	X485-	X414-	X441-	X442-
Deflection recommended	.040	.045	.047	.062	.062
Deflection					

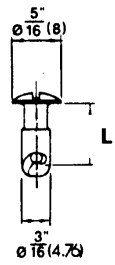
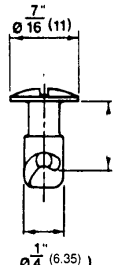
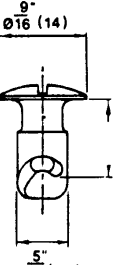
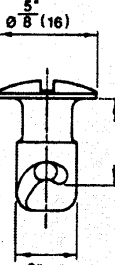
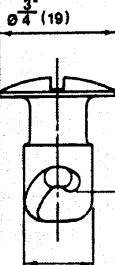
# FASTENER TYPE GUIDE

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1. THE LETTERS DESIGNATE HEAD STYLE
2. FASTENER SIZE – Body diameters expressed in 1/16" increments e.g. size 3=3/16" diameter
3. THE NUMBER – Length of 'L' dimension is variable according to application and shown in 1/100".
4. FOR STUD SELECTION, see page 33

Application	Types					
Thin Panels	Short Undercut	A	AW	BR	F	ASH
General Usage	Long Undercut	AJ	AJW	BJR	FJ	ASHJ

Available special order only

	Size 3	Size 4	Size 5	Size 6	Size 7
					
Normal holding tension locked	20 lbs/9 kg	30 lbs/12 kg	45 lbs/16 kg	55 lbs/25 kg	65 lbs/30 kg
Max. safe load without distortion	45 lbs/20 kg	60 lbs/28 kg	85 lbs/40 kg	110 lbs/50 kg	125 lbs/60 kg
Breaking tension of stud	350 lbs/150 kg	700 lbs/300 kg	1000 lbs/450 kg	1250 lbs/560 kg	1800 lbs/750 kg
Rivet Diameter (Metric Rivet)	3/32" (2,5)	3/32" (2,5)	1/8" (3,0)	1/8" (3,0)	1/8" (3,0)
Rivet Spacing	5/8"	3/4"	1"	1 3/8"	1 7/16"
Minimum Overlap (2 1/2 times body dia. of fastener)	15/32"	5/8"	25/32"	15/16"	1 3/32"

5. SUFFIXES – Denote type of plating or special features

Zinc Plated Passivated	Black Zinc	Chrome Plated	Stainless Steel	Bright Zinc	Non Standard Undercut length	Special Angle
No Suffix	ZBB	KFC	SS	ZBC	B.400*	/180°

\* Dimensions in 1/10 inch as required to special order only

Call up example: BJR5-50-KFC → Chromium Plated  
 → L = 50/100" (.500")  
 → Fastener body diameter in 1/16 inches = 5/16"  
 → Ring Handle  
 → Long undercut

For Released Components, quote QA after the part number. These Components are subject to special quotation, and minimum quantities