

## Advantages of the Camloc 1/4-Turn Fastener

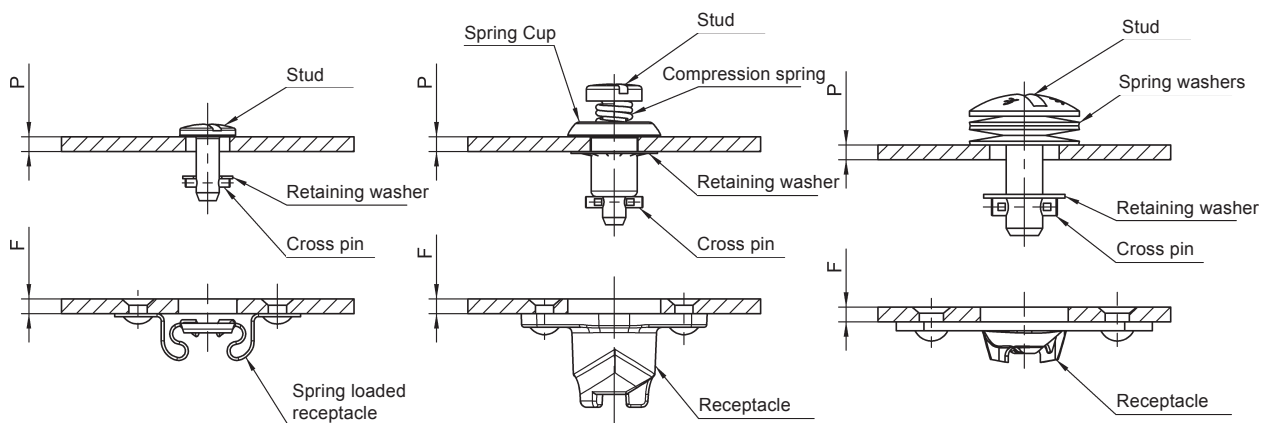
- Secure quick release fastener system
- Locking and unlocking by a quarter turn
- Long life - high number of operating cycles
- Hand or tool-operated
- Easy to use and fast operation reduces assembly costs
- Camloc fasteners are standardised worldwide
- Wide range of sizes
- Stud assemblies are captive in the panel
- Tolerance compensating
- Vibration-resistant

## Components

The 1/4-turn fastener consists of a stud, retaining ring and receptacle.

¼ turn fasteners require a spring element in the joint to enable them to work correctly. Depending upon the fastener type and mounting requirements the spring element can be part of the stud assembly or incorporated in the receptacle.

Stud assemblies with snap-in grommets are available on some series giving a captive assembly without the need for a retaining washer.



## Design Principles

Quarter-turn fasteners connect components under an elastic preload.

The spring element to produce the preload can be part of the stud or receptacle.

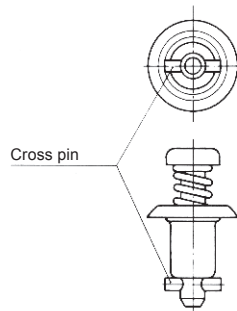
Fastener tensile loads specified in the catalogue are reached after overcoming the spring element generated preload.

Unlike threaded fasteners, Camloc fasteners do not rely on the elasticity of joint and fastener materials to accomplish preload. The stud assembly or receptacle is designed with a spring element which allows repeated application of controlled preload with assured reliability over an high number of cycles.

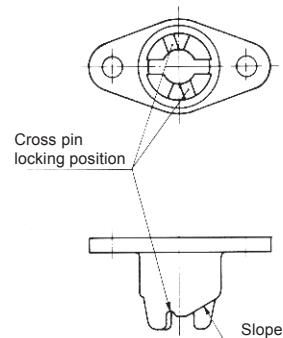
## How it Operates

When the stud assembly is rotated, the stud cross pin rides up the cam causing a controlled joint preload to be applied. This action is accomplished by rotating the stud 90°. At this point a positive mechanical stop is reached and the cross pin falls into the locking detent. Excellent resistance to vibration induced loosening is assured.

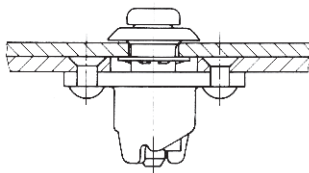
**Stud Assembly**



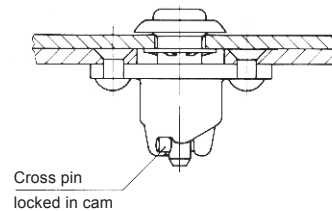
**Receptacle**



**Unlocked**



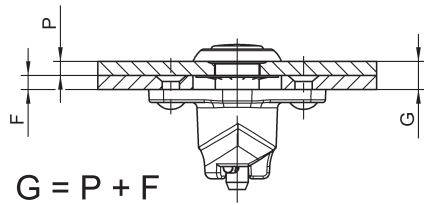
**Locked**



Lock and unlock the stud by a quarter turn.

**For general installation instructions please refer to the next page.**

## Selecting the Fastener

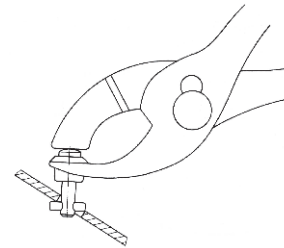
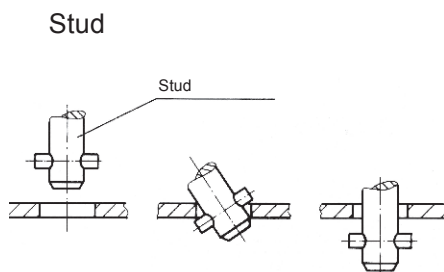


P = panel thickness (stud assembly)

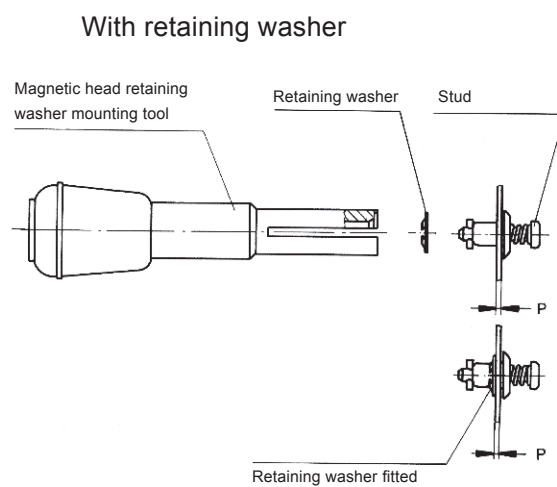
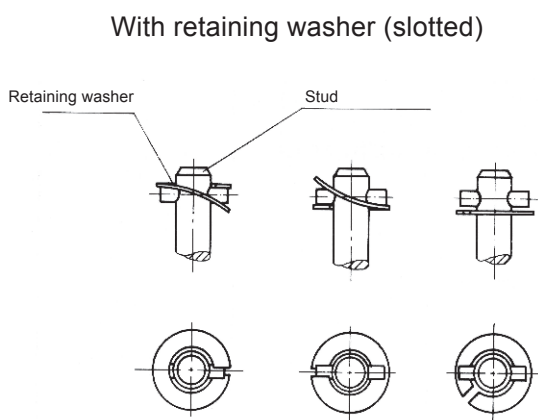
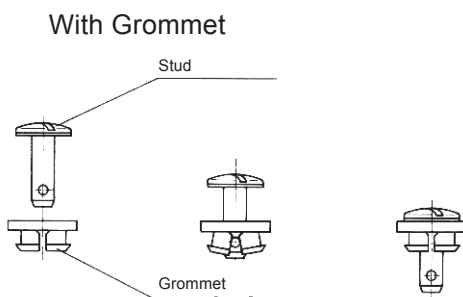
F = frame thickness (receptacle)

G = total thickness, consisting of P + F as well as possible gaskets, paint thickness or gaps. This dimension gives the stud length number in the corresponding series tables.

## Installation



For short, spring-loaded stud assemblies, the use of 4P3-1 pliers is recommended.





## Overview Quick-Operating Fasteners

Series	Max. Tensile Strength*	Working Load*	Slotted Head	Cross Recess Head	Hex Head	Hex Recess Head	Fixed Wing Head	Offset Fixed Wing Head	Folding Bail Handle	Pages
5F	670 N	450 N	X	X						B1-B4
99F	700 N	480 N	X							C1-C3
50F	900 N	650 N	X	X	X	X	X	X	X	D1-D6
2600	1.330 N	900 N	X	X			X			F1-F11
2700	1.330 N	900 N	X	X						F1-F11
50F	3.700 N	2.600 N	X	X	X	X	X	X	X	E1-E6
D4002	4.700 N	3.100 N	X	X		X	X		X	G1-G10
991F	10.000 N	7.000 N			X	X	X	X	X	H1-H5
V936F	300 N	200 N	X							I1-I2
715F	700 N	600 N	X							L1-L3
716F	1.400 N	1.200 N	X							N1-N3
PT10	1.200 N	800 N	X	X						O1-O4
717F	3.000 N	2.500 N	X							N1-N3

Series	Max. Tensile Strength*	Working Load*	Plastic Star Form Head	Plastic Wing Head	Square Head	Knurled Head	Plastic Triangular Head	Folding Wing Head	Push Button	Pages
50F	900 N	650 N	X	X						D1-D6
2600	1.330 N	900 N	X	X		X	X			F1-F11
50F	3.700 N	2.600 N	X	X	X					E1-E6
991F	10.000 N	7.000 N						X		H1-H5
15F	1.330 N	930 N							X	K1-K3
V936F	300 N	200 N				X				I1-I2
715F	700 N	600 N				X				L1-L3
716F	1.400 N	1.200 N				X				M1-M3
PT10	1.200 N	800 N		X						O1-O4
717F	3.000 N	2.500 N				X				N1-N3

\* Load limitations within series are possible. Please check the footnotes on the relevant catalogue pages.