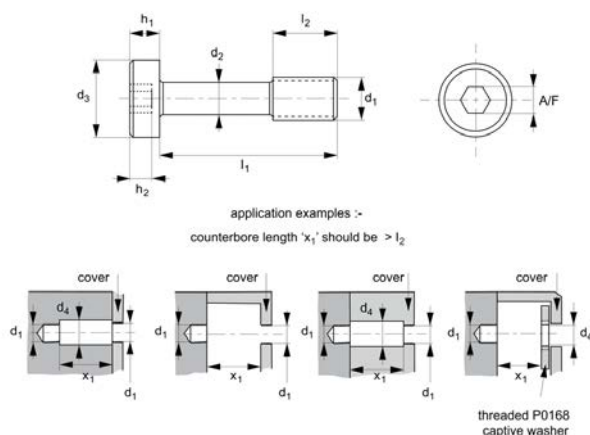




Captive Screws - Cheese Head

hex drive - 303 stainless

Captive Screws



MADE IN BRITAIN

36681

CAPTIVE SCREWS

Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm². Proof stress min. 190 N/mm², austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 1207. Often used with our captive washers (36691) or retaining flanges (36692 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

Important Notes

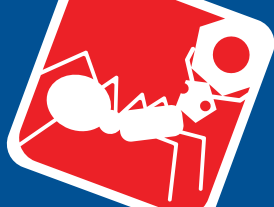
Please note that these screws have a

reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d₁.

Order No.	d ₁	l ₁ ±0.25	d ₂ ±0.12	d ₃	d ₄ min.	h ₁	h ₂	l ₂ ±0.25	A/F
36681.W2010	M 2	10	1.2	3.8	2.5	1.3	0.85	3.0	1.3
36681.W2012	M 2	12	1.2	3.8	2.5	1.3	0.85	3.0	1.3
36681.W2016	M 2	16	1.2	3.8	2.5	1.3	0.85	3.0	1.3
36681.W2020	M 2	20	1.2	3.8	2.5	1.3	0.85	3.0	1.3
36681.W2510	M 2,5	10	1.7	4.5	2.8	1.6	1.00	3.7	1.5
36681.W2516	M 2,5	16	1.7	4.5	2.8	1.6	1.00	3.7	1.5
36681.W2520	M 2,5	20	1.7	4.5	2.8	1.6	1.00	3.7	1.5
36681.W2525	M 2,5	25	1.7	4.5	2.8	1.6	1.00	3.7	1.5
36681.W2530	M 2,5	30	1.7	4.5	2.8	1.6	1.00	3.7	1.5
36681.W3010	M 3	10	2.0	5.5	3.5	2.0	1.30	4.5	2
36681.W3011	M 3	11	2.0	5.5	3.5	2.0	1.30	4.5	2
36681.W3013	M 3	13	2.0	5.5	3.5	2.0	1.30	4.5	2
36681.W3016	M 3	16	2.0	5.5	3.5	2.0	1.30	4.5	2
36681.W3018	M 3	18	2.0	5.5	3.5	2.0	1.30	4.5	2
36681.W3020	M 3	20	2.0	5.5	3.5	2.0	1.30	4.5	2
36681.W3025	M 3	25	2.0	5.5	3.5	2.0	1.30	4.5	2
36681.W3030	M 3	30	2.0	5.5	3.5	2.0	1.30	4.5	2
36681.W3040	M 3	40	2.0	5.5	3.5	2.0	1.30	4.5	2
36681.W3510	M 3,5	10	2.3	6.0	3.8	2.4	1.4	5.2	2.5
36681.W3516	M 3,5	16	2.3	6.0	3.8	2.4	1.4	5.2	2.5
36681.W3520	M 3,5	20	2.3	6.0	3.8	2.4	1.4	5.2	2.5
36681.W3525	M 3,5	25	2.3	6.0	3.8	2.4	1.4	5.2	2.5
36681.W3530	M 3,5	30	2.3	6.0	3.8	2.4	1.4	5.2	2.5
36681.W3540	M 3,5	40	2.3	6.0	3.8	2.4	1.4	5.2	2.5
36681.W4012	M 4	12	2.8	7.0	4.5	2.6	1.6	6.0	2.5
36681.W4016	M 4	16	2.8	7.0	4.5	2.6	1.6	6.0	2.5
36681.W4018	M 4	18	2.8	7.0	4.5	2.6	1.6	6.0	2.5
36681.W4019	M 4	19	2.8	7.0	4.5	2.6	1.6	6.0	2.5



Order No.	d ₁	l ₁ ±0.25	d ₂ ±0.12	d ₃	d ₄ min.	h ₁	h ₂	l ₂ ±0.25	A/F
36681.W4020	M 4	20	2.8	7.0	4.5	2.6	1.6	6.0	2.5
36681.W4025	M 4	25	2.8	7.0	4.5	2.6	1.6	6.0	2.5
36681.W4030	M 4	30	2.8	7.0	4.5	2.6	1.6	6.0	2.5
36681.W4040	M 4	40	2.8	7.0	4.5	2.6	1.6	6.0	2.5
36681.W4050	M 4	50	2.8	7.0	4.5	2.6	1.6	6.0	2.5
36681.W4060	M 4	60	2.8	7.0	4.5	2.6	1.6	6.0	2.5
36681.W5012	M 5	12	3.7	8.5	5.5	3.3	2.0	7.5	3
36681.W5016	M 5	16	3.7	8.5	5.5	3.3	2.0	7.5	3
36681.W5020	M 5	20	3.7	8.5	5.5	3.3	2.0	7.5	3
36681.W5022	M 5	22	3.7	8.5	5.5	3.3	2.0	7.5	3
36681.W5025	M 5	25	3.7	8.5	5.5	3.3	2.0	7.5	3
36681.W5030	M 5	30	3.7	8.5	5.5	3.3	2.0	7.5	3
36681.W5040	M 5	40	3.7	8.5	5.5	3.3	2.0	7.5	3
36681.W5050	M 5	50	3.7	8.5	5.5	3.3	2.0	7.5	3
36681.W5060	M 5	60	3.7	8.5	5.5	3.3	2.0	7.5	3
36681.W5080	M 5	80	3.7	8.5	5.5	3.3	2.0	7.5	3
36681.W6016	M 6	16	4.2	10.0	6.5	3.9	2.3	7.5	4
36681.W6020	M 6	20	4.2	10.0	6.5	3.9	2.3	7.5	4
36681.W6025	M 6	25	4.2	10.0	6.5	3.9	2.3	7.5	4
36681.W6030	M 6	30	4.2	10.0	6.5	3.9	2.3	7.5	4
36681.W6040	M 6	40	4.2	10.0	6.5	3.9	2.3	7.5	4
36681.W6050	M 6	50	4.2	10.0	6.5	3.9	2.3	7.5	4
36681.W6060	M 6	60	4.2	10.0	6.5	3.9	2.3	7.5	4
36681.W6080	M 6	80	4.2	10.0	6.5	3.9	2.3	7.5	4



Captive Screws - Cap Head

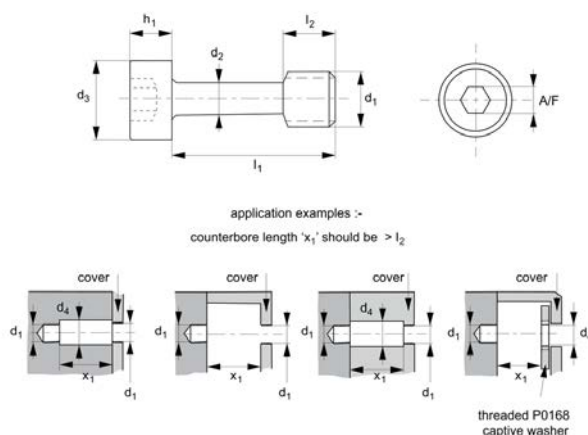
hex drive - 303 stainless

Captive Screws



36682

CAPTIVE SCREWS



Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm². Proof stress min. 190 N/mm², austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 4762. Often used with our captive washers (36691) or retaining flanges (36692 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

Tips

TX drive style also available.

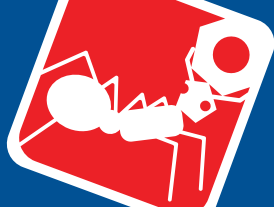
Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d₁.

Order No.	d ₁	l ₁ ±0.25	d ₂ ±0.12	d ₃ max.	d ₄ min.	h ₁ max.	h ₂	l ₂ ±0.25	A/F	Drive #
36682.W0205	M 2,5	5	1.8	4.5	2.8	2.5	-	3.0	2	-
36682.W0208	M 2,5	8	1.8	4.5	2.8	2.5	-	3.0	2	-
36682.W0210	M 2,5	10	1.8	4.5	2.8	2.5	-	3.0	2	-
36682.W0212	M 2,5	12	1.8	4.5	2.8	2.5	-	3.0	2	-
36682.W0308	M 3	8	2.0	5.5	3.5	3.0	-	4.5	2.5	-
36682.W0310	M 3	10	2.0	5.5	3.5	3.0	-	4.5	2.5	-
36682.W0312	M 3	12	2.0	5.5	3.5	3.0	-	4.5	2.5	-
36682.W0316	M 3	16	2.0	5.5	3.5	3.0	-	4.5	2.5	-
36682.W0320	M 3	20	2.0	5.5	3.5	3.0	-	4.5	2.5	-
36682.W0325	M 3	25	2.0	5.5	3.5	3.0	-	4.5	2.5	-
36682.W0330	M 3	30	2.0	5.5	3.5	3.0	-	4.5	2.5	-
36682.W0412	M 4	12	2.8	7.0	4.5	4.0	-	6.0	3	-
36682.W0416	M 4	16	2.8	7.0	4.5	4.0	-	6.0	3	-
36682.W0420	M 4	20	2.8	7.0	4.5	4.0	-	6.0	3	-
36682.W0425	M 4	25	2.8	7.0	4.5	4.0	-	6.0	3	-
36682.W0430	M 4	30	2.8	7.0	4.5	4.0	-	6.0	3	-
36682.W0440	M 4	40	2.8	7.0	4.5	4.0	-	6.0	3	-
36682.W0450	M 4	50	2.8	7.0	4.5	4.0	-	6.0	3	-
36682.W0512	M 5	12	3.7	8.5	5.5	5.0	-	7.5	4	-
36682.W0516	M 5	16	3.7	8.5	5.5	5.0	-	7.5	4	-
36682.W0520	M 5	20	3.7	8.5	5.5	5.0	-	7.5	4	-
36682.W0525	M 5	25	3.7	8.5	5.5	5.0	-	7.5	4	-
36682.W0530	M 5	30	3.7	8.5	5.5	5.0	-	7.5	4	-
36682.W0535	M 5	35	3.7	8.5	5.5	5.0	-	7.5	4	-
36683.W0311	M 3	10	2.0	5.6	4.5	2.4	0.74	4.5	-	1
36682.W0540	M 5	40	3.7	8.5	5.5	5.0	-	7.5	4	-



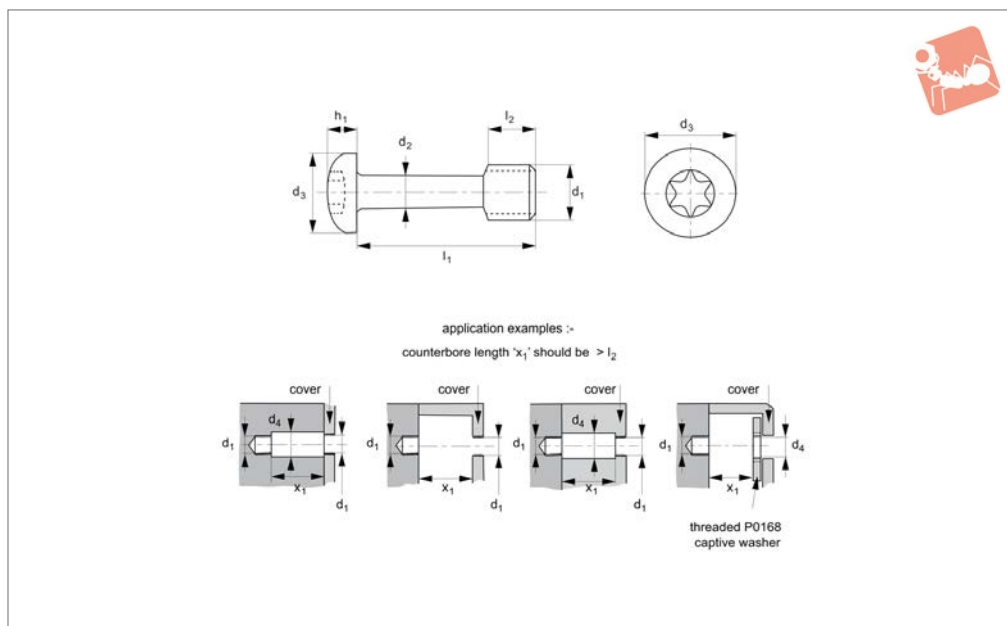
Order No.	d ₁	l ₁ ±0.25	d ₂ ±0.12	d ₃ max.	d ₄ min.	h ₁ max.	h ₂	l ₂ ±0.25	A/F	Drive #
36682.W0550	M 5	50	3.7	8.5	5.5	5.0	-	7.5	4	-
36682.W0612	M 6	12	4.2	10.0	6.5	6.0	-	7.5	5	-
36682.W0616	M 6	16	4.2	10.0	6.5	6.0	-	7.5	5	-
36682.W0620	M 6	20	4.2	10.0	6.5	6.0	-	7.5	5	-
36682.W0625	M 6	25	4.2	10.0	6.5	6.0	-	7.5	5	-
36682.W0630	M 6	30	4.2	10.0	6.5	6.0	-	7.5	5	-
36682.W0640	M 6	40	4.2	10.0	6.5	6.0	-	7.5	5	-
36682.W0650	M 6	50	4.2	10.0	6.5	6.0	-	7.5	5	-
36682.W0660	M 6	60	4.2	10.0	6.5	6.0	-	7.5	5	-
36682.W0680	M 6	80	4.2	10.0	6.5	6.0	-	7.5	5	-
36682.W0816	M 8	16	6.0	13.0	8.5	8.0	-	10.0	6	-
36682.W0820	M 8	20	6.0	13.0	8.5	8.0	-	10.0	6	-
36682.W0825	M 8	25	6.0	13.0	8.5	8.0	-	10.0	6	-
36682.W0830	M 8	30	6.0	13.0	8.5	8.0	-	10.0	6	-
36682.W0835	M 8	35	6.0	13.0	8.5	8.0	-	10.0	6	-
36682.W0840	M 8	40	6.0	13.0	8.5	8.0	-	10.0	6	-
36682.W0845	M 8	45	6.0	13.0	8.5	8.0	-	10.0	6	-
36682.W0850	M 8	50	6.0	13.0	8.5	8.0	-	10.0	6	-
36682.W0860	M 8	60	6.0	13.0	8.5	8.0	-	10.0	6	-
36682.W0880	M 8	80	6.0	13.0	8.5	8.0	-	10.0	6	-
36682.W1020	M10	20	7.5	16.0	10.6	10.0	-	12.5	8	-
36682.W1025	M10	25	7.5	16.0	10.6	10.0	-	12.5	8	-
36682.W1030	M10	30	7.5	16.0	10.6	10.0	-	12.5	8	-
36682.W1035	M10	35	7.5	16.0	10.6	10.0	-	12.5	8	-
36682.W1040	M10	40	7.5	16.0	10.6	10.0	-	12.5	8	-
36682.W1045	M10	45	7.5	16.0	10.6	10.0	-	12.5	8	-
36682.W1050	M10	50	7.5	16.0	10.6	10.0	-	12.5	8	-
36682.W1060	M10	60	7.5	16.0	10.6	10.0	-	12.5	8	-
36682.W1080	M10	80	7.5	16.0	10.6	10.0	-	12.5	8	-
36682.W1225	M12	25	8.0	18.0	13.2	12.0	-	15.0	10	-
36682.W1230	M12	30	8.0	18.0	13.2	12.0	-	15.0	10	-
36682.W1235	M12	35	8.0	18.0	13.2	12.0	-	15.0	10	-
36682.W1240	M12	40	8.0	18.0	13.2	12.0	-	15.0	10	-
36682.W1245	M12	45	8.0	18.0	13.2	12.0	-	15.0	10	-
36682.W1250	M12	50	8.0	18.0	13.2	12.0	-	15.0	10	-
36682.W1260	M12	60	8.0	18.0	13.2	12.0	-	15.0	10	-
36682.W1280	M12	80	8.0	18.0	13.2	12.0	-	15.0	10	-



Captive Screws - Pan Head

TX drive - 303 stainless

Captive Screws



36683

CAPTIVE SCREWS

Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm². Proof stress min. 190 N/mm², austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 14583. Often used with our captive washers (36691) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

*M 8 sizes have a reduced TX size.

reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d₁.

Important Notes

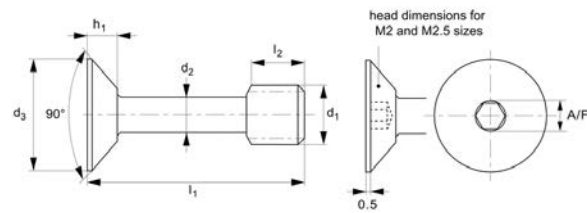
Please note that these screws have a

Order No.	d ₁	l ₁ ±0.25	d ₂ ±0.12	d ₃ max.	d ₄ min.	h ₁ max.	l ₂ ±0.25	TX size
36683.W0310	M 3	10	2.0	6	3.5	2.5	4.5	TX-10
36683.W0316	M 3	16	2.0	6	3.5	2.5	4.5	TX-10
36683.W0320	M 3	20	2.0	6	3.5	2.5	4.5	TX-10
36683.W0325	M 3	25	2.0	6	3.5	2.5	4.5	TX-10
36683.W0330	M 3	30	2.0	6	3.5	2.5	4.5	TX-10
36683.W0412	M 4	12	2.8	8	4.5	3.2	6.0	TX-20
36683.W0416	M 4	16	2.8	8	4.5	3.2	6.0	TX-20
36683.W0420	M 4	20	2.8	8	4.5	3.2	6.0	TX-20
36683.W0430	M 4	30	2.8	8	4.5	3.2	6.0	TX-20
36683.W0440	M 4	40	2.8	8	4.5	3.2	6.0	TX-20
36683.W0450	M 4	50	2.8	8	4.5	3.2	6.0	TX-20
36683.W0512	M 5	12	3.7	10	5.5	3.9	7.5	TX-25
36683.W0516	M 5	16	3.7	10	5.5	3.9	7.5	TX-25
36683.W0530	M 5	30	3.7	10	5.5	3.9	7.5	TX-25
36683.W0540	M 5	40	3.7	10	5.5	3.9	7.5	TX-25
36683.W0550	M 5	50	3.7	10	5.5	3.9	7.5	TX-25
36683.W0612	M 6	12	4.2	12	6.5	4.7	7.5	TX-30
36683.W0616	M 6	16	4.2	12	6.5	4.7	7.5	TX-30
36683.W0620	M 6	20	4.2	12	6.5	4.7	7.5	TX-30
36683.W0630	M 6	30	4.2	12	6.5	4.7	7.5	TX-30
36683.W0640	M 6	40	4.2	12	6.5	4.7	7.5	TX-30
36683.W0650	M 6	50	4.2	12	6.5	4.7	7.5	TX-30
36683.W0660	M 6	60	4.2	12	6.5	4.7	7.5	TX-30

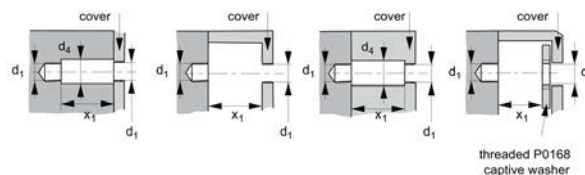


36684

MADE IN
BRITAIN



application examples :-
counterbore length 'x₁' should be > l₂



Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm². Proof stress min. 190 N/mm², austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), brass, aluminium etc.

Technical Notes

Used to comply with the Machinery Direc-

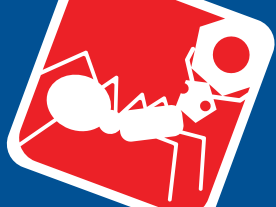
tive 2006/42/EC. Often used with our captive washers (36691) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

Important Notes

Please note that these screws have a reduced diameter shank and should not be

tightened to the recommended torque for an equivalent machine screw of size d₁. To accommodate the slight undercut at the top of the shank, the hex socket is smaller than on a similar threaded machine screw.

Order No.	d ₁	l ₁ ±0.25	d ₂ ±0.12	d ₃ max.	d ₄ min.	h ₁ max.	l ₂ ±0.25	A/F
36684.W0210	M 2	10	1.2	3.8	2.5	1.20	3.5	1.0
36684.W0212	M 2	12	1.2	3.8	2.5	1.20	3.5	1.0
36684.W0216	M 2	16	1.2	3.8	2.5	1.20	3.5	1.0
36684.W0220	M 2	20	1.2	3.8	2.5	1.20	3.5	1.0
36684.W0251	M 2,5	10	1.7	4.7	2.8	1.80	3.7	1.3
36684.W0252	M 2,5	12	1.7	4.7	2.8	1.80	3.7	1.3
36684.W0253	M 2,5	16	1.7	4.7	2.8	1.80	3.7	1.3
36684.W0254	M 2,5	20	1.7	4.7	2.8	1.80	3.7	1.3
36684.W0310	M 3	10	2.0	5.6	3.5	1.65	4.5	1.5
36684.W0316	M 3	16	2.0	5.6	3.5	1.65	4.5	1.5
36684.W0320	M 3	20	2.0	5.6	3.5	1.65	4.5	1.5
36684.W0325	M 3	25	2.0	5.6	3.5	1.65	4.5	1.5
36684.W0330	M 3	30	2.0	5.6	3.5	1.65	4.5	1.5
36684.W0340	M 3	40	2.0	5.6	3.5	1.65	4.5	1.5
36684.W0412	M 4	12	2.8	7.5	4.5	2.20	6.0	2.0
36684.W0416	M 4	16	2.8	7.5	4.5	2.20	6.0	2.0
36684.W0420	M 4	20	2.8	7.5	4.5	2.20	6.0	2.0
36684.W0430	M 4	30	2.8	7.5	4.5	2.20	6.0	2.0
36684.W0440	M 4	40	2.8	7.5	4.5	2.20	6.0	2.0
36684.W0450	M 4	50	2.8	7.5	4.5	2.20	6.0	2.0
36684.W0460	M 4	60	2.8	7.5	4.5	2.20	6.0	2.0
36684.W0512	M 5	12	3.7	9.2	5.5	2.50	7.5	2.5
36684.W0516	M 5	16	3.7	9.2	5.5	2.50	7.5	2.5
36684.W0520	M 5	20	3.7	9.2	5.5	2.50	7.5	2.5
36684.W0525	M 5	25	3.7	9.2	5.5	2.50	7.5	2.5
36684.W0530	M 5	30	3.7	9.2	5.5	2.50	7.5	2.5
36684.W0540	M 5	40	3.7	9.2	5.5	2.50	7.5	2.5
36684.W0550	M 5	50	3.7	9.2	5.5	2.50	7.5	2.5



Captive Screws - Countersunk

hex drive - 303 stainless



Captive Screws

Order No.	d ₁	l ₁ ±0.25	d ₂ ±0.12	d ₃ max.	d ₄ min.	h ₁ max.	l ₂ ±0.25	A/F
36684.W0560	M 5	60	3.7	9.2	5.5	2.50	7.5	2.5
36684.W0616	M 6	16	4.2	11.0	6.5	3.00	8.0	3.0
36684.W0620	M 6	20	4.2	11.0	6.5	3.00	8.0	3.0
36684.W0625	M 6	25	4.2	11.0	6.5	3.00	8.0	3.0
36684.W0630	M 6	30	4.2	11.0	6.5	3.00	8.0	3.0
36684.W0640	M 6	40	4.2	11.0	6.5	3.00	8.0	3.0
36684.W0650	M 6	50	4.2	11.0	6.5	3.00	8.0	3.0
36684.W0660	M 6	60	4.2	11.0	6.5	3.00	8.0	3.0
36684.W0820	M 8	20	6.0	15.0	8.5	4.10	10.0	4.0

CAPTIVE SCREWS



Coatings and Drive Types

Coatings

Wixroyd produce a wide range of fasteners designed for application where it is important that fasteners are not separated from equipment (e.g. cover panels etc). This is now important to ensure that equipment complies with Machinery Directive 200642/EC - requiring that fasteners remain attached to fixed guards or equipment when guards are removed.

Our captive panel screws are manufactured mainly from stainless steel (AISI 303, 1.4305 grade), but they can also be produced in stainless steel (A4, AISI 316), aluminium, brass or zinc plated steel.

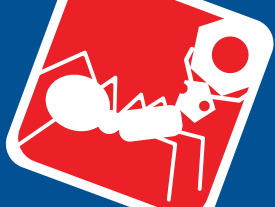
Many finishes can be applied - black oxide finish, anodizing etc.

The main options are as follows:

Finish	Notes
Black Chrome (MIL-C-1458B)	Black chrome is a hard, non-reflective coating which is resistant to abrasion, heat and corrosion. The black chrome surface is a dull, dark grey and may be waxed or oiled to darken surface.
Black Oxide Coating (MIL-C-13924B)	Black oxide is a uniform black coating for ferrous metals. Generally it is considered a decorative coating and provides only very limited corrosion protection under mild corrosion conditions.
Cadmium	Cadmium is a bright, silvery white plating. Supplementary treatments for Type II can be golden, iridescent, amber, black or olive drab.
Passivate (QQ-P-35/MIL S-500SC)	Passivation is a process designed to remove foreign metals from the surface of stainless and corrosion resistant steels.
Phosphate Coating Light (TT-C-00490B)	Phosphate coating is a light coating for use as a base paint.
Gold (MIL-G-45204B)	Yellow to orange colour depending on proprietary process used. Will range from matt to bright finish depending on base metal. Good corrosion resistance and high tarnish resistance.
Nickel (QQ-N-290A)	Nickel is a corrosion protective plating for steel, zinc and zinc alloys as well as copper and copper alloys.
Zinc (QQ-Z-325C)	The primary use of chromate finishes on zinc is to retard or prevent formation of white corrosion products on zinc surfaces.

Drive Types

Schematic	Drive Types	Uses
	Hexagonal	Ideal for precision assembly. Most recommended where less surface area is available.
	Crosshead (Phillips®)	Provides good control in driving. Always use a driver bit of the proper size which is in good condition.
	Hexalobular (Torx®)	Positive-engaging, fast-locating method which transmits drive torque with less required downward pressure. Good fastening appearance.
	Slotted	Accepts standard blade screwdriver. Requires less downward pressure to drive parts than those with recessed openings. Use a proper fitting blade to minimize slippage.
	Security	These screws are impossible to remove without the special matching screw driver.



Wixroyd Captive Screws

ordering options

36681 - 36692

Positioning Elements



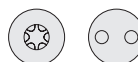
36681 - Cap head - hex. socket



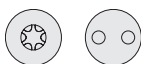
36682 - Cap head - hex. socket
Security and Torx® options



36683 - Pan Head - Phillips®
Security and Torx® options



36684 - Countersunk - hex. socket
Security and Torx® options



36686 - Thin head thumb screw



36687 - Thumb screw



36691 - Threaded captive washers



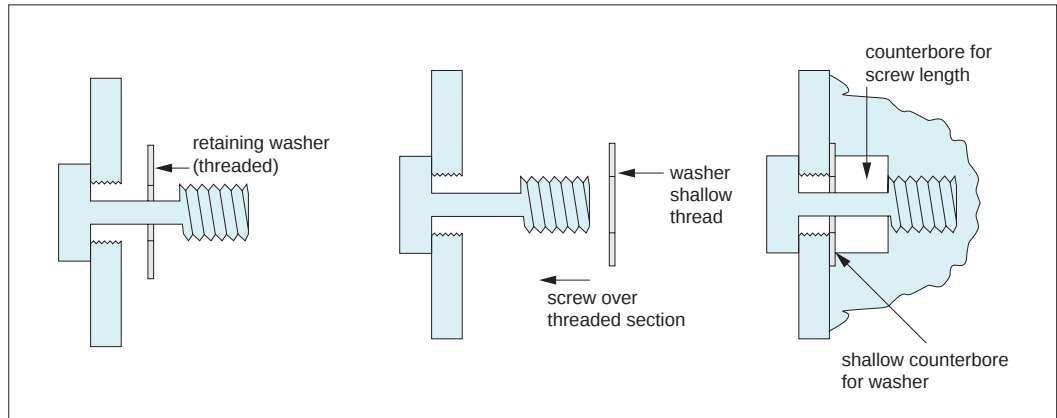
36692 - Retainer flanges



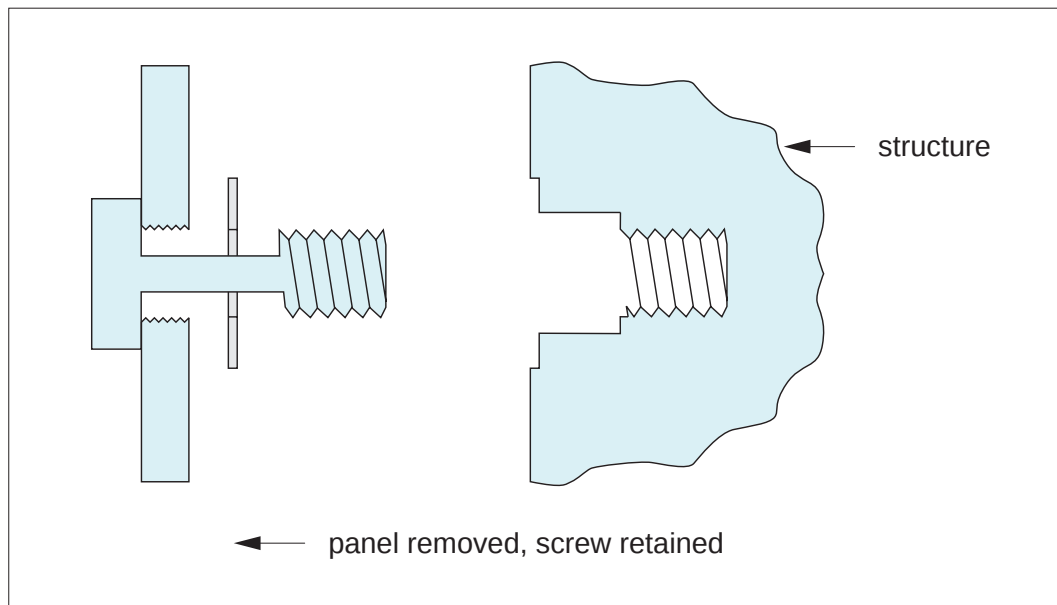
One option to retain screws to panels are our retaining washers. Used in place of retainer flanges, retaining washers are simple but effective when used with our captive screws. The captive screws have a normal thread then a reduced diameter for the rest of the screw length.

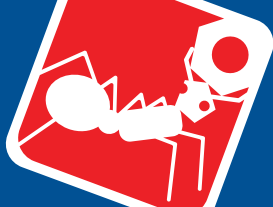
The retaining washer has a small length of thread on the internal diameter and once screwed on to the captive screw is effectively captive.

Example



Screw the thin retaining washer onto the captive screw and the screw is therefore retained to the panel.





Captive Thumb Screws

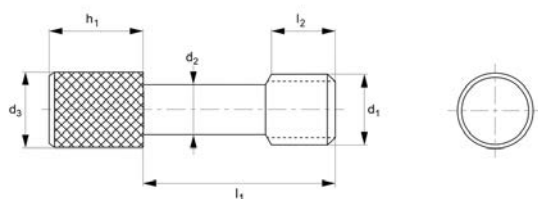
303 stainless

Captive Screws

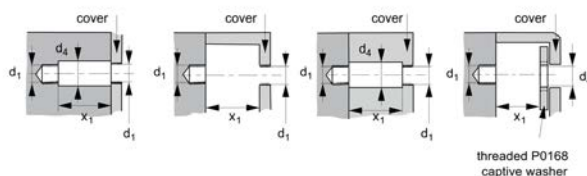


36686

CAPTIVE SCREWS



application examples :-
counterbore length 'x₁' should be > l₂



threaded P0168
captive washer

Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm². Proof stress min. 190 N/mm², austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washers (36691) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

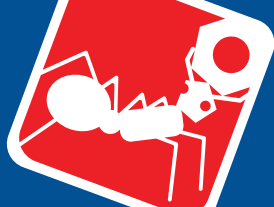
Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d₁.

Order No.	d ₁	d ₂ ±0.12	l ₁ ±0.25	l ₂ ±0.25	d ₃	d ₄ min.	h ₁
36686.W0316	M 3	2.0	16	8.0	5	3.5	10
36686.W0320	M 3	2.0	20	10.0	5	3.5	10
36686.W0325	M 3	2.0	25	12.5	5	3.5	10
36686.W0330	M 3	2.0	30	15.0	5	3.5	10
36686.W0335	M 3	2.0	35	17.5	5	3.5	10
36686.W0340	M 3	2.0	40	20.0	5	3.5	10
36686.W0350	M 3	2.0	50	25.0	5	3.5	10
36686.W0351	M 3,5	2.3	16	8.0	5	3.8	10
36686.W0352	M 3,5	2.3	20	10.0	5	3.8	10
36686.W0353	M 3,5	2.3	25	12.5	5	3.8	10
36686.W0354	M 3,5	2.3	30	15.0	5	3.8	10
36686.W0355	M 3,5	2.3	35	17.5	5	3.8	10
36686.W0356	M 3,5	2.3	40	20.0	5	3.8	10
36686.W0357	M 3,5	2.3	50	25.0	5	3.8	10
36686.W0416	M 4	2.8	16	8.0	5	4.5	10
36686.W0420	M 4	2.8	20	10.0	5	4.5	10
36686.W0425	M 4	2.8	25	12.5	5	4.5	10
36686.W0430	M 4	2.8	30	15.0	5	4.5	10
36686.W0435	M 4	2.8	35	17.5	5	4.5	10
36686.W0440	M 4	2.8	40	20.0	5	4.5	10
36686.W0450	M 4	2.8	50	25.0	5	4.5	10
36686.W0516	M 5	3.7	16	8.0	6	5.5	12
36686.W0520	M 5	3.7	20	10.0	6	5.5	12
36686.W0525	M 5	3.7	25	12.5	6	5.5	12
36686.W0530	M 5	3.7	30	15.0	6	5.5	12
36686.W0535	M 5	3.7	35	17.5	6	5.5	12
36686.W0540	M 5	3.7	40	24.0	6	5.5	12
36686.W0550	M 5	3.7	50	25.0	6	5.5	12
36686.W0616	M 6	4.2	16	8.0	8	6.5	12



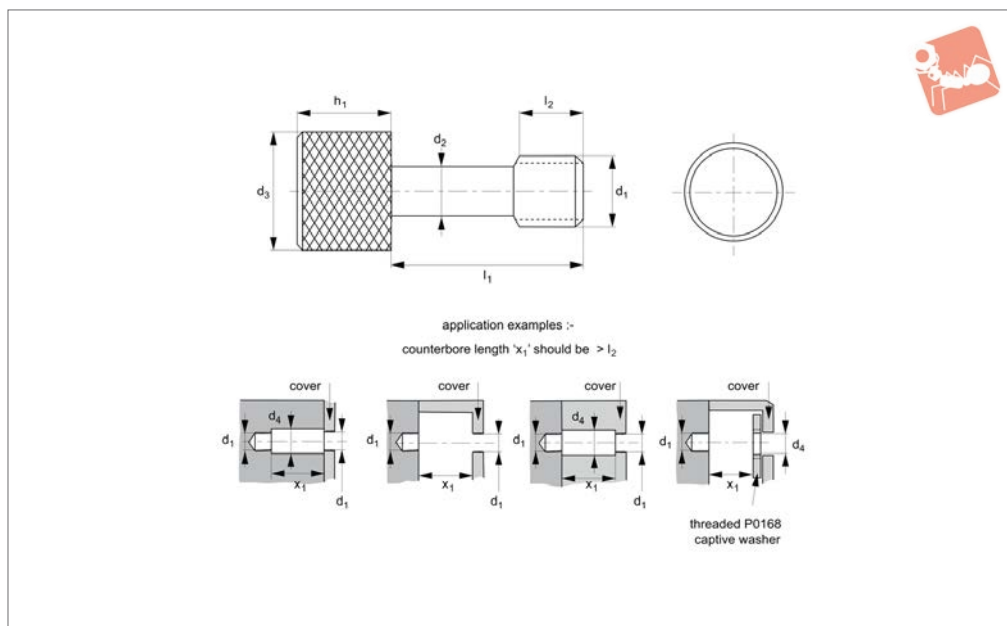
Order No.	d ₁	d ₂ ±0.12	l ₁ ±0.25	l ₂ ±0.25	d ₃	d ₄ min.	h ₁
36686.W0620	M 6	4.2	20	10.0	8	6.5	12
36686.W0625	M 6	4.2	25	12.5	8	6.5	12
36686.W0630	M 6	4.2	30	15.0	8	6.5	12
36686.W0635	M 6	4.2	35	17.5	8	6.5	12
36686.W0640	M 6	4.2	40	20.0	8	6.5	12
36686.W0650	M 6	4.2	50	25.0	8	6.5	12



Captive Thumb Screws

303 stainless

Captive Screws



36687

CAPTIVE SCREWS

Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm². Proof stress min. 190 N/mm², austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (36691) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer should be considered when fitted in panels with unthreaded holes.

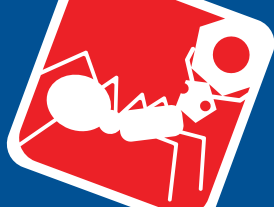
Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d₁.

Order No.	d ₁	d ₂ ±0.12	l ₁ ±0.25	l ₂ ±0.25	d ₃	d ₄ min.	h ₁
36687.W3008	M 3	2.0	8	4.5	8	3.5	5
36687.W3010	M 3	2.0	10	4.5	8	3.5	5
36687.W3012	M 3	2.0	12	4.5	8	3.5	5
36687.W3014	M 3	2.0	14	4.5	8	3.5	5
36687.W3016	M 3	2.0	16	4.5	8	3.5	5
36687.W3508	M 3,5	2.3	8	6.0	8	3.8	5
36687.W3510	M 3,5	2.3	10	6.0	8	3.8	5
36687.W3512	M 3,5	2.3	12	6.0	8	3.8	5
36687.W3514	M 3,5	2.3	14	6.0	8	3.8	5
36687.W3516	M 3,5	2.3	16	6.0	8	3.8	5
36687.W4010	M 4	2.8	10	6.0	10	4.5	5
36687.W4012	M 4	2.8	12	6.0	10	4.5	5
36687.W4014	M 4	2.8	14	6.0	10	4.5	5
36687.W4016	M 4	2.8	16	6.0	10	4.5	5
36687.W4018	M 4	2.8	18	6.0	10	4.5	5
36687.W4020	M 4	2.8	20	6.0	10	4.5	5
36687.W4025	M 4	2.8	25	6.0	10	4.5	5
36687.W5010	M 5	3.7	10	7.5	10	5.5	5
36687.W5012	M 5	3.7	12	7.5	10	5.5	5
36687.W5014	M 5	3.7	14	7.5	10	5.5	5
36687.W5016	M 5	3.7	16	7.5	10	5.5	5
36687.W5018	M 5	3.7	18	7.5	10	5.5	5
36687.W5020	M 5	3.7	20	7.5	10	5.5	5
36687.W5025	M 5	3.7	25	7.5	10	5.5	5
36687.W5030	M 5	3.7	30	7.5	10	5.5	5
36687.W6013	M 6	4.5	12	7.5	12	6.5	6
36687.W6014	M 6	4.5	14	7.5	12	6.5	6
36687.W6016	M 6	4.5	16	7.5	12	6.5	6
36687.W6018	M 6	4.5	18	7.5	12	6.5	6



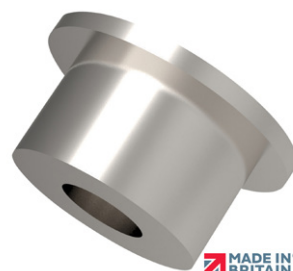
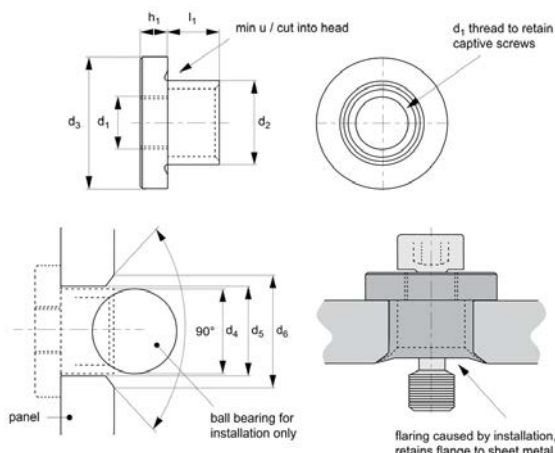
Order No.	d ₁	d ₂ ±0.12	l ₁ ±0.25	l ₂ ±0.25	d ₃	d ₄ min.	h ₁
36687.W6020	M 6	4.5	20	7.5	12	6.5	6
36687.W6025	M 6	4.5	25	7.5	12	6.5	6
36687.W6030	M 6	4.5	30	7.5	12	6.5	6



Captive Screws - Retainer Flange

303 stainless

Captive Screws



36692

CAPTIVE SCREWS

Material

Stainless steel (AISI 303, 1.4305).
Also available on request in steel
(anodised, black oxide or zinc plated)
stainless steel (AISI 316, 1.440), brass.

Technical Notes

Select the retainer flange to suit thread of

the captive screw and the thickness of the
panel to be retained.

Drill and countersink hole in the panel and
use the ball bearing supplied to spread the
flange into the countersunk hole.

The captive screw is then screwed into the
flange and the screw is retained to the

panel.

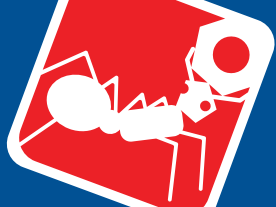
Tips

Mounting hole diameter to H9 clearance.
Countersunk d_6 to 90° .

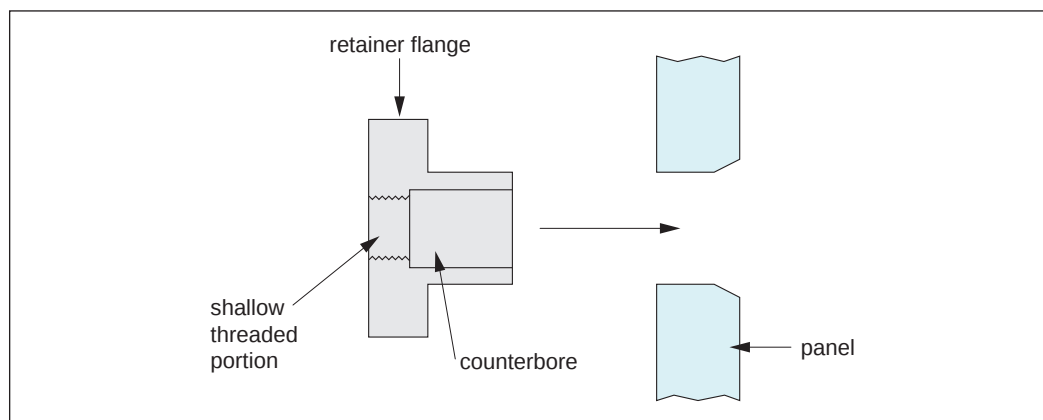
Order No.	For thread d_1	Panel t_1 $\pm 8\%$	d_2	h_1	l_1	d_3	Installation ball dia. d_4	d_5 tol. H9	d_6	Sheet metal gauge
36692.W3007	M 3	0.70	5.0	1.5	0.70	7.5	5	5.0	6.0	22
36692.W3009	M 3	0.90	5.0	1.5	0.90	7.5	5	5.0	6.0	20
36692.W3012	M 3	1.25	5.0	1.5	1.25	7.5	5	5.0	6.0	18
36692.W3015	M 3	1.50	5.0	1.5	1.50	7.5	5	5.0	6.0	16
36692.W3020	M 3	2.00	5.0	1.5	2.00	7.5	5	5.0	6.0	14
36692.W3025	M 3	2.50	5.0	1.5	2.50	7.5	5	5.0	6.0	12
36692.W3030	M 3	3.00	5.0	1.5	3.00	7.5	5	5.0	6.0	10
36692.W3040	M 3	4.00	5.0	1.5	4.00	7.5	5	5.0	6.0	8
36692.W3050	M 3	5.00	5.0	1.5	5.00	7.5	5	5.0	6.0	6
36692.W3060	M 3	6.00	5.0	1.5	6.00	7.5	5	5.0	6.0	4
36692.W4007	M 4	0.70	6.8	2.0	0.70	10.0	7	6.8	8.2	22
36692.W4009	M 4	0.90	6.8	2.0	0.90	10.0	7	6.8	8.2	20
36692.W4012	M 4	1.25	6.8	2.0	1.25	10.0	7	6.8	8.2	18
36692.W4015	M 4	1.50	6.8	2.0	1.50	10.0	7	6.8	8.2	16
36692.W4020	M 4	2.00	6.8	2.0	2.00	10.0	7	6.8	8.2	14
36692.W4025	M 4	2.50	6.8	2.0	2.50	10.0	7	6.8	8.2	12
36692.W4030	M 4	3.00	6.8	2.0	3.00	10.0	7	6.8	8.2	10
36692.W4040	M 4	4.00	6.8	2.0	4.00	10.0	7	6.8	8.2	8
36692.W4050	M 4	5.00	6.8	2.0	5.00	10.0	7	6.8	8.2	6
36692.W4060	M 4	6.00	6.8	2.0	6.00	10.0	7	6.8	8.2	4
36692.W5007	M 5	0.70	8.0	2.5	0.70	12.5	8	8.0	9.6	22
36692.W5009	M 5	0.90	8.0	2.5	0.90	12.5	8	8.0	9.6	20
36692.W5012	M 5	1.25	8.0	2.5	1.25	12.5	8	8.0	9.6	18
36692.W5015	M 5	1.50	8.0	2.5	1.50	12.5	8	8.0	9.6	16
36692.W5020	M 5	2.00	8.0	2.5	2.00	12.5	8	8.0	9.6	14
36692.W5025	M 5	2.50	8.0	2.5	2.50	12.5	8	8.0	9.6	12
36692.W5030	M 5	3.00	8.0	2.5	3.00	12.5	8	8.0	9.6	10
36692.W5040	M 5	4.00	8.0	2.5	4.00	12.5	8	8.0	9.6	8
36692.W5050	M 5	5.00	8.0	2.5	5.00	12.5	8	8.0	9.6	6
36692.W5060	M 5	6.00	8.0	2.5	6.00	12.5	8	8.0	9.6	4



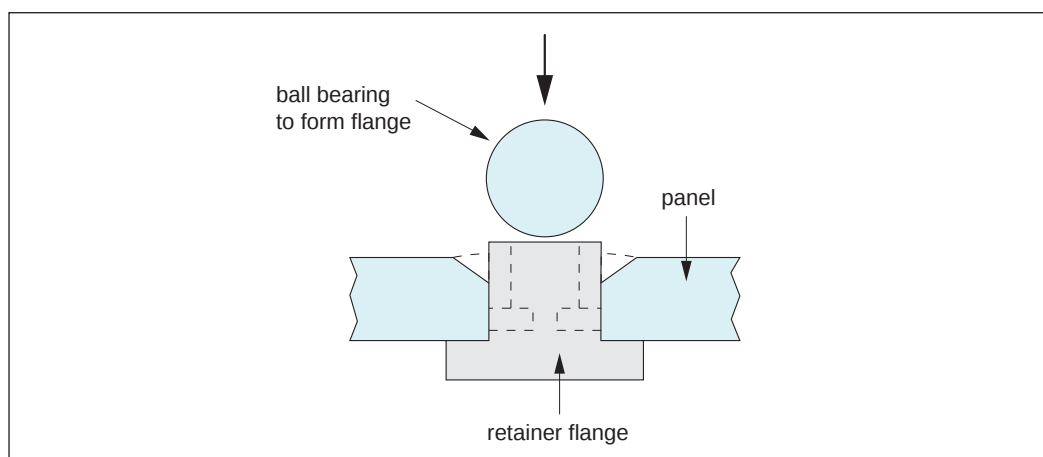
Order No.	For thread d ₁	Panel t ₁ ±8%	d ₂	h ₁	l ₁	d ₃	Installation ball dia. d ₄	d ₅ tol. H9	d ₆	Sheet metal gauge
36692.W6007	M 6	0.70	10.0	3.0	0.70	15.0	10	10.0	12.0	22
36692.W6009	M 6	0.90	10.0	3.0	0.90	15.0	10	10.0	12.0	20
36692.W6012	M 6	1.25	10.0	3.0	1.25	15.0	10	10.0	12.0	18
36692.W6015	M 6	1.50	10.0	3.0	1.50	15.0	10	10.0	12.0	16
36692.W6020	M 6	2.00	10.0	3.0	2.00	15.0	10	10.0	12.0	14
36692.W6025	M 6	2.50	10.0	3.0	2.50	15.0	10	10.0	12.0	12
36692.W6030	M 6	3.00	10.0	3.0	3.00	15.0	10	10.0	12.0	10
36692.W6040	M 6	4.00	10.0	3.0	4.00	15.0	10	10.0	12.0	8
36692.W6050	M 6	5.00	10.0	3.0	5.00	15.0	10	10.0	12.0	6
36692.W6060	M 6	6.00	10.0	3.0	6.00	15.0	10	10.0	12.0	4
36692.W8007	M 8	0.70	13.0	4.0	0.70	20.0	13	13.0	15.5	22
36692.W8009	M 8	0.90	13.0	4.0	0.90	20.0	13	13.0	15.5	20
36692.W8012	M 8	1.25	13.0	4.0	1.25	20.0	13	13.0	15.5	18
36692.W8015	M 8	1.50	13.0	4.0	1.50	20.0	13	13.0	15.5	16
36692.W8020	M 8	2.00	13.0	4.0	2.00	20.0	13	13.0	15.5	14
36692.W8025	M 8	2.50	13.0	4.0	2.50	20.0	13	13.0	15.5	12
36692.W8030	M 8	3.00	13.0	4.0	3.00	20.0	13	13.0	15.5	10
36692.W8040	M 8	4.00	13.0	4.0	4.00	20.0	13	13.0	15.5	8
36692.W8050	M 8	5.00	13.0	4.0	5.00	20.0	13	13.0	15.5	6
36692.W8060	M 8	6.00	13.0	4.0	6.00	20.0	13	13.0	15.5	4



Wixroyd captive screw retainer flanges are available in both aluminium and stainless steel to suit the most common panel thicknesses. The retainer flange has a very shallow thread length on its internal diameter. A suitable hole is machined into the panel, and the underside of the hole is countersunk.

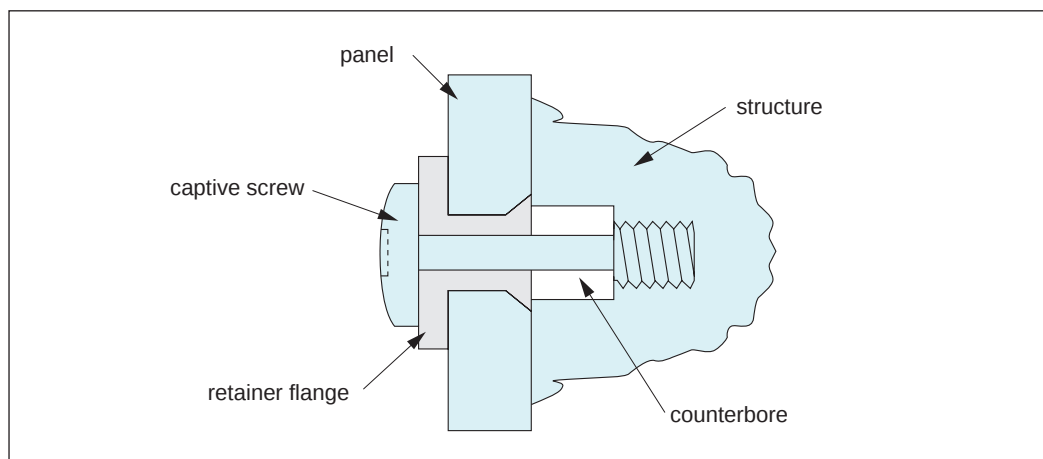


The flange is then joined to the panel using either a simple ball bearing (or for higher volume parts a hand punch) to form the bottom of the flange into the countersink. This retains the flange to the sheet.



Retaining flange secured onto panel using ball bearing or punch

The captive screw or bolt is then threaded onto the retainer flange and once the thread length is through the initial shallow threaded portion of the retainer flange – is captive.



With any captive screw installation it is important to ensure that there is enough space for the threaded portion to become disengaged from the female thread of the structure.

Preparation

- Select retainer based upon panel thickness
- Countersink panel

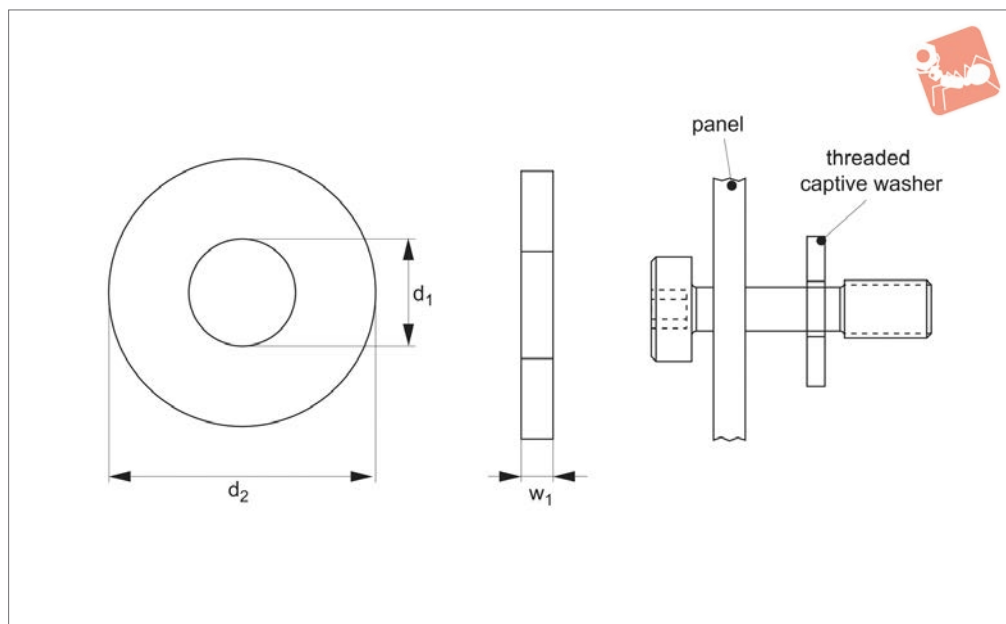
Mounting

- Insert flange
- Use ball bearing or punch to form flange onto panel

Captive Screw Assembly



36691



Material

Stainless steel (AISI 303, 1.4305 and AISI 316, 1.440), steel (zinc-plated or black-oxide) and titanium (grade 2 and grade 5).

Technical Notes

Captive washers have a very shallow thread on the i/d.

This enables them to be screwed on, and once past the threads they do not separate from the captive screw or bolt.

Tips

Captive washers are primarily used to retain captive screws in panels which have

unthreaded holes. The panel (onto which the screw needs to be retained) is placed onto the captive screw, the threaded washer is then threaded onto the screw, past the threaded section and the screw is therefore captive to the panel.

Order No.	d ₁	w ₁ ±0.05	d ₂	Material
36691.W0025	M 2,5	1.0	5.0	Stainless steel 303
36691.W0030	M 3	1.0	6.0	Stainless steel 303
36691.W0040	M 4	1.2	8.0	Stainless steel 303
36691.W0050	M 5	1.5	10.0	Stainless steel 303
36691.W0060	M 6	1.6	12.0	Stainless steel 303
36691.W0080	M 8	2.0	16.0	Stainless steel 303
36691.W0100	M10	3.0	20.0	Stainless steel 303
36691.W0120	M12	3.5	24.0	Stainless steel 303
36691.W1025	M 2,5	1.0	5.0	Stainless steel 316
36691.W1030	M 3	1.0	6.0	Stainless steel 316
36691.W1040	M 4	1.2	8.0	Stainless steel 316
36691.W1050	M 5	1.5	10.0	Stainless steel 316
36691.W1060	M 6	1.6	12.0	Stainless steel 316
36691.W1080	M 8	2.0	16.0	Stainless steel 316
36691.W1100	M10	3.0	20.0	Stainless steel 316
36691.W1120	M12	3.5	24.0	Stainless steel 316
36691.W2025	M 2,5	1.0	5.0	Zinc-plated steel
36691.W2030	M 3	1.0	6.0	Zinc-plated steel
36691.W2040	M 4	1.2	8.0	Zinc-plated steel
36691.W2050	M 5	1.5	10.0	Zinc-plated steel
36691.W2060	M 6	1.6	12.0	Zinc-plated steel
36691.W2080	M 8	2.0	16.0	Zinc-plated steel
36691.W2100	M10	3.0	20.0	Zinc-plated steel
36691.W2120	M12	3.5	24.0	Zinc-plated steel
36691.W0030-BL	M 3	1.0	6.0	Blackened steel
36691.W10-T5	M10	3.0	20.0	Grade 5 titanium
36691.W16-T5	M16	4.0	32.0	Grade 5 titanium