

Section 10

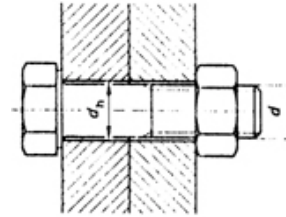
Useful Information

CLEARANCE HOLE INFORMATION

Form Metric Bolts and Screws
Ref: ISO 273-1979

The following tolerance symbols are given for information only where it is desirable to specify hole tolerance:

H 12
H 13
H 14



NOTE: To avoid interference between the edge of the hole and the bolt underhead, a chamfer is recommended.

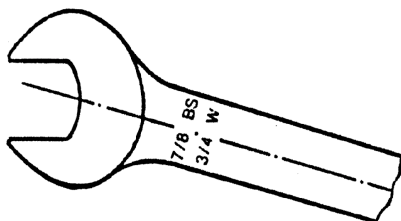
THREAD DIAMETER d	CLEARANCE HOLE d h		
	SERIES		
	FINE	MEDIUM	COARSE
1	1.1	1.2	1.3
1.2	1.3	1.4	1.5
1.4	1.5	1.6	1.8
1.6	1.7	1.8	2
1.8	2	2.1	2.2
2	2.2	2.4	2.6
2.5	2.7	2.9	3.1
3	3.2	3.4	3.6
3.5	3.7	3.9	4.2
4	4.3	4.5	4.8
4.5	4.8	5	5.3
5	5.3	5.5	5.8
6	6.4	6.6	7
7	7.4	7.6	8
8	8.4	9	10
10	10.5	11	12
12	13	13.5	14.5
14	15	15.5	16.5
16	17	17.5	18.5
18	19	20	21
20	21	22	24
22	23	24	26
24	25	26	28
27	28	30	32
30	31	33	35
33	34	36	38

THREAD DIAMETER d	CLEARANCE HOLE d h		
	SERIES		
	FINE	MEDIUM	COARSE
36	37	39	42
39	40	42	45
42	43	45	48
45	46	48	52
48	50	52	56
52	54	56	62
56	58	62	66
60	62	66	70
64	66	70	74
68	70	74	78
72	74	78	82
76	78	82	86
80	82	86	91
85	87	91	96
90	93	96	101
95	98	101	107
100	104	107	112
105	109	112	117
110	114	117	122
115	119	122	127
120	124	127	132
125	129	132	137
130	134	137	144
140	144	147	155
150	155	158	165

WRENCH OPENINGS FOR BRITISH HEXAGON BOLTS AND NUTS

NOM. WRENCH OPENING	BS W*	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	7/8	1
FOR BOLT DIA.	Inch Fraction	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	7/8	1
BOLT ACROSS FLATS max.	Inch Decimal	0.340	0.445	0.525	0.600	0.710	0.820	0.920	1.010	1.100	1.200	1.300	1.480

*British wrench openings are marked by the opening size as follows: BS (British Standard) or former W (Whitworth) or a combination of both. Usual combination of sizes are listed below.



3/16 BS x 1/4 BS
5/16 BS x 1/4 BS
5/16 BS x 3/8 BS
7/16 BS x 1/2 BS
1/2 BS x 9/16 BS
5/8 BS x 11/16 BS
9/16 BS x 11/16 BS
11/16 BS x 7/8 BS
3/4 BS x 7/8 BS
7/8 BS x 1 BS
1 BS x 1 1/8 BS
1 3/8 BS x 1 1/2 BS

WRENCH OPENINGS		
OLD*		NEW*
1/8 W	=	3/16 BS
3/16 W	=	1/4 BS
1/4 W	=	5/16 BS
5/16 W	=	3/8 BS
3/8 W	=	7/16 BS
7/16 W	=	1/2 BS
1/2 W	=	9/16 BS
9/16 W	=	5/8 BS
5/8 W	=	11/16 BS
11/16 W	=	3/4 BS
3/4 W	=	7/8 BS
13/16 W	=	15/16 BS
7/8 W	=	1 BS