



Capscrews

A

Assortments

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Coarse Thread - 72 Items A-23

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Fine Thread - 72 Items A-25, A-26

Grade 8

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Fine Thread - 72 Items A-19

Fine Thread - Plated 40 Items A-20

Hi-Alloy

Fine Thread - 72 Items A-10

C

Capscrews

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N.F. 1/4 - 1/2 A-25

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N.F. 9/16 - 1 A-18

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Fasteners

Flange Bolts, Grade 8

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High-Alloy Fastening System A-4

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Thread Pitch Chart - National Fine A-3

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Coarse A-15

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Coarse A-6

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Flange Bolts

Grade 8 A-27

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N.F. 1/2 - 5/8 A-28

T

Thread Pitch Chart - National Coarse A-2

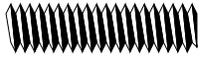
Thread Pitch Chart - National Fine A-3



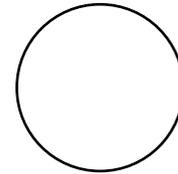
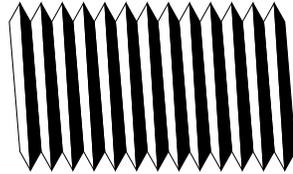
Thread Pitch Chart - National Coarse

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1/4-20



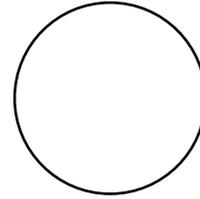
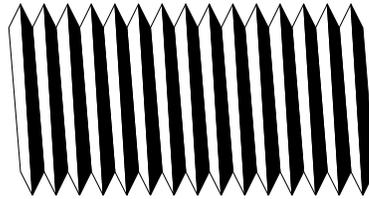
7/8-9



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1"-8



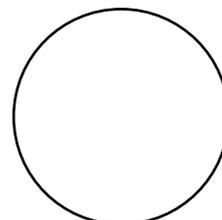
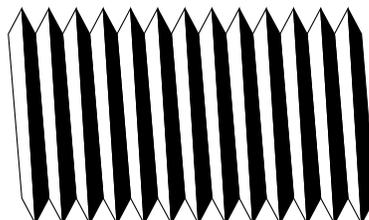
3/8-16



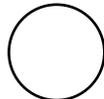
7/16-14



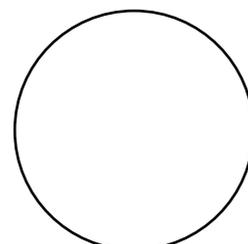
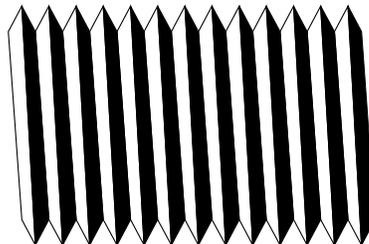
1-1/8"-7



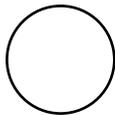
1/2-13



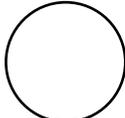
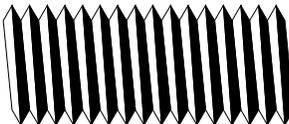
1-1/4"-7



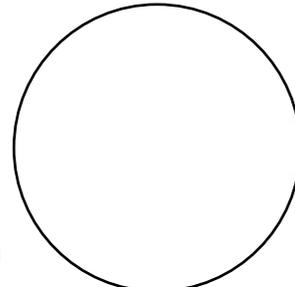
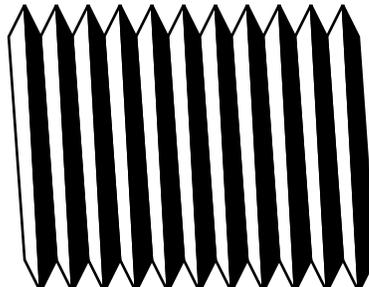
9/16-12



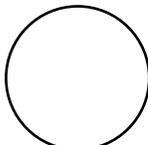
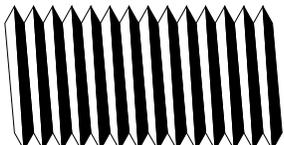
5/8-11



1-1/2"-6



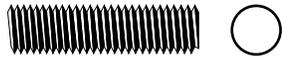
3/4-10



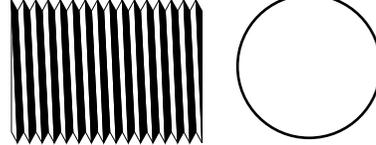


Thread Pitch Chart - National Fine

$1/4-28$



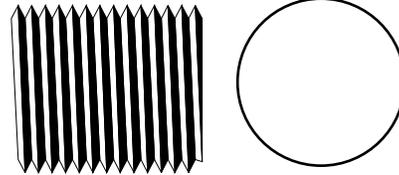
$3/4-16$



$5/16-24$



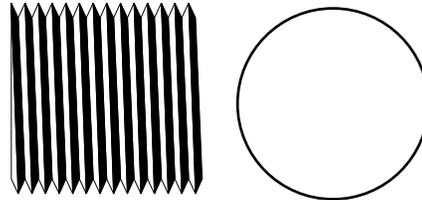
$7/8-14$



$7/16-20$



$1"-14$



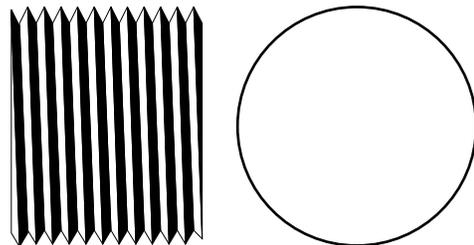
$1/2-20$



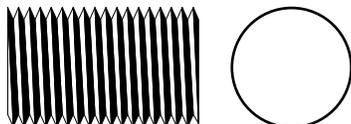
$9/16-18$



$1-1/4"-12$



$5/8-18$



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IBS, INCORPORATED

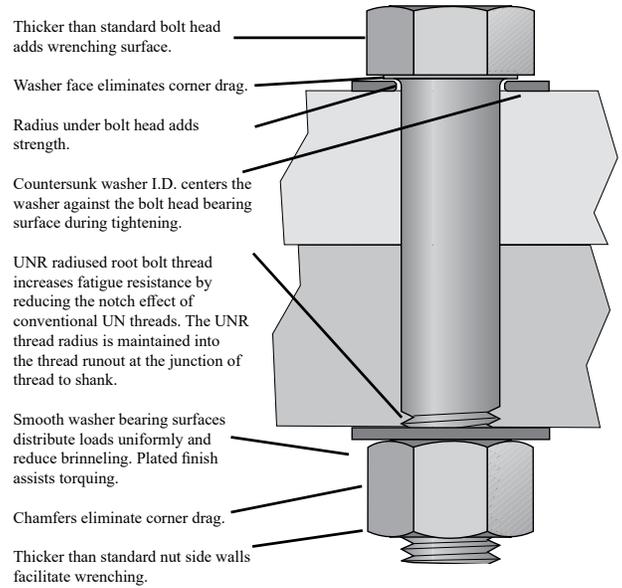
Hi-Alloy Fastening System Gen'l Info

High-Alloy Fastening System

HIGH-ALLOY products are manufactured from special AISI alloy steels and undergo critically monitored heat treatments. This is done in order to provide the strongest off-the-shelf fastening system available. The HIGH-ALLOY fastening system is designed and engineered for use in high stress, severe service environments.

The HIGH-ALLOY fastening system is designed for 180,000 to 200,000 psi ultimate tensile strength and having the minimum ductility of SAE J429 Grade 8 bolts for reduction in area and elongation.

The High-Alloy fastening system is engineered and carefully manufactured to operate as a system consisting of a bolt, two washers (two styles available) and either a hex nut or a prevailing torque locknut. Each of these components contributes to the optimum performance and maximum reliability of the system.



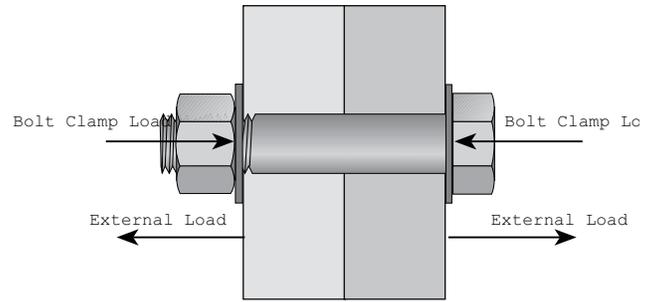
High-Alloy Fastening System Clamp Load

Assuming that the joint has been designed properly and the right fastener has been selected, bolts which are correctly tightened to required clamp loads rarely fail in service. Locknuts can preserve clamp loads by inhibiting loosening and nut backoff due to vibration. Clamp loads must exceed the maximum static or dynamic external loads that will be applied to the joint otherwise the fastener or joint may fail.

User Cautions:

Avoid fastener, and possible joint failure, by observing the following:

- 1) Do not substitute components in the High-Alloy fastening system. Non High-Alloy may not meet the system's requirements. IBS is not responsible for any failures in use of High-Alloy fastening system if substitutions are made of any component or finish of the system (i.e. bolt, nut, locknut or washer).
- 2) Do not alter the coatings as this can result in erratic and unpredictable clamp loads. Do not use supplementary lubricants.
- 3) Do not use the High-Alloy system in service environments exceeding 400°F. Any cadmium or zinc plated product is subject to degradation of corrosion resistance and possible liquid metal embrittlement at temperatures exceeding 400°F.
- 4) Discuss the use of High-Alloy bolts and washers in tapped holes with your IBS Rep. to establish correct tightening torques and methods. Excessive or insufficient clamp loads can cause major problems.
- 5) When tightening High-Alloy bolts, use the recommended torque values. The self lubricating features of the system reduce required torques so that in some instances they are below those needed to tighten Grade 8 bolts.



THE HIGH-ALLOY FASTENING SYSTEM IS DESIGNED AND MANUFACTURED TO BE USED AS A SYSTEM.

NO SUBSTITUTIONS OR ALTERATIONS ARE TO BE MADE OF THE BOLT, NUT, WASHER OR FINISH.

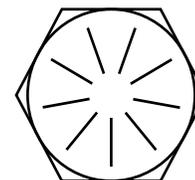


High-Alloy Fastening System

Benefits

- 180,000 psi tensile strength is 20% greater than Grade 8.
- Can last 10 to 20 times as long as Grade 8 fasteners.
- Ductility equals or exceeds Grade 8.
- Greatly reduces down time.
- Reduces maintenance time and costs.
- Improved product performance.
- Lower mechanical failure costs.
- Bolts are zinc-plated and dichromate-coated to improve lubrication for controlled tightening and to inhibit corrosion. This reduces the torque needed to develop recommended high clamp loads and produces a 96-hour salt spray resistance to corrosion.

High-Alloy System Hardness Specifications		
Product	Diameter Range	Rockwell Hardness
Bolts	All	R/C 38-42
Nuts	1/4 thru 5/8	R/C 28-34
	3/4 thru 1-1/2	R/C 32-38
Washers	All	15N 82-85



High-Alloy Bolt Head Marking

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ALL HIGH-ALLOY BOLTS, NUTS AND WASHERS ARE TRACEABLE TO THEIR ORIGINAL PRODUCTION LOT. SAMPLES OF EACH LOT ARE KEPT ON FILE, WITH ALL DOCUMENTATION REGARDING BATCH DATE, QUALITY CONTROL INSPECTIONS AND TEST REPORTS.



IBS, INCORPORATED

Hi-Alloy Capscrews Nat'l Coarse A01

USS High-Alloy Capscrews NATIONAL COARSE — PLATED ZINC YELLOW



CAPSCREWS

Length	1/4- 20 P/N	5/16- 18 P/N	3/8- 16 P/N	Qty	7/16- 14 P/N	1/2- 13 P/N	Qty	9/16- 12 P/N	5/8- 11 P/N	Qty	3/4- 10 P/N	Qty	7/8- 9 P/N	Pkg Qty	1-8 P/N	Pkg Qty	Length
1/2	101	116	—	100	—	—	—	—	—	—	—	—	—	—	—	—	1/2
3/4	102	117	136	100	—	172	50	—	—	—	—	—	—	—	—	—	3/4
1	103	118	137	100	155	173	50	—	215	25	—	20	—	—	—	—	1
1-1/4	104	119	138	100	156	174	50	—	216	25	—	20	—	—	—	—	1-1/4
1-1/2	105	120	139	100	157	175	50	197	217	25	245	20	—	15	299A	EA	1-1/2
1-3/4	106	121	140	100	158	176	50	—	218	25	246	20	—	15	—	EA	1-3/4
2	107	122	141	100	159	177	50	199	219	25	247	20	275	15	300	EA	2
2-1/4	108	123	142	50	160	178	25	200	220	25	248	10	276	10	—	EA	2-1/4
2-1/2	109	124	143	50	161	179	25	201	221	25	249	10	277	10	302	EA	2-1/2
2-3/4	110	125	144	50	162	180	25	202	222	25	250	10	—	10	302A	EA	2-3/4
3	111	126	145	25	163	181	25	203	223	25	251	10	279	10	303	EA	3
3-1/2	113	128	147	25	165	183	25	—	225	25	253	10	281	10	304	EA	3-1/2
4	115	130	149	25	167	185	25	207	227	25	255	10	283	10	305	EA	4
4-1/2	115A	131	150	15	168	186	10	208	228	10	256	5	284	5	306	EA	4-1/2
5	115D	132	151	15	—	187	10	209	229	10	257	5	285	5	307	EA	5
5-1/2	—	—	152	15	171	188	10	210	230	10	258	5	286	5	308	EA	5-1/2
6	—	134	153	15	171A	189	10	211	231	10	259	5	287	5	309	EA	6
6-1/2	—	—	—	—	—	189A	EA	—	232	EA	—	EA	—	EA	—	EA	6-1/2
7	—	—	—	—	—	190	EA	—	233	EA	261	EA	289	EA	311	EA	7
7-1/2	—	—	—	—	—	—	EA	—	234	EA	262	EA	—	EA	312	EA	7-1/2
8	—	—	—	—	—	191	EA	—	235	EA	263	EA	291	EA	313	EA	8
9	—	—	—	—	—	—	—	—	237	EA	265	EA	293	EA	315	EA	9
10	—	—	—	—	—	—	—	—	239	EA	267	EA	295	EA	317	EA	10

THE HIGH-ALLOY FASTENING SYSTEM IS DESIGNED AND MANUFACTURED TO BE USED AS A SYSTEM. NO SUBSTITUTIONS OR ALTERATIONS ARE TO BE MADE OF THE BOLT, NUT, WASHER OR FINISH.

IBS, INCORPORATED

Bin Assortments Z06



High Alloy Assortment

COARSE THREAD

PLATED ZINC YELLOW

IBS No. 890P

USS • 70 Items •
1,627 Pieces

USS Hi-Alloy Bolts, SAE
Hi-Alloy Flat Washers

USS Hi-Alloy Finished Nuts

USS Hi-Alloy Locknuts

- 180,000 psi tensile strength
- Can last 10 to 20 times longer than Grade 8.



890P • HI ALLOY ASSORTMENT • 72 Items

1/4-20 Hex Nut NT5202	5/16-18 Hex Nut NT5204	3/8-16 Hex Nut NT5206	7/16-14 Hex Nut NT5208	1/2-13 Hex Nut NT5212	9/16-12 Hex Nut NT5214	5/8-11 Hex Nut NT5216	3/4-10 Hex Nut NT5218
1/4 SAE FW 7400	5/16 SAE FW 7401	3/8 SAE FW 7402	7/16 SAE FW 7403	1/2 SAE FW 7404	9/16 SAE FW 7405	5/8 SAE FW 7406	3/4 SAE FW 7407
1/4-20 Lock Nut NT9403	5/16-18 Lock Nut NT9405	3/8-16 Lock Nut NT9407	7/16-14 Lock Nut NT9409	1/2-13 Lock Nut NT9413	9/16-12 Lock Nut NT9415	5/8-11 Lock Nut NT9417	3/4-10 Lock Nut NT9419
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 102	5/16 x 3/4 Capscrew 117	3/8 x 3/4 Capscrew 136	7/16 x 1 Capscrew 155	1/2 x 1 Capscrew 173		5/8 x 1-1/4 Capscrew 216	3/4 x 1-1/2 Capscrew 245
1/4 x 1 Capscrew 103	5/16 x 1 Capscrew 118	3/8 x 1 Capscrew 137	7/16 x 1-1/4 Capscrew 156	1/2 x 1-1/4 Capscrew 174	9/16 x 1-1/2 Capscrew 197	5/8 x 1-1/2 Capscrew 217	3/4 x 1-3/4 Capscrew 245
1/4 x 1-1/4 Capscrew 104	5/16 x 1-1/4 Capscrew 119	3/8 x 1-1/4 Capscrew 138	7/16 x 1-1/2 Capscrew 157	1/2 x 1-1/2 Capscrew 175		5/8 x 1-3/4 Capscrew 218	3/4 x 2 Capscrew 246
1/4 x 1-1/2 Capscrew 105	5/16 x 1-1/2 Capscrew 120	3/8 x 1-1/2 Capscrew 139	7/16 x 1-3/4 Capscrew 158	1/2 x 1-3/4 Capscrew 176	9/16 x 2 Capscrew 199	5/8 x 2 Capscrew 219	3/4 x 2-1/2 Capscrew 247
1/4 x 1-3/4 Capscrew 106	5/16 x 1-3/4 Capscrew 121	3/8 x 2 Capscrew 141	7/16 x 2 Capscrew 159	1/2 x 2 Capscrew 177	9/16 x 2-1/2 Capscrew 201	5/8 x 2-1/2 Capscrew 221	3/4 x 3 Capscrew 251
1/4 x 2 Capscrew 107	5/16 x 2 Capscrew 122	3/8 x 2-1/2 Capscrew 143	7/16 x 2-1/2 Capscrew 161	1/2 x 2-1/2 Capscrew 179	9/16 x 3 Capscrew 203	5/8 x 3 Capscrew 223	3/4 x 3-1/2 Capscrew 253

C
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High Alloy Assortment

COARSE THREAD

PLATED ZINC YELLOW

IBS No. 891P

USS • 70 Items

1,627 Pieces

USS Hi-Alloy Bolts,

USS Hi-Alloy Flat Washers

USS Hi-Alloy Finished
Nuts

USS Hi-Alloy Locknuts

- 180,000 psi tensile strength.
- Can last 10 to 20 times longer than Grade 8.



891P • HI ALLOY ASSORTMENT • 72 Items

1/4-20 Hex Nut NT5202	5/16-18 Hex Nut NT5204	3/8-16 Hex Nut NT5206	7/16-14 Hex Nut NT5208	1/2-13 Hex Nut NT5212	9/16-12 Hex Nut NT5214	5/8-11 Hex Nut NT5216	3/4-10 Hex Nut NT5218
1/4 USS FW 7016	5/16 USS FW 7017	3/8 USS FW 7018	7/16 USS FW 7019	1/2 USS FW 7020	9/16 USS FW 7021	5/8 USS FW 7022	3/4 USS FW 7023
1/4-20 Lock Nut NT9403	5/16-18 Lock Nut NT9405	3/8-16 Lock Nut NT9407	7/16-14 Lock Nut NT9409	1/2-13 Lock Nut NT9413	9/16-12 Lock Nut NT9415	5/8-11 Lock Nut NT9417	3/4-10 Lock Nut NT9419
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 102	5/16 x 3/4 Capscrew 117	3/8 x 3/4 Capscrew 136	7/16 x 1 Capscrew 155	1/2 x 1 Capscrew 173		5/8 x 1-1/4 Capscrew 216	3/4 x 1-1/2 Capscrew 245
1/4 x 1 Capscrew 103	5/16 x 1 Capscrew 118	3/8 x 1 Capscrew 137	7/16 x 1-1/4 Capscrew 156	1/2 x 1-1/4 Capscrew 174	9/16 x 1-1/2 Capscrew 197	5/8 x 1-1/2 Capscrew 217	3/4 x 1-3/4 Capscrew 246
1/4 x 1-1/4 Capscrew 104	5/16 x 1-1/4 Capscrew 119	3/8 x 1-1/4 Capscrew 138	7/16 x 1-1/2 Capscrew 157	1/2 x 1-1/2 Capscrew 175		5/8 x 1-3/4 Capscrew 218	3/4 x 2 Capscrew 247
1/4 x 1-1/2 Capscrew 105	5/16 x 1-1/2 Capscrew 120	3/8 x 1-1/2 Capscrew 139	7/16 x 1-3/4 Capscrew 158	1/2 x 1-3/4 Capscrew 176	9/16 x 2 Capscrew 199	5/8 x 2 Capscrew 219	3/4 x 2-1/2 Capscrew 249
1/4 x 1-3/4 Capscrew 106	5/16 x 1-3/4 Capscrew 121	3/8 x 2 Capscrew 141	7/16 x 2 Capscrew 159	1/2 x 2 Capscrew 177	9/16 x 2-1/2 Capscrew 201	5/8 x 2-1/2 Capscrew 221	3/4 x 3 Capscrew 251
1/4 x 2 Capscrew 107	5/16 x 2 Capscrew 122	3/8 x 2-1/2 Capscrew 143	7/16 x 2-1/2 Capscrew 161	1/2 x 2-1/2 Capscrew 179	9/16 x 3 Capscrew 203	5/8 x 3 Capscrew 223	3/4 x 3-1/2 Capscrew 253



IBS, INCORPORATED

Assortments Z08

High Alloy Assortment

COARSE THREAD

PLATED ZINC YELLOW

IBS No. 437P • 40 Items

965 Pieces

USS Hi-Alloy Bolts

SAE Hi-Alloy Flat Washers

USS Hi-Alloy Finished Nuts

USS Hi-Alloy Locknuts



- 180,000 psi tensile strength.
- Can last 10 to 20 times longer than Grade 8.

1/4-20 Hex Nut NT5202	1/4-20 Lock Nut NT9403	1/4 SAE FW 7400	1/4 x 3/4 Capscrew 102	1/4 x 1 Capscrew 103	1/4 x 1-1/4 Capscrew 104	1/4 x 1-1/2 Capscrew 105	1/4 x 2 Capscrew 107
5/16-18 Hex Nut NT5204	5/16-18 Lock Nut NT9405	5/16 SAE FW 7401	5/16 x 3/4 Capscrew 117	5/16 x 1 Capscrew 118	5/16 x 1-1/4 Capscrew 119	5/16 x 1-1/2 Capscrew 120	5/16 x 2 Capscrew 122
3/8-16 Hex Nut NT5206	3/8-16 Lock Nut NT9407	3/8 SAE FW 7402	3/8 x 1 Capscrew 137	3/8 x 1-1/4 Capscrew 138	3/8 x 1-1/2 Capscrew 139	3/8 x 2 Capscrew 141	3/8 x 2-1/2 Capscrew 143
7/16-14 Hex Nut NT5208	5/16-18 Lock Nut NT9409	7/16 SAE FW 7403	7/16 x 1 Capscrew 155	7/16 x 1-1/4 Capscrew 156	7/16 x 1-1/2 Capscrew 157	7/16 x 2 Capscrew 159	7/16 x 2-1/2 Capscrew 161
1/2-13 Hex Nut NT5212	1/2-13 Lock Nut NT9413	1/2 SAE FW 7404	1/2 x 1 Capscrew 173	1/2 x 1-1/4 Capscrew 174	1/2 x 1-1/2 Capscrew 175	1/2 x 2 Capscrew 177	1/2 x 2-1/2 Capscrew 179

High Alloy Assortment

COARSE THREAD

PLATED ZINC YELLOW

IBS No. 654P • 40 Items

965 Pieces

USS Hi-Alloy Bolts

USS Hi-Alloy Flat Washers

USS Hi-Alloy Finished Nuts

USS Hi-Alloy Locknuts



- 180,000 psi tensile strength.
- Can last 10 to 20 times longer than Grade 8.

1/4-20 Hex Nut NT5202	1/4-20 Lock Nut NT9403	1/4 USS FW 7016	1/4 x 3/4 Capscrew 102	1/4 x 1 Capscrew 103	1/4 x 1-1/4 Capscrew 104	1/4 x 1-1/2 Capscrew 105	1/4 x 2 Capscrew 107
5/16-18 Hex Nut NT5204	5/16-18 Lock Nut NT9405	5/16 USS FW 7017	5/16 x 3/4 Capscrew 117	5/16 x 1 Capscrew 118	5/16 x 1-1/4 Capscrew 119	5/16 x 1-1/2 Capscrew 120	5/16 x 2 Capscrew 122
3/8-16 Hex Nut NT5206	3/8-16 Lock Nut NT9407	3/8 USS FW 7018	3/8 x 1 Capscrew 137	3/8 x 1-1/4 Capscrew 138	3/8 x 1-1/2 Capscrew 139	3/8 x 2 Capscrew 141	3/8 x 2-1/2 Capscrew 143
7/16-14 Hex Nut NT5208	5/16-18 Lock Nut NT9409	7/16 USS FW 7019	7/16 x 1 Capscrew 155	7/16 x 1-1/4 Capscrew 156	7/16 x 1-1/2 Capscrew 157	7/16 x 2 Capscrew 159	7/16 x 2-1/2 Capscrew 161
1/2-13 Hex Nut NT5212	1/2-13 Lock Nut NT9413	1/2 USS FW 7020	1/2 x 1 Capscrew 173	1/2 x 1-1/4 Capscrew 174	1/2 x 1-1/2 Capscrew 175	1/2 x 2 Capscrew 177	1/2 x 2-1/2 Capscrew 179

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IBS, INCORPORATED

Hi-Alloy Capscrews Nat'l Fine A02



SAE High-Alloy Capscrews

NATIONAL FINE — ZINC YELLOW



Length	1/4- 28 P/N	5/16- 24 P/N	3/8- 24 P/N	Qty	7/16- 20 P/N	1/2- 20 P/N	Qty	9/16- 18 P/N	5/8- 18 P/N	Qty	3/4- 16 P/N	Qty	7/8- 14 P/N	Qty	1 - 14 P/N	Qty	Length
1/2	325	345	364	100	—	—	—	—	—	—	—	—	—	—	—	—	1/2
3/4	326	346	365	100	—	404	50	—	—	—	—	—	—	—	—	—	3/4
1	327	347	366	100	386	405	50	—	450	25	—	—	—	—	—	—	1
1-1/4	328	348	367	100	387	406	50	431	451	25	—	—	—	—	—	—	1-1/4
1-1/2	329	349	368	100	388	407	50	432	452	25	477	20	—	—	—	—	1-1/2
1-3/4	330	350	369	100	389	408	50	433	453	25	478	20	—	—	—	—	1-3/4
2	331	351	370	100	390	409	50	434	454	25	479	20	500	15	—	EA	2
2-1/4	—	—	371	50	—	410	25	—	455	25	480	10	—	—	—	—	2-1/4
2-1/2	333	353	372	50	392	411	25	436	456	25	481	10	503	10	517	EA	2-1/2
2-3/4	—	—	—	—	—	—	—	—	457	25	—	10	—	—	—	—	2-3/4
3	335	355	374	25	395	413	25	438	458	25	483	10	504	10	518	EA	3
3-1/2	337	—	376	25	397	415	25	440	460	25	485	10	504A	10	519	EA	3-1/2
4	—	—	378	25	399	417	25	442	462	25	487	10	505	10	520	EA	4
4-1/2	—	—	—	15	—	418	10	—	463	10	488	5	506	5	521	EA	4-1/2
5	—	—	—	15	—	419	10	—	464	10	489	5	507	5	522	EA	5
5-1/2	—	—	—	15	—	—	10	—	465	10	490	5	508	5	523	EA	5-1/2
6	—	—	—	15	—	421	10	—	466	10	491	5	509	5	524	EA	6
6-1/2	—	—	—	—	—	—	EA	—	—	—	—	EA	—	—	—	—	6-1/2
7	—	—	—	—	—	—	—	—	468	—	493	EA	—	—	—	—	7
7-1/2	—	—	—	—	—	—	—	—	—	—	—	EA	—	—	—	—	7-1/2
8	—	—	—	—	—	—	—	—	470	—	495	EA	—	—	—	—	8
8-1/2	—	—	—	—	—	—	—	—	—	—	—	EA	—	—	—	—	8-1/2
9	—	—	—	—	—	—	—	—	472	—	496	EA	—	—	—	—	9
10	—	—	—	—	—	—	—	—	—	—	499	EA	—	—	—	—	10

THE HIGH-ALLOY FASTENING SYSTEM IS DESIGNED AND MANUFACTURED TO BE USED AS A SYSTEM. NO SUBSTITUTIONS OR ALTERATIONS ARE TO BE MADE OF THE BOLT, NUT, WASHER OR FINISH.

CAPSCREWS



IBS, INCORPORATED

Bin Assortments Z06

High Alloy Assortment

FINE THREAD

PLATED ZINC YELLOW

IBS No. 892P • 72 Items
1,637 Pieces

SAE Hi-Alloy Bolts
SAE Hi-Alloy Flat Washers
SAE Hi-Alloy Finished Nuts
SAE Hi-Alloy Locknuts

- 180,000 psi tensile strength.
- Zinc-plated and dichromate coated.



1/4-28 Hex Nut NT5252	5/16-24 Hex Nut NT5254	3/8-24 Hex Nut NT5256	7/16-20 Hex Nut NT5258	1/2-20 Hex Nut NT5262	9/16-18 Hex Nut NT5264	5/8-18 Hex Nut NT5266	3/4-16 Hex Nut NT5268
1/4 SAE FW 7400	5/16 SAE FW 7401	3/8 SAE FW 7402	7/16 SAE FW 7403	1/2 SAE FW 7404	9/16 SAE FW 7405	5/8 SAE FW 7406	3/4 SAE FW 7407
1/4-28 Lock Nut NT9453	5/16-24 Lock Nut NT9455	3/8-24 Lock Nut NT9457	7/16-20 Lock Nut NT9459	1/2-20 Lock Nut NT9463	9/16-18 Lock Nut NT9465	5/8-18 Lock Nut NT9467	3/4-16 Lock Nut NT9469
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 326	5/16 x 3/4 Capscrew 346	3/8 x 3/4 Capscrew 365	7/16 x 1 Capscrew 386	1/2 x 1 Capscrew 405	9/16 x 1-1/4 Capscrew 431	5/8 x 1-1/4 Capscrew 451	3/4 x 1-1/2 Capscrew 477
1/4 x 1 Capscrew 327	5/16 x 1 Capscrew 347	3/8 x 1 Capscrew 366	7/16 x 1-1/4 Capscrew 387	1/2 x 1-1/4 Capscrew 406	9/16 x 1-1/2 Capscrew 432	5/8 x 1-1/2 Capscrew 452	3/4 x 1-3/4 Capscrew 478
1/4 x 1-1/4 Capscrew 328	5/16 x 1-1/4 Capscrew 348	3/8 x 1-1/4 Capscrew 367	7/16 x 1-1/2 Capscrew 388	1/2 x 1-1/2 Capscrew 407	9/16 x 1-3/4 Capscrew 433	5/8 x 1-3/4 Capscrew 453	3/4 x 2 Capscrew 479
1/4 x 1-1/2 Capscrew 329	5/16 x 1-1/2 Capscrew 349	3/8 x 1-1/2 Capscrew 368	7/16 x 1-3/4 Capscrew 389	1/2 x 1-3/4 Capscrew 408	9/16 x 2 Capscrew 434	5/8 x 2 Capscrew 454	3/4 x 2-1/2 Capscrew 481
1/4 x 1-3/4 Capscrew 330	5/16 x 1-3/4 Capscrew 350	3/8 x 2 Capscrew 370	7/16 x 2 Capscrew 390	1/2 x 2 Capscrew 409	9/16 x 2-1/2 Capscrew 436	5/8 x 2-1/2 Capscrew 456	3/4 x 3 Capscrew 483
1/4 x 2 Capscrew 331	5/16 x 2 Capscrew 351	3/8 x 2-1/2 Capscrew 372	7/16 x 2-1/2 Capscrew 392	1/2 x 2-1/2 Capscrew 411	9/16 x 3 Capscrew 438	5/8 x 3 Capscrew 458	3/4 x 3-1/2 Capscrew 485

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High Alloy Assortment

FINE THREAD

PLATED ZINC YELLOW

IBS No. 893P • 72 Items
1,637 Pieces

SAE Hi-Alloy Bolts
USS Hi-Alloy Flat Washers
SAE Hi-Alloy Finished
Nuts
SAE Hi-Alloy Locknuts

- 180,000 psi tensile strength.
- Zinc-plated and dichromate coated.



1/4-28 Hex Nut NT5252	5/16-24 Hex Nut NT5254	3/8-24 Hex Nut NT5256	7/16-20 Hex Nut NT5258	1/2-20 Hex Nut NT5262	9/16-18 Hex Nut NT5264	5/8-18 Hex Nut NT5266	3/4-16 Hex Nut NT5268
1/4 USS FW 7016	5/16 USS FW 7017	3/8 USS FW 7018	7/16 USS FW 7019	1/2 USS FW 7020	9/16 USS FW 7021	5/8 USS FW 7022	3/4 USS FW 7023
1/4-28 Lock Nut NT9453	5/16-24 Lock Nut NT9455	3/8-24 Lock Nut NT9457	7/16-20 Lock Nut NT9459	1/2-20 Lock Nut NT9463	9/16-18 Lock Nut NT9465	5/8-18 Lock Nut NT9467	3/4-16 Lock Nut NT9469
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 326	5/16 x 3/4 Capscrew 346	3/8 x 3/4 Capscrew 365	7/16 x 1 Capscrew 386	1/2 x 1 Capscrew 405	9/16 x 1-1/4 Capscrew 431	5/8 x 1-1/4 Capscrew 451	3/4 x 1-1/2 Capscrew 477
1/4 x 1 Capscrew 327	5/16 x 1 Capscrew 347	3/8 x 1 Capscrew 366	7/16 x 1-1/4 Capscrew 387	1/2 x 1-1/4 Capscrew 406	9/16 x 1-1/2 Capscrew 432	5/8 x 1-1/2 Capscrew 452	3/4 x 1-3/4 Capscrew 478
1/4 x 1-1/4 Capscrew 328	5/16 x 1-1/4 Capscrew 348	3/8 x 1-1/4 Capscrew 367	7/16 x 1-1/2 Capscrew 388	1/2 x 1-1/2 Capscrew 407	9/16 x 1-3/4 Capscrew 433	5/8 x 1-3/4 Capscrew 453	3/4 x 2 Capscrew 479
1/4 x 1-1/2 Capscrew 329	5/16 x 1-1/2 Capscrew 349	3/8 x 1-1/2 Capscrew 368	7/16 x 1-3/4 Capscrew 389	1/2 x 1-3/4 Capscrew 408	9/16 x 2 Capscrew 434	5/8 x 2 Capscrew 454	3/4 x 2-1/2 Capscrew 481
1/4 x 1-3/4 Capscrew 330	5/16 x 1-3/4 Capscrew 350	3/8 x 2 Capscrew 370	7/16 x 2 Capscrew 390	1/2 x 2 Capscrew 409	9/16 x 2-1/2 Capscrew 436	5/8 x 2-1/2 Capscrew 456	3/4 x 3 Capscrew 483
1/4 x 2 Capscrew 331	5/16 x 2 Capscrew 351	3/8 x 2-1/2 Capscrew 372	7/16 x 2-1/2 Capscrew 392	1/2 x 2-1/2 Capscrew 411	9/16 x 3 Capscrew 438	5/8 x 3 Capscrew 458	3/4 x 3-1/2 Capscrew 485

IBS, INCORPORATED

Grade 8 General Information



Grade 8 Heat Treated Hex Capscrews

- All Grade 8 Capscrews Are Domestically Made.
- 150,000 PSI Minimum Tensile Strength.

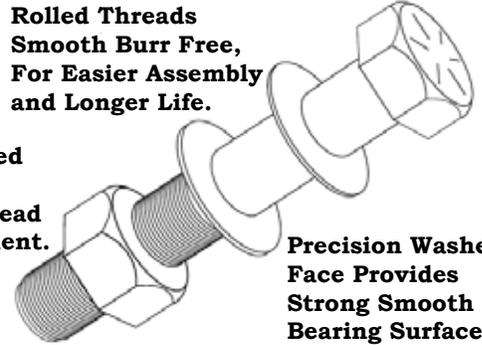


**Grade 8 Bolt
Head Marking**

- E
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- STRETCHED BOLTS
 - STRIPPED THREADS
 - BENT OR BROKEN BOLTS
 - CRACKED OR DISHED WASHERS
 - UNMATCHED COMPONENTS
 - VIBRATION, HEAT, OR STRESS FATIGUE

**Rolled Threads
Smooth Burr Free,
For Easier Assembly
and Longer Life.**

**Chamfered
End For
Easy Thread
Engagement.**



**Precision Washer
Face Provides
Strong Smooth
Bearing Surface.**

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IBS, INCORPORATED

Grade 8 Capscrews Nat'l Coarse A05

USS
Grade 8
Capscrews
NATIONAL
COARSE —
PLAIN



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Length	1/4- 20 P/N	5/16- 18 P/N	Qty	3/8- 16 P/N	Qty	7/16- 14 P/N	Qty	1/2- 13 P/N	Qty	9/16- 12 P/N	Qty	5/8- 11 P/N	Qty	3/4- 10 P/N	Qty	Length
1/2	1301	1325	100	1350	100	—	—	—	—	—	—	—	—	—	—	1/2
3/4	1303	1327	100	1352	100	—	—	1397	50	—	—	—	—	—	—	3/4
1	1304	1329	100	1354	100	1376	50	1398	50	1423	1440	25	1465	20	—	1
1-1/4	1305	1330	100	1355	100	1377	50	1399	50	1424	1441	25	1466	20	—	1-1/4
1-1/2	1306	1331	100	1356	100	1378	50	1400	50	1425	1442	25	1467	20	—	1-1/2
1-3/4	1307	1332	100	1357	100	1379	50	1401	50	1426	1443	25	1468	20	—	1-3/4
2	1308	1333	100	1358	100	1380	50	1402	50	1427	1444	25	1469	20	—	2
2-1/4	1309	1334	50	1359	50	1381	25	1403	25	1428	1445	25	1470	20	—	2-1/4
2-1/2	1310	1335	50	1360	50	1382	25	1404	25	1429	1446	25	1471	20	—	2-1/2
2-3/4	1311	1336	50	1361	50	1383	25	1405	25	1430	1447	25	1472	20	—	2-3/4
3	1312	1337	50	1362	50	1384	25	1406	25	1431	1448	25	1473	20	—	3
3-1/2	1314	1339	50	1364	25	1386	25	1408	25	1433	1450	25	1475	20	—	3-1/2
4	1316	1341	50	1366	25	1388	25	1410	25	1435	1452	25	1477	20	—	4
4-1/2	1317	1342	25	1367	25	1389	15	1411	15	1436	1453	15	1478	10	—	4-1/2
5	1318	1343	25	1368	25	1390	15	1412	15	1437	1454	15	1479	10	—	5
5-1/2	1319	1344	25	1369	25	—	—	1413	15	1438	1455	15	1480	10	—	5-1/2
6	1320	1345	25	1370	25	1392	15	1414	15	1439	1456	15	1481	10	—	6
6-1/2	—	—	—	1371	EA	—	—	1415	EA	—	—	—	1482	EA	—	6-1/2
7	—	—	—	1372	EA	—	—	1416	EA	—	1458	EA	1483	EA	—	7
8	1324	—	EA	1374	EA	—	—	1418	EA	—	1460	EA	1485	EA	—	8
9	—	—	—	—	—	—	—	—	—	—	1462	EA	1487	EA	—	9
10	—	—	—	—	—	—	—	—	—	—	1464	EA	1489	EA	—	10

Length	7/8-9 P/N	Qty	1-8 P/N	Qty	1-1/8- 7 P/N	1-1/4- 7 P/N	1-1/2- 6 P/N	Qty	Length
1-1/2	1489A	15	1510A	10	—	—	—	—	1-1/2
1-3/4	1489B	15	—	—	—	—	—	—	1-3/4
2	1490	15	1511	10	—	—	—	—	2
2-1/4	1491	15	1512	10	—	—	—	—	2-1/4
2-1/2	1492	15	1513	10	1532	1548	—	EA	2-1/2
2-3/4	1493	15	1514	10	—	—	—	—	2-3/4
3	1494	10	1515	10	1533	1549	1579	EA	3
3-1/2	1496	10	1517	10	1534	1550	1580	EA	3-1/2
4	1498	10	1519	10	1535	1551	1581	EA	4
4-1/2	1499	5	1520	5	1536	1552	1582	EA	4-1/2
5	1500	5	1521	5	1537	1553	1583	EA	5
5-1/2	1501	5	1522	5	1538	1554	1584	EA	5-1/2
6	1502	5	1523	5	1539	1555	1585	EA	6
6-1/2	—	—	1524	EA	—	1556	—	EA	6-1/2
7	1504	EA	1525	EA	1541	1557	—	EA	7
8	1506	EA	1527	EA	1543	1559	—	EA	8
9	1508	EA	1529	EA	1545	1561	—	EA	9
10	1510	EA	1531	EA	1547	1563	—	EA	10

All Grade 8 Bolts are traceable to their original production lot. Samples of each lot are kept on file, with all documentation regarding batch date, quality control inspections and test reports.

IBS, INCORPORATED

Bin Assortments Z06



884P • GRADE 8 ASSORTMENT • 72 Items

Grade 8 Assortment

COARSE THREAD - PLAIN

IBS No. 884P • 72 Items

3000 Pieces

USS Grade 8 Bolts

SAE HT Flat Washers

USS Grade 8 Finished Nuts

Alloy Lockwashers ZY

- 150,000 psi tensile strength.
- Heat treated.
- Domestically made.
- Plain Finish



1/4-20 Hex Nut 4010	5/16-18 Hex Nut 4011	3/8-16 Hex Nut 4012	7/16-14 Hex Nut 4013	1/2-13 Hex Nut 4014	9/16-12 Hex Nut 4015	5/8-11 Hex Nut 4016	3/4-10 Hex Nut 4017
1/4 SAE FW 7000	5/16 SAE FW 7001	3/8 SAE FW 7002	7/16 SAE FW 7003	1/2 SAE FW 7004	9/16 SAE FW 7005	5/8 SAE FW 7006	3/4 SAE FW 7007
1/4 Alloy LW 7086	5/16 Alloy LW 7087	3/8 Alloy LW 7088	7/16 Alloy LW 7089	1/2 Alloy LW 7090	9/16 Alloy LW 7091	5/8 Alloy LW 7092	3/4 Alloy LW 7093
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 1303	5/16 x 3/4 Capscrew 1327	3/8 x 3/4 Capscrew 1352	7/16 x 1 Capscrew 1376	1/2 x 1 Capscrew 1398	9/16 x 1-1/4 Capscrew 1424	5/8 x 1-1/4 Capscrew 1441	3/4 x 1-1/2 Capscrew 1467
1/4 x 1 Capscrew 1304	5/16 x 1 Capscrew 1329	3/8 x 1 Capscrew 1354	7/16 x 1-1/4 Capscrew 1377	1/2 x 1-1/4 Capscrew 1399	9/16 x 1-1/2 Capscrew 1425	5/8 x 1-1/2 Capscrew 1442	3/4 x 1-3/4 Capscrew 1468
1/4 x 1-1/4 Capscrew 1305	5/16 x 1-1/4 Capscrew 1330	3/8 x 1-1/4 Capscrew 1355	7/16 x 1-1/2 Capscrew 1378	1/2 x 1-1/2 Capscrew 1400	9/16 x 1-3/4 Capscrew 1426	5/8 x 1-3/4 Capscrew 1443	3/4 x 2 Capscrew 1469
1/4 x 1-1/2 Capscrew 1306	5/16 x 1-1/2 Capscrew 1331	3/8 x 1-1/2 Capscrew 1356	7/16 x 1-3/4 Capscrew 1379	1/2 x 1-3/4 Capscrew 1401	9/16 x 2 Capscrew 1427	5/8 x 2 Capscrew 1444	3/4 x 2-1/2 Capscrew 1471
1/4 x 1-3/4 Capscrew 1307	5/16 x 1-3/4 Capscrew 1332	3/8 x 2 Capscrew 1358	7/16 x 2 Capscrew 1380	1/2 x 2 Capscrew 1402	9/16 x 2-1/2 Capscrew 1429	5/8 x 2-1/2 Capscrew 1446	3/4 x 3 Capscrew 1473
1/4 x 2 Capscrew 1308	5/16 x 2 Capscrew 1333	3/8 x 2-1/2 Capscrew 1360	7/16 x 2-1/2 Capscrew 1382	1/2 x 2-1/2 Capscrew 1404	9/16 x 3 Capscrew 1431	5/8 x 3 Capscrew 1448	3/4 x 3-1/2 Capscrew 1475

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IBS, INCORPORATED

Bin Assortments Z06

885P • GRADE 8 ASSORTMENT • 72 Items

Grade 8 Assortment

COARSE THREAD • PLAIN
IBS No. 885P • 72 Items
3000 Pieces

USS Grade 8 Bolts
USS HT Flat Washers
USS Grade 8 Finished Nuts
Alloy Lockwasher ZY

- 150,000 psi tensile strength
- Heat treated.
- Domestically made
- Plain Finish



1/4-20 Hex Nut 4010	5/16-18 Hex Nut 4011	3/8-16 Hex Nut 4012	7/16-14 Hex Nut 4013	1/2-13 Hex Nut 4014	9/16-12 Hex Nut 4015	5/8-11 Hex Nut 4016	3/4-10 Hex Nut 4017
1/4 USS FW 7030	5/16 USS FW 7031	3/8 USS FW 7032	7/16 USS FW 7033	1/2 USS FW 7034	9/16 USS FW 7035	5/8 USS FW 7036	3/4 USS FW 7037
1/4 Alloy LW 7086	5/16 Alloy LW 7087	3/8 Alloy LW 7088	7/16 Alloy LW 7089	1/2 Alloy LW 7090	9/16 Alloy LW 7091	5/8 Alloy LW 7092	3/4 Alloy LW 7093
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 1303	5/16 x 3/4 Capscrew 1327	3/8 x 3/4 Capscrew 1352	7/16 x 1 Capscrew 1376	1/2 x 1 Capscrew 1398	9/16 x 1-1/4 Capscrew 1424	5/8 x 1-1/4 Capscrew 1441	3/4 x 1-1/2 Capscrew 1467
1/4 x 1 Capscrew 1304	5/16 x 1 Capscrew 1329	3/8 x 1 Capscrew 1354	7/16 x 1-1/4 Capscrew 1377	1/2 x 1-1/4 Capscrew 1399	9/16 x 1-1/2 Capscrew 1425	5/8 x 1-1/2 Capscrew 1442	3/4 x 1-3/4 Capscrew 1468
1/4 x 1-1/4 Capscrew 1305	5/16 x 1-1/4 Capscrew 1330	3/8 x 1-1/4 Capscrew 1355	7/16 x 1-1/2 Capscrew 1378	1/2 x 1-1/2 Capscrew 1400	9/16 x 1-3/4 Capscrew 1426	5/8 x 1-3/4 Capscrew 1443	3/4 x 2 Capscrew 1469
1/4 x 1-1/2 Capscrew 1306	5/16 x 1-1/2 Capscrew 1331	3/8 x 1-1/2 Capscrew 1356	7/16 x 1-3/4 Capscrew 1379	1/2 x 1-3/4 Capscrew 1401	9/16 x 2 Capscrew 1427	5/8 x 2 Capscrew 1444	3/4 x 2-1/2 Capscrew 1471
1/4 x 1-3/4 Capscrew 1307	5/16 x 1-3/4 Capscrew 1332	3/8 x 2 Capscrew 1358	7/16 x 2 Capscrew 1380	1/2 x 2 Capscrew 1402	9/16 x 2-1/2 Capscrew 1429	5/8 x 2-1/2 Capscrew 1446	3/4 x 3 Capscrew 1473
1/4 x 2 Capscrew 1308	5/16 x 2 Capscrew 1333	3/8 x 2-1/2 Capscrew 1360	7/16 x 2-1/2 Capscrew 1382	1/2 x 2-1/2 Capscrew 1404	9/16 x 3 Capscrew 1431	5/8 x 3 Capscrew 1448	3/4 x 3-1/2 Capscrew 1475

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Grade 8 Assortment

COARSE THREAD • PLAIN
IBS No. 435P • 40 Items - 2085 Pieces

USS Grade 8 Bolts
SAE HT Flat Washers
USS Grade 8 Finished Nuts
Alloy Lockwashers ZY

- 150,000 psi tensile strength.
- Domestically made.
- Heat treated.
- Plain Finish



1/4-20 Hex Nut 4010	1/4 Alloy LW 7086	1/4 SAE FW 7000	1/4 x 3/4 Capscrew 1303	1/4 x 1 Capscrew 1304	1/4 x 1-1/4 Capscrew 1305	1/4 x 1-1/2 Capscrew 1306	1/4 x 2 Capscrew 1308
5/16-18 Hex Nut 4011	5/16 Alloy LW 7087	5/16 SAE FW 7001	5/16 x 3/4 Capscrew 1327	5/16 x 1 Capscrew 1329	5/16 x 1-1/4 Capscrew 1330	5/16 x 1-1/2 Capscrew 1331	5/16 x 2 Capscrew 1333
3/8-16 Hex Nut 4012	3/8 Alloy LW 7088	3/8 SAE FW 7002	3/8 x 1 Capscrew 1354	3/8 x 1-1/4 Capscrew 1355	3/8 x 1-1/2 Capscrew 1356	3/8 x 2 Capscrew 1358	3/8 x 2-1/2 Capscrew 1360
7/16-14 Hex Nut 4013	5/16 Alloy LW 7089	7/16 SAE FW 7003	7/16 x 1 Capscrew 1376	7/16 x 1-1/4 Capscrew 1377	7/16 x 1-1/2 Capscrew 1378	7/16 x 2 Capscrew 1380	7/16 x 2-1/2 Capscrew 1382
1/2-13 Hex Nut 4014	1/2 Alloy LW 7090	1/2 SAE FW 7004	1/2 x 1 Capscrew 1398	1/2 x 1-1/4 Capscrew 1399	1/2 x 1-1/2 Capscrew 1400	1/2 x 2 Capscrew 1402	1/2 x 2-1/2 Capscrew 1404

Grade 8 Assortment

COARSE THREAD • PLAIN
IBS No. 653P • 40 Items - 2085 Pieces

USS Grade 8 Bolts
USS HT Flat Washers
USS Grade 8 Finished Nuts
Alloy Lock Washers ZY

- 150,000 psi tensile strength.
- Domestically made.
- Heat treated.
- Plain Finish



1/4-20 Hex Nut 4010	1/4 Alloy LW 7086	1/4 USS FW 7030	1/4 x 3/4 Capscrew 1303	1/4 x 1 Capscrew 1304	1/4 x 1-1/4 Capscrew 1305	1/4 x 1-1/2 Capscrew 1306	1/4 x 2 Capscrew 1308
5/16-18 Hex Nut 4011	5/16 Alloy LW 7087	5/16 USS FW 7031	5/16 x 3/4 Capscrew 1327	5/16 x 1 Capscrew 1329	5/16 x 1-1/4 Capscrew 1330	5/16 x 1-1/2 Capscrew 1331	5/16 x 2 Capscrew 1333
3/8-16 Hex Nut 4012	3/8 Alloy LW 7088	3/8 USS FW 7032	3/8 x 1 Capscrew 1354	3/8 x 1-1/4 Capscrew 1355	3/8 x 1-1/2 Capscrew 1356	3/8 x 2 Capscrew 1358	3/8 x 2-1/2 Capscrew 1360
7/16-14 Hex Nut 4013	5/16 Alloy LW 7089	7/16 USS FW 7033	7/16 x 1 Capscrew 1376	7/16 x 1-1/4 Capscrew 1377	7/16 x 1-1/2 Capscrew 1378	7/16 x 2 Capscrew 1380	7/16 x 2-1/2 Capscrew 1382
1/2-13 Hex Nut 4014	1/2 Alloy LW 7090	1/2 USS FW 7034	1/2 x 1 Capscrew 1398	1/2 x 1-1/4 Capscrew 1399	1/2 x 1-1/2 Capscrew 1400	1/2 x 2 Capscrew 1402	1/2 x 2-1/2 Capscrew 1404

IBS, INCORPORATED

Grade 8 C/S - Plated Nat'l Coarse A11



USS Grade 8 Capscrews NATIONAL COARSE — ZINC YELLOW



Length	1/4- 20 P/N	5/16- 18 P/N	Qty	3/8- 16 P/N	Qty	7/16- 14 P/N	1/2- 13 P/N	Qty	9/16- 12 P/N	5/8- 11 P/N	Qty	3/4- 10 P/N	Qty	7/8-9 P/N	Qty	1-8 P/N	Qty	Length
1/2	2401	2425	100	2450	100	—	—	—	—	—	—	—	—	—	—	—	—	1/2
3/4	2403	2427	100	2452	100	—	2497	50	—	—	—	—	—	—	—	—	—	3/4
1	2404	2429	100	2454	100	2476	2498	50	2523	2540	25	2565	20	—	—	—	—	1
1-1/4	2405	2430	100	2455	100	2477	2499	50	2524	2541	25	2566	20	—	—	—	—	1-1/4
1-1/2	2406	2431	100	2456	100	2478	2500	50	2525	2542	25	2567	20	2589A	15	2610A	10	1-1/2
1-3/4	2407	2432	100	2457	100	2479	2501	50	2526	2543	25	2568	20	2589B	15	—	—	1-3/4
2	2408	2433	100	2458	100	2480	2502	50	2527	2544	25	2569	20	2590	15	2611	10	2
2-1/4	2409	2434	50	2459	50	2481	2503	25	2528	2545	25	2570	20	2591	15	2612	10	2-1/4
2-1/2	2410	2435	50	2460	50	2482	2504	25	2529	2546	25	2571	20	2592	15	2613	10	2-1/2
2-3/4	2411	2436	50	2461	50	2483	2505	25	2530	2547	25	2572	20	2593	15	2614	10	2-3/4
3	2412	2437	50	2462	50	2484	2506	25	2531	2548	25	2573	20	2594	10	2615	10	3
3-1/2	2414	2439	50	2464	25	2486	2508	25	2533	2550	25	2575	20	2596	10	2617	10	3-1/2
4	2416	2441	50	2466	25	2488	2510	25	2535	2552	25	2577	20	2598	10	2619	10	4
4-1/2	2417	2442	25	2467	25	2489	2511	15	2536	2553	15	2578	10	2599	5	2620	5	4-1/2
5	2418	2443	25	2468	25	2490	2512	15	2537	2554	15	2579	10	2600	5	2621	5	5
5-1/2	2419	2444	25	2469	25	2491	2513	15	2538	2555	15	2580	10	2601	5	2622	5	5-1/2
6	2420	2445	25	2470	25	2492	2514	15	2539	2556	15	2581	10	2602	5	2623	5	6
7	—	—	—	—	—	—	2516	10	—	2558	5	2583	5	2604	1	2625	1	7
8	—	—	—	—	—	—	2518	10	—	2560	5	2585	5	2606	1	2627	1	8
9	—	—	—	—	—	—	—	—	—	2562	5	2587	1	2608	1	2629	1	9
10	—	—	—	—	—	—	—	—	—	2564	1	2589	1	2610	1	2631	1	10

ALL GRADE 8 BOLTS ARE TRACEABLE TO THEIR ORIGINAL PRODUCTION LOT. SAMPLES OF EACH LOT ARE KEPT ON FILE, WITH ALL DOCUMENTATION REGARDING BATCH DATE, QUALITY CONTROL INSPECTIONS AND TEST REPORTS.

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IBS, INCORPORATED

Bin Assortments Z06

Grade 8 Assortment

**COARSE THREAD • PLATED
ZINC YELLOW**

**IBS No. 880P • 72 Items
3000 Pieces**

**USS Grade 8 Bolts, SAE
HT Flat Washers
USS Grade 8 Finished Nuts
Alloy Lock Washers**

- 150,000 psi tensile strength.
- Domestically made.
- Heat treated.
- Zinc Yellow Finish



880P • GRADE 8 ASSORTMENT • 72 Items

1/4-20 Hex Nut 4610	5/16-18 Hex Nut 4611	3/8-16 Hex Nut 4612	7/16-14 Hex Nut 4613	1/2-13 Hex Nut 4614	9/16-12 Hex Nut 4615	5/8-11 Hex Nut 4616	3/4-10 Hex Nut 4617
1/4 SAE FW 2660	5/16 SAE FW 2661	3/8 SAE FW 2662	7/16 SAE FW 2663	1/2 SAE FW 2664	9/16 SAE FW 2665	5/8 SAE FW 2666	3/4 SAE FW 2667
1/4 Alloy LW 7086	5/16 Alloy LW 7087	3/8 Alloy LW 7088	7/16 Alloy LW 7089	1/2 Alloy LW 7090	9/16 Alloy LW 7091	5/8 Alloy LW 7092	3/4 Alloy LW 7093
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 2403	5/16 x 3/4 Capscrew 2427	3/8 x 3/4 Capscrew 2452	7/16 x 1 Capscrew 2476	1/2 x 1 Capscrew 2498	9/16 x 1-1/4 Capscrew 2524	5/8 x 1-1/4 Capscrew 2541	3/4 x 1-1/2 Capscrew 2567
1/4 x 1 Capscrew 2404	5/16 x 1 Capscrew 2429	3/8 x 1 Capscrew 2454	7/16 x 1-1/4 Capscrew 2477	1/2 x 1-1/4 Capscrew 2499	9/16 x 1-1/2 Capscrew 2525	5/8 x 1-1/2 Capscrew 2542	3/4 x 1-3/4 Capscrew 2568
1/4 x 1-1/4 Capscrew 2405	5/16 x 1-1/4 Capscrew 2430	3/8 x 1-1/4 Capscrew 2455	7/16 x 1-1/2 Capscrew 2478	1/2 x 1-1/2 Capscrew 2500	9/16 x 1-3/4 Capscrew 2526	5/8 x 1-3/4 Capscrew 2543	3/4 x 2 Capscrew 2569
1/4 x 1-1/2 Capscrew 2406	5/16 x 1-1/2 Capscrew 2431	3/8 x 1-1/2 Capscrew 2456	7/16 x 1-3/4 Capscrew 2479	1/2 x 1-3/4 Capscrew 2501	9/16 x 2 Capscrew 2527	5/8 x 2 Capscrew 2544	3/4 x 2-1/2 Capscrew 2571
1/4 x 1-3/4 Capscrew 2407	5/16 x 1-3/4 Capscrew 2432	3/8 x 2 Capscrew 2458	7/16 x 2 Capscrew 2480	1/2 x 2 Capscrew 2502	9/16 x 2-1/2 Capscrew 2529	5/8 x 2-1/2 Capscrew 2546	3/4 x 3 Capscrew 2573
1/4 x 2 Capscrew 2408	5/16 x 2 Capscrew 2433	3/8 x 2-1/2 Capscrew 2460	7/16 x 2-1/2 Capscrew 2482	1/2 x 2-1/2 Capscrew 2504	9/16 x 3 Capscrew 2531	5/8 x 3 Capscrew 2548	3/4 x 3-1/2 Capscrew 2575

Grade 8 Assortment

**COARSE THREAD • PLATED
ZINC YELLOW**

**IBS No. 881P • 72 Items
3000 Pieces**

**USS Grade 8 Bolts
USS HT Flat Washers
USS Grade 8 Finished Nuts
Alloy Lock Washers**

- 150,000 psi tensile strength.
- Domestically made.
- Heat treated.
- Zinc Yellow Finish



881P • GRADE 8 ASSORTMENT • 72 Items

1/4-20 Hex Nut 4610	5/16-18 Hex Nut 4611	3/8-16 Hex Nut 4612	7/16-14 Hex Nut 4613	1/2-13 Hex Nut 4614	9/16-12 Hex Nut 4615	5/8-11 Hex Nut 4616	3/4-10 Hex Nut 4617
1/4 USS FW 2770	5/16 USS FW 2771	3/8 USS FW 2772	7/16 USS FW 2773	1/2 USS FW 2774	9/16 USS FW 2775	5/8 USS FW 2776	3/4 USS FW 2777
1/4 Alloy LW 7086	5/16 Alloy LW 7087	3/8 Alloy LW 7088	7/16 Alloy LW 7089	1/2 Alloy LW 7090	9/16 Alloy LW 7091	5/8 Alloy LW 7092	3/4 Alloy LW 7093
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 2403	5/16 x 3/4 Capscrew 2427	3/8 x 3/4 Capscrew 2452	7/16 x 1 Capscrew 2476	1/2 x 1 Capscrew 2498	9/16 x 1-1/4 Capscrew 2524	5/8 x 1-1/4 Capscrew 2541	3/4 x 1-1/2 Capscrew 2567
1/4 x 1 Capscrew 2404	5/16 x 1 Capscrew 2429	3/8 x 1 Capscrew 2454	7/16 x 1-1/4 Capscrew 2477	1/2 x 1-1/4 Capscrew 2499	9/16 x 1-1/2 Capscrew 2525	5/8 x 1-1/2 Capscrew 2542	3/4 x 1-3/4 Capscrew 2568
1/4 x 1-1/4 Capscrew 2405	5/16 x 1-1/4 Capscrew 2430	3/8 x 1-1/4 Capscrew 2455	7/16 x 1-1/2 Capscrew 2478	1/2 x 1-1/2 Capscrew 2500	9/16 x 1-3/4 Capscrew 2526	5/8 x 1-3/4 Capscrew 2543	3/4 x 2 Capscrew 2569
1/4 x 1-1/2 Capscrew 2406	5/16 x 1-1/2 Capscrew 2431	3/8 x 1-1/2 Capscrew 2456	7/16 x 1-3/4 Capscrew 2479	1/2 x 1-3/4 Capscrew 2501	9/16 x 2 Capscrew 2527	5/8 x 2 Capscrew 2544	3/4 x 2-1/2 Capscrew 2571
1/4 x 1-3/4 Capscrew 2407	5/16 x 1-3/4 Capscrew 2432	3/8 x 2 Capscrew 2458	7/16 x 2 Capscrew 2480	1/2 x 2 Capscrew 2502	9/16 x 2-1/2 Capscrew 2529	5/8 x 2-1/2 Capscrew 2546	3/4 x 3 Capscrew 2573
1/4 x 2 Capscrew 2408	5/16 x 2 Capscrew 2433	3/8 x 2-1/2 Capscrew 2460	7/16 x 2-1/2 Capscrew 2482	1/2 x 2-1/2 Capscrew 2504	9/16 x 3 Capscrew 2531	5/8 x 3 Capscrew 2548	3/4 x 3-1/2 Capscrew 2575

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IBS, INCORPORATED

Assortments Z08



Grade 8 Assortment

COARSE THREAD

PLATED ZINC YELLOW

IBS No. 438P • 40 Items

1985 Pieces

USS Grade 8 Bolts

SAE HT Flat Washers

USS Grade 8 Finished Nuts

Alloy Lockwashers

- 150,000 psi tensile strength.
- Domestically made.
- Heat treated.
- Plated Finish



1/4-20 Hex Nut 4610	1/4 Alloy LW 7086	1/4 SAE FW 2660	1/4 x 3/4 Capscrew 2403	1/4 x 1 Capscrew 2404	1/4 x 1-1/4 Capscrew 2405	1/4 x 1-1/2 Capscrew 2406	1/4 x 2 Capscrew 2408
5/16-18 Hex Nut 4611	5/16 Alloy LW 7087	5/16 SAE FW 2661	5/16 x 3/4 Capscrew 2427	5/16 x 1 Capscrew 2429	5/16 x 1-1/4 Capscrew 2430	5/16 x 1-1/2 Capscrew 2431	5/16 x 2 Capscrew 2433
3/8-16 Hex Nut 4612	3/8 Alloy LW 7088	3/8 SAE FW 2662	3/8 x 1 Capscrew 2454	3/8 x 1-1/4 Capscrew 2455	3/8 x 1-1/2 Capscrew 2456	3/8 x 2 Capscrew 2458	3/8 x 2-1/2 Capscrew 2460
7/16-14 Hex Nut 4613	5/16 Alloy LW 7089	7/16 SAE FW 2663	7/16 x 1 Capscrew 2476	7/16 x 1-1/4 Capscrew 2477	7/16 x 1-1/2 Capscrew 2478	7/16 x 2 Capscrew 2480	7/16 x 2-1/2 Capscrew 2482
1/2-13 Hex Nut 4614	1/2 Alloy LW 7090	1/2 SAE FW 2664	1/2 x 1 Capscrew 2498	1/2 x 1-1/4 Capscrew 2499	1/2 x 1-1/2 Capscrew 2500	1/2 x 2 Capscrew 2502	1/2 x 2-1/2 Capscrew 2504

Grade 8 Assortment

COARSE THREAD

PLATED ZINC YELLOW

IBS No. 655P • 40 Items

1985 Pieces

USS Grade 8 Bolts

USS HT Flat Washers

USS Grade 8 Finished Nuts

Alloy Lockwashers

- 150,000 psi tensile strength.
- Domestically made.
- Heat treated.
- Plated Finish



1/4-20 Hex Nut 4610	1/4 Alloy LW 7086	1/4 USS FW 2770	1/4 x 3/4 Capscrew 2403	1/4 x 1 Capscrew 2404	1/4 x 1-1/4 Capscrew 2405	1/4 x 1-1/2 Capscrew 2406	1/4 x 2 Capscrew 2408
5/16-18 Hex Nut 4611	5/16 Alloy LW 7087	5/16 USS FW 2771	5/16 x 3/4 Capscrew 2427	5/16 x 1 Capscrew 2429	5/16 x 1-1/4 Capscrew 2430	5/16 x 1-1/2 Capscrew 2431	5/16 x 2 Capscrew 2433
3/8-16 Hex Nut 4612	3/8 Alloy LW 7088	3/8 USS FW 2772	3/8 x 1 Capscrew 2454	3/8 x 1-1/4 Capscrew 2455	3/8 x 1-1/2 Capscrew 2456	3/8 x 2 Capscrew 2458	3/8 x 2-1/2 Capscrew 2460
7/16-14 Hex Nut 4613	5/16 Alloy LW 7089	7/16 USS FW 2773	7/16 x 1 Capscrew 2476	7/16 x 1-1/4 Capscrew 2477	7/16 x 1-1/2 Capscrew 2478	7/16 x 2 Capscrew 2480	7/16 x 2-1/2 Capscrew 2482
1/2-13 Hex Nut 4614	1/2 Alloy LW 7090	1/2 USS FW 2774	1/2 x 1 Capscrew 2498	1/2 x 1-1/4 Capscrew 2499	1/2 x 1-1/2 Capscrew 2500	1/2 x 2 Capscrew 2502	1/2 x 2-1/2 Capscrew 2504

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IBS, INCORPORATED

Grade 8 Capscrews Nat'l Fine A06

SAE Grade 8 Capscrews NATIONAL FINE - ZINC YELLOW



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Length	1/4- 28 P/N	5/16- 24 P/N	3/8- 24 P/N	Qty	7/16- 20 P/N	1/2- 20 P/N	Qty	9/16- 18 P/N	5/8- 18 P/N	Qty	3/4- 16 P/N	Qty	7/8- 14 P/N	Qty	1-14 P/N	Qty	Length
1/2	1594	1615	1636	100	—	—	—	—	—	—	—	—	—	—	—	—	1/2
3/4	1596	1617	1638	100	1659	1678	50	—	—	—	—	—	—	—	—	—	3/4
1	1598	1619	1640	100	1661	1679	50	1700	1717	25	—	—	—	—	—	—	1
1-1/4	1599	1620	1641	100	1662	1680	50	1701	1718	25	1741	20	—	—	—	—	1-1/4
1-1/2	1600	1621	1642	100	1663	1681	50	1702	1719	25	1742	20	—	—	—	—	1-1/2
1-3/4	1601	1622	1643	100	1664	1682	50	1703	1720	25	1743	20	—	—	—	—	1-3/4
2	1602	1623	1644	100	1665	1683	50	1704	1721	25	1744	20	1761	15	1774	10	2
2-1/4	—	—	1645	50	1666	1684	25	1705	1722	25	1745	20	1762	15	1775	10	2-1/4
2-1/2	1604	1625	1646	50	1667	1685	25	1706	1723	25	1746	20	1763	15	1776	10	2-1/2
2-3/4	1605	1626	1647	50	1668	1686	25	1707	1724	25	1747	20	1764	15	1777	10	2-3/4
3	1606	1627	1648	50	1669	1687	25	1708	1725	25	1748	20	1765	10	1778	10	3
3-1/2	1608	1629	1650	50	1671	1689	25	1710	1727	25	1750	20	1767	10	1780	10	3-1/2
4	1610	1631	1652	25	1673	1691	25	1712	1729	25	1752	20	1769	10	1782	10	4
4-1/2	1611	1632	1653	25	1674	1692	15	1713	1730	15	1753	10	1770	5	1783	5	4-1/2
5	1612	1633	1654	25	1675	1693	15	1714	1731	15	1754	10	1771	5	1784	5	5
5-1/2	1613	1634	1655	25	1676	1694	15	1715	1732	15	1755	10	1772	5	1785	5	5-1/2
6	1614	1635	1656	25	1677	1695	15	1716	1733	15	1756	10	1773	5	1786	5	6
6-1/2	—	—	—	—	—	—	—	—	—	—	1757	EA	—	—	—	—	6-1/2
7	—	—	—	—	—	—	—	—	1735	EA	1758	EA	—	—	—	—	7

IBS, INCORPORATED

Bin Assortments Z06



Grade 8

Assortment

FINE THREAD

PLATED ZINC YELLOW

IBS No. 882P • 72 Items

2700 Pieces

SAE Grade 8 Bolts

SAE HT Flat Washers

SAE Grade 8 Finished Nuts

Alloy Lock Washers

- 150,000 psi tensile strength.
- Domestically made.
- Heat treated.



882P • GRADE 8 ASSORTMENT • 72 Items

1/4-28 Hex Nut 6640	5/16-24 Hex Nut 6641	3/8-24 Hex Nut 6642	7/16-20 Hex Nut 6643	1/2-20 Hex Nut 6644	9/16-18 Hex Nut 6645	5/8-18 Hex Nut 6646	3/4-16 Hex Nut 6647
1/4 SAE FW 2660	5/16 SAE FW 2661	3/8 SAE FW 2662	7/16 SAE FW 2663	1/2 SAE FW 2664	9/16 SAE FW 2665	5/8 SAE FW 2666	3/4 SAE FW 2667
1/4 Alloy LW 7086	5/16 Alloy LW 7087	3/8 Alloy LW 7088	7/16 Alloy LW 7089	1/2 Alloy LW 7090	9/16 Alloy LW 7091	5/8 Alloy LW 7092	3/4 Alloy LW 7093
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 1596	5/16 x 3/4 Capscrew 1617	3/8 x 3/4 Capscrew 1638	7/16 x 1 Capscrew 1661	1/2 x 1 Capscrew 1679	9/16 x 1-1/4 Capscrew 1701	5/8 x 1-1/4 Capscrew 1718	3/4 x 1-1/2 Capscrew 1742
1/4 x 1 Capscrew 1598	5/16 x 1 Capscrew 1619	3/8 x 1 Capscrew 1640	7/16 x 1-1/4 Capscrew 1662	1/2 x 1-1/4 Capscrew 1680	9/16 x 1-1/2 Capscrew 1702	5/8 x 1-1/2 Capscrew 1719	3/4 x 1-3/4 Capscrew 1743
1/4 x 1-1/4 Capscrew 1599	5/16 x 1-1/4 Capscrew 1620	3/8 x 1-1/4 Capscrew 1641	7/16 x 1-1/2 Capscrew 1663	1/2 x 1-1/2 Capscrew 1681	9/16 x 1-3/4 Capscrew 1703	5/8 x 1-3/4 Capscrew 1720	3/4 x 2 Capscrew 1744
1/4 x 1-1/2 Capscrew 1600	5/16 x 1-1/2 Capscrew 1621	3/8 x 1-1/2 Capscrew 1642	7/16 x 1-3/4 Capscrew 1664	1/2 x 1-3/4 Capscrew 1682	9/16 x 2 Capscrew 1704	5/8 x 2 Capscrew 1721	3/4 x 2-1/2 Capscrew 1746
1/4 x 1-3/4 Capscrew 1601	5/16 x 1-3/4 Capscrew 1622	3/8 x 2 Capscrew 1644	7/16 x 2 Capscrew 1665	1/2 x 2 Capscrew 1683	9/16 x 2-1/2 Capscrew 1706	5/8 x 2-1/2 Capscrew 1723	3/4 x 3 Capscrew 1748
1/4 x 2 Capscrew 1602	5/16 x 2 Capscrew 1623	3/8 x 2-1/2 Capscrew 1646	7/16 x 2-1/2 Capscrew 1667	1/2 x 2-1/2 Capscrew 1685	9/16 x 3 Capscrew 1708	5/8 x 3 Capscrew 1725	3/4 x 3-1/2 Capscrew 1750

Grade 8 Assortment

FINE THREAD

PLATED ZINC YELLOW

IBS No. 883P • 72 Items

2700 Pieces

SAE Grade 8 Bolts

USS HT Flat Washers

SAE Grade 8 Finished Nuts

Alloy Lock Washers

- 150,000 psi tensile strength.
- Domestically made.
- Heat treated.



883P • GRADE 8 ASSORTMENT • 72 Items

1/4-28 Hex Nut 6640	5/16-24 Hex Nut 6641	3/8-24 Hex Nut 6642	7/16-20 Hex Nut 6643	1/2-20 Hex Nut 6644	9/16-18 Hex Nut 6645	5/8-18 Hex Nut 6646	3/4-16 Hex Nut 6647
1/4 USS FW 2770	5/16 USS FW 2771	3/8 USS FW 2772	7/16 USS FW 2773	1/2 USS FW 2774	9/16 USS FW 2775	5/8 USS FW 2776	3/4 USS FW 2777
1/4 Alloy LW 7086	5/16 Alloy LW 7087	3/8 Alloy LW 7088	7/16 Alloy LW 7089	1/2 Alloy LW 7090	9/16 Alloy LW 7091	5/8 Alloy LW 7092	3/4 Alloy LW 7093
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 1596	5/16 x 3/4 Capscrew 1617	3/8 x 3/4 Capscrew 1638	7/16 x 1 Capscrew 1661	1/2 x 1 Capscrew 1679	9/16 x 1-1/4 Capscrew 1701	5/8 x 1-1/4 Capscrew 1718	3/4 x 1-1/2 Capscrew 1742
1/4 x 1 Capscrew 1598	5/16 x 1 Capscrew 1619	3/8 x 1 Capscrew 1640	7/16 x 1-1/4 Capscrew 1662	1/2 x 1-1/4 Capscrew 1680	9/16 x 1-1/2 Capscrew 1702	5/8 x 1-1/2 Capscrew 1719	3/4 x 1-3/4 Capscrew 1743
1/4 x 1-1/4 Capscrew 1599	5/16 x 1-1/4 Capscrew 1620	3/8 x 1-1/4 Capscrew 1641	7/16 x 1-1/2 Capscrew 1663	1/2 x 1-1/2 Capscrew 1681	9/16 x 1-3/4 Capscrew 1703	5/8 x 1-3/4 Capscrew 1720	3/4 x 2 Capscrew 1744
1/4 x 1-1/2 Capscrew 1600	5/16 x 1-1/2 Capscrew 1621	3/8 x 1-1/2 Capscrew 1642	7/16 x 1-3/4 Capscrew 1664	1/2 x 1-3/4 Capscrew 1682	9/16 x 2 Capscrew 1704	5/8 x 2 Capscrew 1721	3/4 x 2-1/2 Capscrew 1746
1/4 x 1-3/4 Capscrew 1601	5/16 x 1-3/4 Capscrew 1622	3/8 x 2 Capscrew 1644	7/16 x 2 Capscrew 1665	1/2 x 2 Capscrew 1683	9/16 x 2-1/2 Capscrew 1706	5/8 x 2-1/2 Capscrew 1723	3/4 x 3 Capscrew 1748
1/4 x 2 Capscrew 1602	5/16 x 2 Capscrew 1623	3/8 x 2-1/2 Capscrew 1646	7/16 x 2-1/2 Capscrew 1667	1/2 x 2-1/2 Capscrew 1685	9/16 x 3 Capscrew 1708	5/8 x 3 Capscrew 1725	3/4 x 3-1/2 Capscrew 1750

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IBS, INCORPORATED

Assortments Z08

Grade 8 Assortment

FINE THREAD

PLATED ZINC YELLOW

**IBS No. 439P • 40 Items
1840 Pieces**

SAE Grade 8 Bolts

SAE HT Flat Washers

**SAE Grade 8 Finished Nuts
Alloy Lockwashers**

- 150,000 psi tensile strength.
- Domestically made.
- Heat treated.
- Plated Finish



1/4-28 Hex Nut 6640	1/4 Alloy LW 7086	1/4 SAE FW 2660	1/4 x 3/4 Capscrew 1596	1/4 x 1 Capscrew 1598	1/4 x 1-1/4 Capscrew 1599	1/4 x 1-1/2 Capscrew 1600	1/4 x 2 Capscrew 1602
5/16-24 Hex Nut 6641	5/16 Alloy LW 7087	5/16 SAE FW 2661	5/16 x 3/4 Capscrew 1617	5/16 x 1 Capscrew 1619	5/16 x 1-1/4 Capscrew 1620	5/16 x 1-1/2 Capscrew 1621	5/16 x 2 Capscrew 1623
3/8-24 Hex Nut 6642	3/8 Alloy LW 7088	3/8 SAE FW 2662	3/8 x 1 Capscrew 1640	3/8 x 1-1/4 Capscrew 1641	3/8 x 1-1/2 Capscrew 1642	3/8 x 2 Capscrew 1644	3/8 x 2-1/2 Capscrew 1646
7/16-20 Hex Nut 6643	5/16 Alloy LW 7089	7/16 SAE FW 2663	7/16 x 1 Capscrew 1661	7/16 x 1-1/4 Capscrew 1662	7/16 x 1-1/2 Capscrew 1663	7/16 x 2 Capscrew 1665	7/16 x 2-1/2 Capscrew 1667
1/2-20 Hex Nut 6644	1/2 Alloy LW 7090	1/2 SAE FW 2664	1/2 x 1 Capscrew 1679	1/2 x 1-1/4 Capscrew 1680	1/2 x 1-1/2 Capscrew 1681	1/2 x 2 Capscrew 1683	1/2 x 2-1/2 Capscrew 1685

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Grade 8 Assortment

FINE THREAD

PLATED ZINC YELLOW

**IBS No. 656P • 40 Items
1840 Pieces**

SAE Grade 8 Bolts

USS HT Flat Washers

**SAE Grade 8 Finished Nuts
Alloy Lock Washers**

- 150,000 psi tensile strength.
- Domestically made.
- Heat treated.
- Plated Finish



1/4-28 Hex Nut 6640	1/4 Alloy LW 7086	1/4 USS FW 2770	1/4 x 3/4 Capscrew 1596	1/4 x 1 Capscrew 1598	1/4 x 1-1/4 Capscrew 1599	1/4 x 1-1/2 Capscrew 1600	1/4 x 2 Capscrew 1602
5/16-24 Hex Nut 6641	5/16 Alloy LW 7087	5/16 USS FW 2771	5/16 x 3/4 Capscrew 1617	5/16 x 1 Capscrew 1619	5/16 x 1-1/4 Capscrew 1620	5/16 x 1-1/2 Capscrew 1621	5/16 x 2 Capscrew 1623
3/8-24 Hex Nut 6642	3/8 Alloy LW 7088	3/8 USS FW 2772	3/8 x 1 Capscrew 1640	3/8 x 1-1/4 Capscrew 1641	3/8 x 1-1/2 Capscrew 1642	3/8 x 2 Capscrew 1644	3/8 x 2-1/2 Capscrew 1646
7/16-20 Hex Nut 6643	5/16 Alloy LW 7089	7/16 USS FW 2773	7/16 x 1 Capscrew 1661	7/16 x 1-1/4 Capscrew 1662	7/16 x 1-1/2 Capscrew 1663	7/16 x 2 Capscrew 1665	7/16 x 2-1/2 Capscrew 1667
1/2-20 Hex Nut 6644	1/2 Alloy LW 7090	1/2 USS FW 2774	1/2 x 1 Capscrew 1679	1/2 x 1-1/4 Capscrew 1680	1/2 x 1-1/2 Capscrew 1681	1/2 x 2 Capscrew 1683	1/2 x 2-1/2 Capscrew 1685



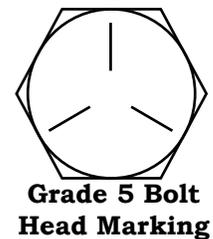
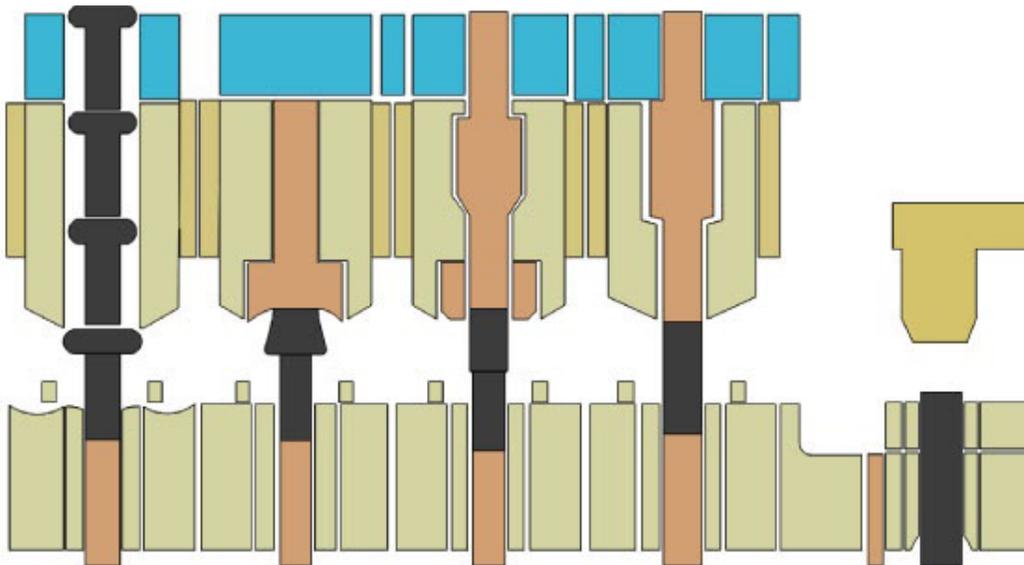
Grade 5 Hex Capscrews **Heat Treated • Zinc Plated**

Grade 5 Hex Capscrews are cold forged. Cold forging eliminates some negative effects such as porosity fatigue by increasing the overall strength of the metal and removing the risk of a loss of material integrity.

Increased quality and long life: Cold forged parts are capable of handling high stress. When the workpiece is forced beyond its yield or elastic limit, it is still able to retain its altered shape.

- REDUCES DOWN TIME DUE TO POOR FASTENER ASSEMBLIES
- REDUCES COSTLY WASTED MANHOURS
- REDUCES UNNECESSARY DAMAGE AND WEAR
- INCREASES EFFECTIVENESS OF EQUIPMENT AND MAINTENANCE PROGRAM

Cold Forging Process





IBS, INCORPORATED

Grade 5 Capscrews Nat'l Coarse A07

USS Grade 5 Capscrews NATIONAL COARSE — ZINC



Length	1/4- 20 P/N	5/16- 18 P/N	3/8- 16 P/N	Qty	7/16- 14 P/N	1/2- 13 P/N	Qty	9/16- 12 P/N	5/8- 11 P/N	Qty	3/4- 10 P/N	Qty	7/8-9 P/N	1-8 P/N	Qty	Length
1/2	1900	1921	1942	100	—	—	—	—	—	—	—	—	—	—	—	1/2
3/4	1902	1923	1944	100	1967	1983	50	—	—	—	—	—	—	—	—	3/4
1	1904	1925	1946	100	1968	1984	50	2009	2024	25	2051	20	—	—	—	1
1-1/4	1905	1926	1947	100	1969	1985	50	2010	2025	25	2052	20	—	—	—	1-1/4
1-1/2	1906	1927	1948	100	1970	1986	50	2011	2026	25	2053	20	2072	—	10	1-1/2
1-3/4	1907	1928	1949	100	1971	1987	50	2012	2027	25	2054	20	2073	—	10	1-3/4
2	1908	1929	1950	100	1972	1988	50	2013	2028	25	2055	20	2074	2091	10	2
2-1/4	1909	1930	1951	50	1973	1989	25	2014	2029	25	2056	20	2075	2092	10	2-1/4
2-1/2	1910	1931	1952	50	1974	1990	25	2015	2030	25	2057	20	2076	2093	10	2-1/2
2-3/4	1911	1932	1953	50	1975	1991	25	2016	2031	25	2058	20	2077	2094	10	2-3/4
3	1912	1933	1954	50	1976	1992	25	2017	2032	25	2059	20	2078	2095	10	3
3-1/2	1914	1935	1956	50	1977	1994	25	2018	2034	25	2061	20	2080	2097	10	3-1/2
4	1916	1937	1958	50	1978	1996	25	2019	2036	25	2063	20	2082	2099	10	4
4-1/2	1917	1938	1959	25	1979	1997	15	2020	2037	15	2064	10	2083	2100	5	4-1/2
5	1918	1939	1960	25	1980	1998	15	2021	2038	15	2065	10	2084	2101	5	5
5-1/2	1919	1940	1961	25	1981	1999	15	2022	2039	15	2066	10	2085	2102	5	5-1/2
6	1920	1941	1962	25	1982	2000	15	2023	2040	15	2067	10	2086	2103	5	6
7			—	—	—	—	—	—	2041	—	—	—	—	2105	EA	7
8			—	—	—	—	—	—	—	—	—	—	—	2107	EA	8

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IBS, INCORPORATED

Bin Assortments Z06



850P • GRADE 5 ASSORTMENT • 72 Items

Grade 5 Capscrew Assortment

**COARSE THREAD
PLATED ZINC**

**IBS No. 850P • 72 Items
3340 Pieces**

**USS Grade 5 Bolts
SAE Flat Washers**

**USS Grade 5 Finished Nuts
Lockwashers**

- 120,000 psi Tensile Strength.
- Heat treated and Zinc plated.



1/4-20 Hex Nut 4100	5/16-18 Hex Nut 4101	3/8-16 Hex Nut 4102	7/16-14 Hex Nut 4103	1/2-13 Hex Nut 4104	9/16-12 Hex Nut 4105	5/8-11 Hex Nut 4106	3/4-10 Hex Nut 4107
1/4 SAE FW 7049	5/16 SAE FW 7050	3/8 SAE FW 7051	7/16 SAE FW 7052	1/2 SAE FW 7053	9/16 SAE FW 7054	5/8 SAE FW 7055	3/4 SAE FW 7056
1/4 Med LW 7105	5/16 Med LW 7106	3/8 Med LW 7107	7/16 Med LW 7108	1/2 Med LW 7109	9/16 Med LW 7110	5/8 Med LW 7111	3/4 Med LW 7112
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 1902	5/16 x 3/4 Capscrew 1923	3/8 x 3/4 Capscrew 1944	7/16 x 1 Capscrew 1968	1/2 x 1 Capscrew 1984	9/16 x 1-1/4 Capscrew 2010	5/8 x 1-1/4 Capscrew 2025	3/4 x 1-1/2 Capscrew 2053
1/4 x 1 Capscrew 1904	5/16 x 1 Capscrew 1925	3/8 x 1 Capscrew 1946	7/16 x 1-1/4 Capscrew 1969	1/2 x 1-1/4 Capscrew 1985	9/16 x 1-1/2 Capscrew 2011	5/8 x 1-1/2 Capscrew 2026	3/4 x 1-3/4 Capscrew 2054
1/4 x 1-1/4 Capscrew 1905	5/16 x 1-1/4 Capscrew 1926	3/8 x 1-1/4 Capscrew 1947	7/16 x 1-1/2 Capscrew 1970	1/2 x 1-1/2 Capscrew 1986	9/16 x 1-3/4 Capscrew 2012	5/8 x 1-3/4 Capscrew 2027	3/4 x 2 Capscrew 2055
1/4 x 1-1/2 Capscrew 1906	5/16 x 1-1/2 Capscrew 1927	3/8 x 1-1/2 Capscrew 1948	7/16 x 1-3/4 Capscrew 1971	1/2 x 1-3/4 Capscrew 1987	9/16 x 2 Capscrew 2013	5/8 x 2 Capscrew 2028	3/4 x 2-1/2 Capscrew 2057
1/4 x 1-3/4 Capscrew 1907	5/16 x 1-3/4 Capscrew 1928	3/8 x 2 Capscrew 1950	7/16 x 2 Capscrew 1972	1/2 x 2 Capscrew 1988	9/16 x 2-1/2 Capscrew 2015	5/8 x 2-1/2 Capscrew 2030	3/4 x 3 Capscrew 2059
1/4 x 2 Capscrew 1908	5/16 x 2 Capscrew 1929	3/8 x 2-1/2 Capscrew 1952	7/16 x 2-1/2 Capscrew 1974	1/2 x 2-1/2 Capscrew 1990	9/16 x 3 Capscrew 2017	5/8 x 3 Capscrew 2032	3/4 x 3-1/2 Capscrew 2061

851P • GRADE 5 ASSORTMENT • 72 Items

Grade 5 Capscrew Assortment

**COARSE THREAD
PLATED ZINC**

**IBS No. 851P • 72 Items
3340 Pieces**

**USS Grade 5 Bolts
USS Flat Washers**

**USS Grade 5 Finished Nuts
Lockwashers**

- 120,000 psi Tensile Strength.
- Heat treated and Zinc plated.



1/4-20 Hex Nut 4100	5/16-18 Hex Nut 4101	3/8-16 Hex Nut 4102	7/16-14 Hex Nut 4103	1/2-13 Hex Nut 4104	9/16-12 Hex Nut 4105	5/8-11 Hex Nut 4106	3/4-10 Hex Nut 4107
1/4 USS FW 7063	5/16 USS FW 7064	3/8 USS FW 7065	7/16 USS FW 7066	1/2 USS FW 7067	9/16 USS FW 7068	5/8 USS FW 7069	3/4 USS FW 7070
1/4 Med LW 7105	5/16 Med LW 7106	3/8 Med LW 7107	7/16 Med LW 7108	1/2 Med LW 7109	9/16 Med LW 7110	5/8 Med LW 7111	3/4 Med LW 7112
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 1902	5/16 x 3/4 Capscrew 1923	3/8 x 3/4 Capscrew 1944	7/16 x 1 Capscrew 1968	1/2 x 1 Capscrew 1984	9/16 x 1-1/4 Capscrew 2010	5/8 x 1-1/4 Capscrew 2025	3/4 x 1-1/2 Capscrew 2053
1/4 x 1 Capscrew 1904	5/16 x 1 Capscrew 1925	3/8 x 1 Capscrew 1946	7/16 x 1-1/4 Capscrew 1969	1/2 x 1-1/4 Capscrew 1985	9/16 x 1-1/2 Capscrew 2011	5/8 x 1-1/2 Capscrew 2026	3/4 x 1-3/4 Capscrew 2054
1/4 x 1-1/4 Capscrew 1905	5/16 x 1-1/4 Capscrew 1926	3/8 x 1-1/4 Capscrew 1947	7/16 x 1-1/2 Capscrew 1970	1/2 x 1-1/2 Capscrew 1986	9/16 x 1-3/4 Capscrew 2012	5/8 x 1-3/4 Capscrew 2027	3/4 x 2 Capscrew 2055
1/4 x 1-1/2 Capscrew 1906	5/16 x 1-1/2 Capscrew 1927	3/8 x 1-1/2 Capscrew 1948	7/16 x 1-3/4 Capscrew 1971	1/2 x 1-3/4 Capscrew 1987	9/16 x 2 Capscrew 2013	5/8 x 2 Capscrew 2028	3/4 x 2-1/2 Capscrew 2057
1/4 x 1-3/4 Capscrew 1907	5/16 x 1-3/4 Capscrew 1928	3/8 x 2 Capscrew 1950	7/16 x 2 Capscrew 1972	1/2 x 2 Capscrew 1988	9/16 x 2-1/2 Capscrew 2015	5/8 x 2-1/2 Capscrew 2030	3/4 x 3 Capscrew 2059
1/4 x 2 Capscrew 1908	5/16 x 2 Capscrew 1929	3/8 x 2-1/2 Capscrew 1952	7/16 x 2-1/2 Capscrew 1974	1/2 x 2-1/2 Capscrew 1990	9/16 x 3 Capscrew 2017	5/8 x 3 Capscrew 2032	3/4 x 3-1/2 Capscrew 2061

CAPSCREWS



IBS, INCORPORATED

Assortments Z08

Grade 5 Capscrew Assortment

COARSE THREAD — PLATED ZINC
IBS No. 651P • 40 Items
2285 Pieces
USS Grade 5 Bolts
SAE Flat Washers
USS Grade 5 Finished Nuts
Lockwashers



1/4-20 Hex Nut 4100	1/4 Med LW 7105	1/4 SAE FW 7049	1/4 x 3/4 Capscrew 1902	1/4 x 1 Capscrew 1904	1/4 x 1-1/4 Capscrew 1905	1/4 x 1-1/2 Capscrew 1906	1/4 x 2 Capscrew 1908
5/16-18 Hex Nut 4101	5/16 Med LW 7106	5/16 SAE FW 7050	5/16 x 3/4 Capscrew 1923	5/16 x 1 Capscrew 1925	5/16 x 1-1/4 Capscrew 1926	5/16 x 1-1/2 Capscrew 1927	5/16 x 2 Capscrew 1929
3/8-16 Hex Nut 4102	3/8 Med LW 7107	3/8 SAE FW 7051	3/8 x 1 Capscrew 1946	3/8 x 1-1/4 Capscrew 1947	3/8 x 1-1/2 Capscrew 1948	3/8 x 2 Capscrew 1950	3/8 x 2-1/2 Capscrew 1952
7/16-14 Hex Nut 4103	5/16 Med LW 7108	7/16 SAE FW 7052	7/16 x 1 Capscrew 1968	7/16 x 1-1/4 Capscrew 1969	7/16 x 1-1/2 Capscrew 1970	7/16 x 2 Capscrew 1972	7/16 x 2-1/2 Capscrew 1974
1/2-13 Hex Nut 4104	1/2 Med LW 7109	1/2 SAE FW 7053	1/2 x 1 Capscrew 1984	1/2 x 1-1/4 Capscrew 1985	1/2 x 1-1/2 Capscrew 1986	1/2 x 2 Capscrew 1988	1/2 x 2-1/2 Capscrew 1990

Grade 5 Capscrew Assortment

COARSE THREAD • PLATED ZINC
IBS No. 430P • 40 Items
2285 Pieces
USS Grade 5 Bolts
USS Flat Washers
USS Grade 5 Finished Nuts
Lockwashers



1/4-20 Hex Nut 4100	1/4 Med LW 7105	1/4 USS FW 7063	1/4 x 3/4 Capscrew 1902	1/4 x 1 Capscrew 1904	1/4 x 1-1/4 Capscrew 1905	1/4 x 1-1/2 Capscrew 1906	1/4 x 2 Capscrew 1908
5/16-18 Hex Nut 4101	5/16 Med LW 7106	5/16 USS FW 7064	5/16 x 3/4 Capscrew 1923	5/16 x 1 Capscrew 1925	5/16 x 1-1/4 Capscrew 1926	5/16 x 1-1/2 Capscrew 1927	5/16 x 2 Capscrew 1929
3/8-16 Hex Nut 4102	3/8 Med LW 7107	3/8 USS FW 7065	3/8 x 1 Capscrew 1946	3/8 x 1-1/4 Capscrew 1947	3/8 x 1-1/2 Capscrew 1948	3/8 x 2 Capscrew 1950	3/8 x 2-1/2 Capscrew 1952
7/16-14 Hex Nut 4103	5/16 Med LW 7108	7/16 USS FW 7066	7/16 x 1 Capscrew 1968	7/16 x 1-1/4 Capscrew 1969	7/16 x 1-1/2 Capscrew 1970	7/16 x 2 Capscrew 1972	7/16 x 2-1/2 Capscrew 1974
1/2-13 Hex Nut 4104	1/2 Med LW 7109	1/2 USS FW 7067	1/2 x 1 Capscrew 1984	1/2 x 1-1/4 Capscrew 1985	1/2 x 1-1/2 Capscrew 1986	1/2 x 2 Capscrew 1988	1/2 x 2-1/2 Capscrew 1990

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IBS, INCORPORATED

Grade 5 Capscrews Nat'l Fine A08



SAE Grade 5 Capscrews

NATIONAL FINE — ZINC

Length	1/4-28 P/N	5/16-24 P/N	3/8-24 P/N	Qty	7/16-20 P/N	1/2-20 P/N	Qty	9/16-18 P/N	5/8-18 P/N	Qty	3/4-16 P/N	Qty	7/8-14 P/N	1-14 P/N	Qty	Length
1/2	2200	2221	—	100	—	—	—	—	—	—	—	—	—	—	—	1/2
3/4	2202	2223	2243	100	—	2282	50	—	—	—	—	—	—	—	—	3/4
1	2204	2225	2245	100	2264	2283	50	2304	2320	25	—	—	—	—	—	1
1-1/4	2205	2226	2246	100	2265	2284	50	2305	2321	25	2343	20	—	—	—	1-1/4
1-1/2	2206	2227	2247	100	2266	2285	50	2306	2322	25	2344	20	—	—	—	1-1/2
1-3/4	2207	2228	2248	100	2267	2286	50	2307	2323	25	2345	20	—	—	—	1-3/4
2	2208	2229	2249	100	2268	2287	50	2308	2324	25	2346	20	2367	2380	10	2
2-1/4	—	2230	2250	50	—	2288	25	2309	2325	25	2347	20	2368	2381	10	2-1/4
2-1/2	2210	2231	2251	50	2270	2289	25	2310	2326	25	2348	20	2369	2382	10	2-1/2
2-3/4	—	—	—	50	—	2290	25	2311	2327	25	2349	20	2370	2383	10	2-3/4
3	2212	2233	2253	50	2272	2291	25	2312	2328	25	2350	20	2371	2384	10	3
3-1/2	2214	2235	2255	50	2274	2293	25	2314	2330	25	2352	20	2373	2386	10	3-1/2
4	2216	2237	2257	50	2276	2295	25	2315	2332	25	2354	20	2375	2388	10	4
4-1/2	—	—	2258	25	2277	2296	15	2316	2333	15	2355	10	2376	2389	5	4-1/2
5	—	—	2259	25	2278	2297	15	2317	2334	15	2356	10	2377	2390	5	5
5-1/2	—	—	2260	25	2279	—	15	2318	2335	15	2357	10	2378	2391	5	5-1/2
6	—	—	2261	25	2280	2299	15	2319	2336	15	2358	10	2379	2392	5	6

CAPSCREWS

Grade 5 Capscrew Assortment

FINE THREAD • PLATED

IBS No. 852P • 72 Items

2910 Pieces

SAE Grade 5 Bolts

SAE Flat Washers

SAE Grade 5 Finished Nuts

Lockwashers

- 120,000 psi Tensile Strength
- Heat treated and Zinc plated.



852P • GRADE 5 ASSORTMENT • 72 Items

1/4-28 Hex Nut 4110	5/16-24 Hex Nut 4111	3/8-24 Hex Nut 4112	7/16-20 Hex Nut 4113	1/2-20 Hex Nut 4114	9/16-18 Hex Nut 4115	5/8-18 Hex Nut 4116	3/4-16 Hex Nut 4117
1/4 SAE FW 7049	5/16 SAE FW 7050	3/8 SAE FW 7051	7/16 SAE FW 7052	1/2 SAE FW 7053	9/16 SAE FW 7054	5/8 SAE FW 7055	3/4 SAE FW 7056
1/4 Med LW 7105	5/16 Med LW 7106	3/8 Med LW 7107	7/16 Med LW 7108	1/2 Med LW 7109	9/16 Med LW 7110	5/8 Med LW 7111	3/4 Med LW 7112
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 2202	5/16 x 3/4 Capscrew 2223	3/8 x 3/4 Capscrew 2243	7/16 x 1 Capscrew 2264	1/2 x 1 Capscrew 2283	9/16 x 1-1/4 Capscrew 2305	5/8 x 1-1/4 Capscrew 2321	3/4 x 1-1/2 Capscrew 2344
1/4 x 1 Capscrew 2204	5/16 x 1 Capscrew 2225	3/8 x 1 Capscrew 2245	7/16 x 1-1/4 Capscrew 2265	1/2 x 1-1/4 Capscrew 2284	9/16 x 1-1/2 Capscrew 2306	5/8 x 1-1/2 Capscrew 2322	3/4 x 1-3/4 Capscrew 2345
1/4 x 1-1/4 Capscrew 2205	5/16 x 1-1/4 Capscrew 2226	3/8 x 1-1/4 Capscrew 2246	7/16 x 1-1/2 Capscrew 2266	1/2 x 1-1/2 Capscrew 2285	9/16 x 1-3/4 Capscrew 2307	5/8 x 1-3/4 Capscrew 2323	3/4 x 2 Capscrew 2346
1/4 x 1-1/2 Capscrew 2206	5/16 x 1-1/2 Capscrew 2227	3/8 x 1-1/2 Capscrew 2247	7/16 x 1-3/4 Capscrew 2267	1/2 x 1-3/4 Capscrew 2286	9/16 x 2 Capscrew 2308	5/8 x 2 Capscrew 2324	3/4 x 2-1/2 Capscrew 2348
1/4 x 1-3/4 Capscrew 2207	5/16 x 1-3/4 Capscrew 2228	3/8 x 2 Capscrew 2249	7/16 x 2 Capscrew 2268	1/2 x 2 Capscrew 2287	9/16 x 2-1/2 Capscrew 2310	5/8 x 2-1/2 Capscrew 2326	3/4 x 3 Capscrew 2350
1/4 x 2 Capscrew 2208	5/16 x 2 Capscrew 2229	3/8 x 2-1/2 Capscrew 2251	7/16 x 2-1/2 Capscrew 2270	1/2 x 2-1/2 Capscrew 2289	9/16 x 3 Capscrew 2312	5/8 x 3 Capscrew 2328	3/4 x 3-1/2 Capscrew 2352



IBS, INCORPORATED

Assortments Z08

Grade 5 Capscrew Assortment

**FINE THREAD
PLATED ZINC**

**IBS No. 853P • 72 Items
2910 Pieces**

**SAE Grade 5 Bolts
USS Flat Washers
SAE Grade 5 Finished Nuts
Lockwashers**

- 120,000 psi Tensile Strength.
- Heat treated and Zinc plated.



853P • GRADE 5 ASSORTMENT • 72 Items

1/4-28 Hex Nut 4110	5/16-24 Hex Nut 4111	3/8-24 Hex Nut 4112	7/16-20 Hex Nut 4113	1/2-20 Hex Nut 4114	9/16-18 Hex Nut 4115	5/8-18 Hex Nut 4116	3/4-16 Hex Nut 4117
1/4 USS FW 7063	5/16 USS FW 7064	3/8 USS FW 7065	7/16 USS FW 7066	1/2 USS FW 7067	9/16 USS FW 7068	5/8 USS FW 7069	3/4 USS FW 7070
1/4 Med LW 7105	5/16 Med LW 7106	3/8 Med LW 7107	7/16 Med LW 7108	1/2 Med LW 7109	9/16 Med LW 7110	5/8 Med LW 7111	3/4 Med LW 7112
Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock	Open Stock
1/4 x 3/4 Capscrew 2202	5/16 x 3/4 Capscrew 2223	3/8 x 3/4 Capscrew 2243	7/16 x 1 Capscrew 2264	1/2 x 1 Capscrew 2283	9/16 x 1-1/4 Capscrew 2305	5/8 x 1-1/4 Capscrew 2321	3/4 x 1-1/2 Capscrew 2344
1/4 x 1 Capscrew 2204	5/16 x 1 Capscrew 2225	3/8 x 1 Capscrew 2245	7/16 x 1-1/4 Capscrew 2265	1/2 x 1-1/4 Capscrew 2284	9/16 x 1-1/2 Capscrew 2306	5/8 x 1-1/2 Capscrew 2322	3/4 x 1-3/4 Capscrew 2345
1/4 x 1-1/4 Capscrew 2205	5/16 x 1-1/4 Capscrew 2226	3/8 x 1-1/4 Capscrew 2246	7/16 x 1-1/2 Capscrew 2266	1/2 x 1-1/2 Capscrew 2285	9/16 x 1-3/4 Capscrew 2307	5/8 x 1-3/4 Capscrew 2323	3/4 x 2 Capscrew 2346
1/4 x 1-1/2 Capscrew 2206	5/16 x 1-1/2 Capscrew 2227	3/8 x 1-1/2 Capscrew 2247	7/16 x 1-3/4 Capscrew 2267	1/2 x 1-3/4 Capscrew 2286	9/16 x 2 Capscrew 2308	5/8 x 2 Capscrew 2324	3/4 x 2-1/2 Capscrew 2348
1/4 x 1-3/4 Capscrew 2207	5/16 x 1-3/4 Capscrew 2228	3/8 x 2 Capscrew 2249	7/16 x 2 Capscrew 2268	1/2 x 2 Capscrew 2287	9/16 x 2-1/2 Capscrew 2310	5/8 x 2-1/2 Capscrew 2326	3/4 x 3 Capscrew 2350
1/4 x 2 Capscrew 2208	5/16 x 2 Capscrew 2229	3/8 x 2-1/2 Capscrew 2251	7/16 x 2-1/2 Capscrew 2270	1/2 x 2-1/2 Capscrew 2289	9/16 x 3 Capscrew 2312	5/8 x 3 Capscrew 2328	3/4 x 3-1/2 Capscrew 2352

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Grade 5 Capscrew Assortment

FINE THREAD — PLATED ZINC

**IBS No. 433P • 40 Items
1985 Pieces**

**SAE Grade 5 Bolts
SAE Flat Washers
SAE Grade 5 Finished Nuts
Lockwashers**



1/4-28 Hex Nut 4110	1/4 Med LW 7105	1/4 SAE FW 7049	1/4 x 3/4 Capscrew 2202	1/4 x 1 Capscrew 2204	1/4 x 1-1/4 Capscrew 2205	1/4 x 1-1/2 Capscrew 2206	1/4 x 2 Capscrew 2208
5/16-24 Hex Nut 4111	5/16 Med LW 7106	5/16 SAE FW 7050	5/16 x 3/4 Capscrew 2223	5/16 x 1 Capscrew 2225	5/16 x 1-1/4 Capscrew 2226	5/16 x 1-1/2 Capscrew 2227	5/16 x 2 Capscrew 2229
3/8-24 Hex Nut 4112	3/8 Med LW 7107	3/8 SAE FW 7051	3/8 x 1 Capscrew 2245	3/8 x 1-1/4 Capscrew 2246	3/8 x 1-1/2 Capscrew 2247	3/8 x 2 Capscrew 2249	3/8 x 2-1/2 Capscrew 2251
7/16-20 Hex Nut 4113	5/16 Med LW 7108	7/16 SAE FW 7052	7/16 x 1 Capscrew 2264	7/16 x 1-1/4 Capscrew 2265	7/16 x 1-1/2 Capscrew 2266	7/16 x 2 Capscrew 2268	7/16 x 2-1/2 Capscrew 2270
1/2-20 Hex Nut 4114	1/2 Med LW 7109	1/2 SAE FW 7053	1/2 x 1 Capscrew 2283	1/2 x 1-1/4 Capscrew 2284	1/2 x 1-1/2 Capscrew 2285	1/2 x 2 Capscrew 2287	1/2 x 2-1/2 Capscrew 2289

Grade 5 Capscrew Assortment

FINE THREAD • PLATED ZINC

**IBS No. 652P • 40 Items
1985 Pieces**

**SAE Grade 8 Bolts
USS Flat Washers
SAE Grade 5 Finished Nuts
Lockwashers**



1/4-28 Hex Nut 4110	1/4 Med LW 7105	1/4 USS FW 7063	1/4 x 3/4 Capscrew 2202	1/4 x 1 Capscrew 2204	1/4 x 1-1/4 Capscrew 2205	1/4 x 1-1/2 Capscrew 2206	1/4 x 2 Capscrew 2208
5/16-24 Hex Nut 4111	5/16 Med LW 7106	5/16 USS FW 7064	5/16 x 3/4 Capscrew 2223	5/16 x 1 Capscrew 2225	5/16 x 1-1/4 Capscrew 2226	5/16 x 1-1/2 Capscrew 2227	5/16 x 2 Capscrew 2229
3/8-24 Hex Nut 4112	3/8 Med LW 7107	3/8 USS FW 7065	3/8 x 1 Capscrew 2245	3/8 x 1-1/4 Capscrew 2246	3/8 x 1-1/2 Capscrew 2247	3/8 x 2 Capscrew 2249	3/8 x 2-1/2 Capscrew 2251
7/16-20 Hex Nut 4113	5/16 Med LW 7108	7/16 USS FW 7066	7/16 x 1 Capscrew 2264	7/16 x 1-1/4 Capscrew 2265	7/16 x 1-1/2 Capscrew 2266	7/16 x 2 Capscrew 2268	7/16 x 2-1/2 Capscrew 2270
1/2-20 Hex Nut 4114	1/2 Med LW 7109	1/2 USS FW 7067	1/2 x 1 Capscrew 2283	1/2 x 1-1/4 Capscrew 2284	1/2 x 1-1/2 Capscrew 2285	1/2 x 2 Capscrew 2287	1/2 x 2-1/2 Capscrew 2289

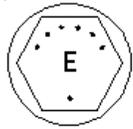
IBS, INCORPORATED

Grade 8 Flange Bolts A10

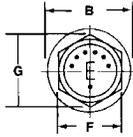


Grade 8 Flange Bolts

GENERAL INFORMATION

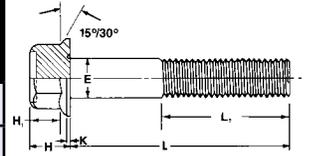


Flange Bolt Head Marking



E Size	F WAF*	G WAC*	B Flange Diam.	K Flange Thickness	H Height	H ₁ Hex Height	L _t Thread Length
3/8	9/16	0.65	0.81	0.06	0.39	0.25	1.00
1/2	3/4	0.87	1.07	0.08	0.51	0.34	1.25
5/8	15/16	1.08	1.33	0.10	0.62	0.42	1.50
3/4	1-1/8	1.29	1.59	0.11	0.73	0.51	1.75

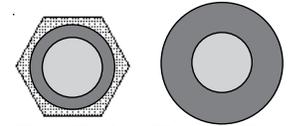
WAF - width across flats; WAC = width across corners



Flanged Fastener Advantages

GREATER BEARING AREA

Flange screws have about four times the bearing area of hex screws. This means that clamp loads are distributed over a larger surface, reducing the possibility of the fastener brinelling into the bearing area and thus becoming loose. Comparison is based on minimum bearing areas as specified by ANSI Standard B18.2 Hex Cap Screws and IFI Standard 111 Hex Flange Screws.



Hex Bolt Flange Bolt
Darker area is the bearing surface. The flange bolt has 4 times the bearing area of the hex bolt.

Better Coverage of Irregular Holes Lower Bearing Stress

Flange screws offer superior coverage and lower bearing stress for irregular holes. For example: with an 11/16" hole elongated 1/8", a 5/8" dia. flange screw offers seven times the bearing area of a 5/8" dia. hex screw, with much lower stress on the bearing area. Comparisons based on SAE Grade 8 screws tightened to a clamp load of 20,300 lbs., and SAE Grade 5 screws tightened to a clamp load of 14,400 lbs.



5/8" FLANGED SCREW

1.1882 sq. in.
- .4572 sq. in.
.7310 sq. in.

Fastener Diam. Area
- Hole Area
Bearing Area



5/8" HEX SCREW

.5599 sq. in.
- .4572 sq. in.
.1027 sq. in.

Flanged Screw has 7 times the Bearing Area of the Hex Screw.

Bearing Area

27,800 psi Bearing Area Stress (Grade 8) 198,000 psi
19,700 psi Bearing Area Stress (Grade 5) 140,000 psi

Bearing Stress on the Flanged Screw is 7 times less than the Hex Screw.

Elimination of Washers

There are no separate washers to handle and install. That speeds assembly rates. You don't have to worry about washers failing or being forgotten. And, often, you can use shorter length screws.

Weight and Size Reduction

The added rigidity of a flange may allow the use of smaller, lighter nuts.

During final tightening the screw stretches and the nut bearing face tends to dilate, creating above average loads in the nut threads adjacent to the bearing area. If the joint is subject to severe overload, or if too low a grade nut is used, progressive thread shear can occur. Flange nuts, with their added mass at the bearing area, resist this tendency to dilate. This feature can permit the use of smaller across flats nuts with weight reduction savings up to 49%. This is true of both free-running and prevailing torque flange locknuts.

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IBS, INCORPORATED

Grade 8 Flange Bolts A10

USS Grade 8 Flange Bolts

NATIONAL COARSE



Length	1/4-20 P/N	Qty	5/16-18 P/N	Qty	3/8-16 P/N	Qty	1/2-13 P/N	Qty	5/8-11 P/N	Qty	3/4-10 P/N	Qty	Length
3/4	3110	25	3120	25	—	—	—	—	—	—	—	—	3/4
1	3111	25	3121	25	3200	25	—	—	—	—	—	—	1
1-1/4	3112	25	3122	25	3201	25	3210	25	3220	25	—	—	1-1/4
1-1/2	3113	25	3123	25	3202	25	3211	25	3221	25	—	—	1-1/2
1-3/4	3114	25	3124	25	3203	25	3212	25	3222	25	—	—	1-3/4
2	3115	25	3125	25	3204	25	3213	25	3223	25	3230	20	2
2-1/4	—	—	—	—	—	—	3214	25	3224	25	3231	20	2-1/4
2-1/2	3116	25	3126	25	3206	25	3215	25	3225	25	3232	20	2-1/2
2-3/4	—	—	—	—	—	—	3140	25	3226	25	—	—	2-3/4
3	3117	25	3127	25	3130	25	3217	25	3227	25	3180	10	3
3-1/2	—	—	—	—	3131	10	3141	10	3229	25	3181	5	3-1/2
4	—	—	—	—	3132	10	3142	10	3160	10	3182	5	4
4-1/2	—	—	—	—	—	—	3143	10	3161	10	3183	2	4-1/2
5	—	—	—	—	—	—	3144	10	3162	10	3184	2	5

SAE Grade 8 Flange Bolts

NATIONAL FINE



Length	1/2-20 P/N	Qty	5/8-18 P/N	Qty	3/4-16 P/N	Qty	Length
1-1/2	3234	25	3291	25	—	—	1-1/2
1-3/4	3236	25	3292	25	—	—	1-3/4
2	3237	25	3293	25	3297	20	2
2-1/4	3237A	25	3170	10	—	—	2-1/4
2-1/2	3238	25	3294	25	3299	20	2-1/2
2-3/4	3150	25	3171	10	—	—	2-3/4
3	3151	25	3172	10	3190	10	3
3-1/2	3152	10	3173	10	—	—	3-1/2
4	3153	10	3174	10	3191	5	4
4-1/2	3154	10	3175	10	—	—	4-1/2
5	3155	10	3176	10	3192	2	5

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Grade 8 Flange Bolt

Assortment

IBS No. 811R • 15 ITEMS • 405

PIECES

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © 2012 800-870-1000					Hex Flange Bolts
					Assortment No. 811R
3198 1/4-20 FLANGE LOCK NUT GR.G PLN	3110 1/4-20 X 3/4 GR8 HEX FLANGE BOLT PLN	3111 1/4-20 X 1 GR8 HEX FLANGE BOLT PLN	3112 1/4-20 X 1-1/4 GR8 HEX FLANGE BOLT PLN	3113 1/4-20 X 1-1/2 GR8 HEX FLANGE BOLT PLN	
3199 5/16-18 FLANGE LOCK NUT GR.G PLN	3120 5/16-18 X 3/4 GR8 HEX FLANGE BOLT PLN	3121 5/16-18 X 1 GR8 HEX FLANGE BOLT PLN	3122 5/16-18 X 1-1/4 GR8 HEX FLANGE BOLT PLN	3123 5/16-18 X 1-1/2 GR8 HEX FLANGE BOLT PLN	
4000 3/8-16 FLANGE LOCK NUT GR.G PLN	3200 3/8-16 X 1 GR8 HEX FLANGE BOLT PLN	3201 3/8-16 X 1-1/4 GR8 HEX FLANGE BOLT PLN	3202 3/8-16 X 1-1/2 GR8 HEX FLANGE BOLT PLN	3204 3/8-16 X 2 GR8 HEX FLANGE BOLT PLN	



Hex Nuts

A

Assortments

- Machine Screw Sized Nuts & Washers B-9
- Miscellaneous Nuts
- Machine Screw Nuts, Wing Nuts & Cap Nuts B-9

F

Fasteners

- Cap Nuts B-8
- Coupling Nuts B-8
- Flange Nuts
 - Stover B-3
- Heavy Hex Nuts B-7
- Hex Jam Nuts B-7
- Hex Nuts
 - Finished B-5
 - Grade 5 B-4
 - Grade 8, Finished B-4
 - Hi-Alloy B-2
- High Nuts
 - Grade 8 B-8
- Kep Nuts B-8
- Lock Nuts, Hi-Alloy
 - Coarse B-2
 - Fine B-2
- Machine Screw Nuts B-7
- Nyloc Jam Nuts B-7
- Nylon Locknuts
 - Grade 2, Zinc Plated B-6
 - Grade 8, Plain B-6
 - Grade 8, Zinc Yellow B-6
- “Tee” Nuts B-9
- Torque Locknuts
 - Grade C B-3
- Whiz Lock Nuts B-8
- Wing Nut - Nyloc B-8
- Wing Nuts B-8

N

Nuts, Flange

- Stover B-3

Nuts, Hex B-2

- Finished
 - Grade 5 B-4
 - Grade 8 B-4
 - Zinc Plated B-5
- Grade 8
 - High Nuts B-8

- Heavy B-7
- High-Alloy B-2

Nuts, Lock

- High-Alloy N.C. B-2
- High-Alloy N.F. B-2
- Nylon, Grade 2
 - Zinc Plated B-6
- Nylon, Grade 8
 - Plain B-6
 - Zinc Yellow B-6

Nuts, Miscellaneous

- Cap B-8
- Coupling B-8
- Jam
 - Hex B-7
 - Nyloc B-7
- Kep B-8
- Machine Screw B-7
- Tee B-9
- Whiz Lock B-8
- Wing B-8
- Wing Nut
 - Nyloc B-8



IBS, INCORPORATED

High-Alloy Hex Nuts B01 & B03



High-Alloy Hex Nuts (B01)

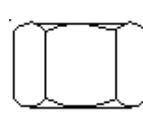
NATIONAL COARSE & NATIONAL FINE

- Cadmium-plated and dichromate-coated to improve lubrication for controlled tightening.
- 20% stronger than SAE Grade 8!
- Use of special alloys and heat treatments reduces the danger of split nuts and stripping of nuts.

Top View



Side View



L9 HT Hex Nut



NATIONAL COARSE

IBS No.	Tap Size	WAF	Thickness	Qty
NT5202	1/4-20	7/16	1/4	100
NT5204	5/16-18	1/2	19/64	50
NT5206	3/8-16	9/16	3/8	50
NT5208	7/16-14	11/16	7/16	25
NT5212	1/2-13	3/4	1/2	25
NT5214	9/16-12	7/8	9/16	25
NT5216	5/8-11	15/16	41/64	25
NT5218	3/4-10	1-1/8	3/4	20
NT5220	7/8-9	1-5/16	7/8	15
NT5222	1-8	1-1/2	1	10
NT5226	1-1/8-7	1-11/16	1-5/32	EA
NT5228	1-1/4-7	1-7/8	1-17/64	EA
NT5232	1-1/2-6	2-1/4	1-1/2	EA

NATIONAL FINE

IBS No.	Tap Size	WAF	Thickness	Qty
NT5252	1/4-28	7/16	1/4	100
NT5254	5/16-24	1/2	19/64	100
NT5256	3/8-24	9/16	3/8	50
NT5258	7/16-20	11/16	7/16	50
NT5262	1/2-20	3/4	1/2	25
NT5264	9/16-18	7/8	9/16	25
NT5266	5/8-18	15/16	41/64	25
NT5268	3/4-16	1-1/8	3/4	20
NT5270	7/8-14	1-5/16	7/8	15
NT5272	1-14	1-1/2	1	10
NT5276	1-1/8-12	1-11/16	1-5/32	EA
NT5278	1-1/4-12	1-7/8	1-17/64	EA
NT5282	1-1/2-12	2-1/4	1-1/2	EA

HEX NUTS

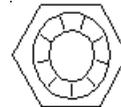


High-Alloy Lock Nuts (B03)

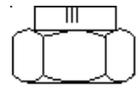
National Coarse & National Fine

- Cadmium plated and dichromate coated - ensures uniform tightening
- Inhibits loosening caused by vibration
- Reduced danger of split or stripped nuts

Top View



Side View



Nine dashes identify Heat Treated L9 Stover® locknuts. Features registered stover design.

L9 STOVER NATIONAL COARSE

IBS No.	Tap Size	W.A.F.	Thickness	Qty
NT9403	1/4-20	7/16	1/4	100
NT9405	5/16-18	1/2	19/64	50
NT9407	3/8-16	9/16	3/8	50
NT9409	7/16-14	11/16	7/16	25
NT9413	1/2-13	3/4	1/2	25
NT9415	9/16-12	7/8	9/16	25
NT9417	5/8-11	15/16	41/64	25
NT9419	3/4-10	1-1/8	3/4	20
NT9421	7/8-9	1-5/16	7/8	15
NT9423	1-8	1-1/2	1	10
NT9427	1-1/8-7	1-11/16	1-5/32	EA
NT9429	1-1/4-7	1-7/8	1-17/64	EA
NT9433	1-1/2-6	2-1/4	1-1/2	EA

L9 STOVER NATIONAL FINE

IBS No.	Tap Size	W.A.F.	Thickness	Qty
NT9453	1/4-28	7/16	1/4	100
NT9455	5/16-24	1/2	19/64	50
NT9457	3/8-24	9/16	3/8	50
NT9459	7/16-20	11/16	7/16	25
NT9463	1/2-20	3/4	1/2	25
NT9465	9/16-18	7/8	9/16	25
NT9467	5/8-18	15/16	41/64	25
NT9469	3/4-16	1-1/8	3/4	20
NT9471	7/8-14	1-5/16	7/8	15
NT9473	1-14	1-1/2	1	10
NT9477	1-1/8-12	1-11/16	1-5/32	EA
NT9479	1-1/4-12	1-7/8	1-17/64	EA
NT9483	1-1/2-12	2-1/4	1-1/2	EA

THE HIGH-ALLOY FASTENING SYSTEM IS DESIGNED AND MANUFACTURED TO BE USED AS A SYSTEM. NO SUBSTITUTIONS OR ALTERATIONS ARE TO BE MADE OF THE BOLT, NUT, WASHER OR FINISH.

IBS, INCORPORATED

Grade C Lock Nuts B07 & Stover Flange Nuts B05



Grade C Prevailing Torque Locknuts

Strongest locking power available

Ideal for applications where shock and vibration is a problem



This patented, prevailing torque locknut gets its exceptionally high locking ability from the controlled deformation of its upper threads. The design is unique in that it features a true round shape at the bearing face, which allows for easier starting, and changes to an oval shape at the top. As the nut is tightened the deformed top threads are deflected, causing them to conform to the shape of the screw. This creates an increased frictional drag and results in increased locking power.

The Spring Action (top threads conforming to the screw shape) distributes the clamping forces over the largest possible surface area. This ensures minimum wear, burnishing, and avoids permanent set. This balanced design is what provides the locknut with its high performance and reusability qualities.

NATIONAL COARSE

IBS No.	Size	W.A.F.	Qty
4026	1/4-20	7/16	100
4027	5/16-18	1/2	100
4028	3/8-16	9/16	100
4029	7/16-14	11/16	100
4030	1/2-13	3/4	50
4031	9/16-12	7/8	50
4032	5/8-11	15/16	25
4033	3/4-10	1-1/8	20
4034	7/8-9	1-5/16	15
4035	1-8	1-1/2	10

NATIONAL FINE

IBS No.	Size	W.A.F.	Qty
6035	1/4-28	7/16	100
6036	5/16-24	1/2	100
6037	3/8-24	9/16	100
6038	7/16-20	11/16	100
6039	1/2-20	3/4	50
6040	9/16-18	7/8	50
6041	5/8-18	15/16	25
6042	3/4-16	1-1/8	20
6043	7/8-14	1-5/16	15
6044	1-14	1-1/2	10

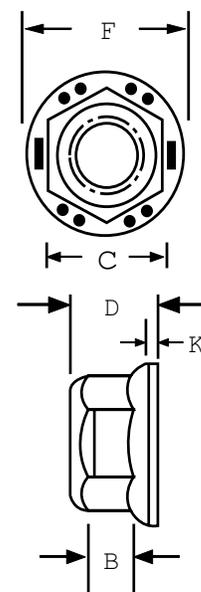
Stover Flange Lock Nuts

GRADE G — 150,000 PSI TENSILE STRENGTH

- Top crimp with a built-in washer provides wider clamping area
- Nut must be wrenched into place
- Used in high-vibration applications (truck frames)
- Proof load strength of 150,000 psi min
- Rockwell Hardness: 1/4" to 5/8": Rc 24/32; 3/4" and larger: Rc 26/34
- Sizes range from 1/4" to 1"
- Meets ASME B18.16.6 (IFI 100/107) standards



IBS No.	Size	C W.A.F	F Flange Diam	D Overall Thickness	B Hex Height	K Flange Thickness	Qty
3198	1/4-20	7/16	0.560	.0.300	0.140	0.040	100
3199	5/16-18	1/2	0.680	0.365	0.170	0.050	100
4000	3/8-16	9/16	0.810	0.425	0.200	0.060	100
4001	1/2-13	3/4	1.070	0.555	0.260	0.080	50
4002	5/8-11	15/16	1.330	0.690	0.320	0.100	25
4003	3/4-10	1-1/8	1.585	0.750	0.380	0.110	25
4007	1/2-20	3/4	1.070	0.555	0.260	0.080	50
4008	5/8-18	15/16	1.330	0.690	0.320	0.100	25
4009	3/4-16	1-1/8	1.563	0.750	0.594	0.156	20



HEX NUTS



IBS, INCORPORATED

Finished Hex Nuts Zinc Plated

Grade 8 Finished Hex Nuts (B06)

150,000 PSI MINIMUM TENSILE STRENGTH

- Exceeds original equipment specifications.
- Made of High Strength Alloy Steel giving them 30% more holding power.
- Eliminates stripping threads, vibration, heat and stress fatigue.
- Plated nuts are Zinc and Yellow Baked.



NATIONAL COARSE

IBS No.		Size	W.A.F.	Qty
Plain	Plated			
4010	4610	1/4-20	7/16	100
4011	4611	5/16-18	1/2	100
4012	4612	3/8-16	9/16	100
4013	4613	7/16-14	11/16	100
4014	4614	1/2-13	3/4	100
4015	4615	9/16-12	7/8	50
4016	4616	5/8-11	15/16	50
4017	4617	3/4-10	1-1/8	25
4018	4618	7/8-9	1-5/16	25
4019	4619	1-8	1-1/2	20
4020	—	1-1/8-7	1-11/16	EA
4021	—	1-1/4-7	1-7/8	EA
4023	—	1-1/2-6	2-1/4	EA

NATIONAL FINE

IBS No.		Size	W.A.F.	Qty
Plain	Plated			
6021	6640	1/4-28	7/16	100
6022	6641	5/16-24	1/2	100
6023	6642	3/8-24	9/16	100
6024	6643	7/16-20	11/16	100
6025	6644	1/2-20	3/4	100
6026	6645	9/16-18	7/8	25
6027	6646	5/8-18	15/16	50
6028	6647	3/4-16	1-1/8	25
6029	6648	7/8-14	1-5/16	25
6030	6649	1-14	1-1/2	20
6031	—	1-1/8-12	1-11/16	EA
6032	—	1-1/4-12	1-7/8	EA
—	—	—	—	—

HEX NUTS

Grade 5 Hex Nuts (B10)

- Proof Load 120,000 psi.
- Hardness HRB 86-93.
- Zinc Plated to protect against corrosion.
- Manufactured and Tested according to AISI Specifications.



NATIONAL COARSE

IBS No.	Size	W.A.F.	Qty
4100	1/4-20	7/16	100
4101	5/16-18	1/2	100
4102	3/8-16	9/16	100
4103	7/16-14	11/16	100
4104	1/2-13	3/4	100
4105	9/16-12	7/8	50
4106	5/8-11	15/16	50
4107	3/4-10	1-1/8	25
4108	7/8-9	1-5/16	25
4109	1 - 8	1-1/2	10

NATIONAL FINE

IBS No.	Size	W.A.F.	Qty
4110	1/4-28	7/16	100
4111	5/16-24	1/2	100
4112	3/8-24	9/16	100
4113	7/16-20	11/16	100
4114	1/2-20	3/4	100
4115	9/16-18	7/8	50
4116	5/8-18	15/16	50
4117	3/4-16	1-1/8	25
4118	7/8-14	1-5/16	25
4119	1 - 14	1-1/2	10

IBS, INCORPORATED

Finished Hex Nuts Zinc Plated



Finished Hex Nuts (B09)

- Specially formulated high quality nut steel manufactured on the most modern close tolerance cold forming equipment.
- Dependability insured by strict quality control.
- Zinc plating protects against rust and corrosion.



NATIONAL COARSE

IBS No.	Size	W.A.F.	Qty
4050	1/4-20	7/16	100
4051	5/16-18	1/2	100
4052	3/8-16	9/16	100
4053	7/16-14	11/16	100
4054	1/2-13	3/4	100
4055	9/16-12	7/8	50
4056	5/8-11	15/16	50
4057	3/4-10	1-1/8	25
4058	7/8-9	1-5/16	25
4059	1-8	1-1/2	10
4060	1-1/8-7	1-11/16	EA
4061	1-1/4-7	1-7/8	EA
4063	1-1/2-6	2-1/4	EA

NATIONAL FINE

IBS No.	Size	W.A.F.	Qty
6074	1/4-28	7/16	100
6075	5/16-24	1/2	100
6076	3/8-24	9/16	100
6077	7/16-20	11/16	100
6078	1/2-20	3/4	100
6079	9/16-18	7/8	25
6080	5/8-18	15/16	25
6081	3/4-16	1-1/8	25
6082	7/8-14	1-5/16	25
6083	1-14	1-1/2	10

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IBS, INCORPORATED

Nylon Locknuts

Grade 8 Nylon Locknuts (B08)

The locking collar, which has an inside diameter smaller than the diameter of the bolt, is un-threaded and elastic. This allows the bolt to impress a mating thread into the collar and the resulting compressive forces exert a constant friction grip on the bolt. As downward thrust is exerted the lower flanks of the bolt thread are brought into a firm metal-to-metal contact with the matching threads on the nut thus eliminating axial play which may normally occur. Even after repeated usage the elastic collar still retains its grip.



- Locks in any position on the bolt.
- Vibration and shock proof.
- Locking collar will not gall bolt thread.
- Nylon seals out moisture and retards rust and corrosion of the thread area.
- This material is resistant to oil, fats, gasoline, and other destructive chemical agents.

NATIONAL COARSE

IBS No.		Dimensions			
Plain (Black)	Zinc Yellow	Tap Size	W.A.F.	Ht.	Qty
4040	4140	1/4-20	7/16	5/16	25
4041	4141	5/16-18	1/2	11/32	25
4042	4142	3/8-16	9/16	29/64	25
4043	4143	7/16-14	5/8	29/64	25
4044	4144	1/2-13	3/4	19/32	25
4045	4145	9/16-12	7/8	41/64	10
4046	4146	5/8-11	15/16	3/4	10
4047	4147	3/4-10	1-1/16	7/8	10
4048	4148	7/8-9	1-1/4	63/64	5
4049	4149	1-8	1-7/16	1-3/64	5

NATIONAL FINE

IBS No.		Description			
Plain (Black)	Zinc Yellow	Tap Size	W.A.F.	Ht.	Qty
6049	6249	1/4-28	7/16	5/16	25
6050	6250	5/16-24	1/2	11/32	25
6051	6251	3/8-24	9/16	29/64	25
6052	6252	7/16-20	5/8	29/64	25
6053	6253	1/2-20	3/4	19/32	25
6054	6254	9/16-18	7/8	41/64	10
6055	6255	5/8-18	15/16	3/4	10
6056	6256	3/4-16	1-1/16	7/8	10
6057	6257	7/8-14	1-1/4	63/64	5
6058	6258	1-14	1-7/16	1-3/64	5

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Grade 2 Nylon Locknuts (B12)

Zinc Plated



NATIONAL COARSE

IBS No.	Tap Size	W.A.F.	Ht.	Qty
5000	4-40	1/4	5/32	100
5001	6-32	5/16	11/64	100
5002	8-32	11/32	7/32	100
5003	10-24	3/8	15/64	100
5003A	12-24	7/16	5/16	100
5004	1/4-20	7/16	5/16	100
5005	5/16-18	1/2	11/32	100
5006	3/8-16	9/16	29/64	100
5007	7/16-14	5/8	29/64	100
5008	1/2-13	3/4	19/32	50
5009	9/16-12	7/8	41/64	50
5010	5/8-11	15/16	3/4	25
5011	3/4-10	1-1/16	7/8	25
5012	7/8-9	1-1/4	63/64	25
5013	1-8	1-7/16	1-3/64	10

NATIONAL FINE

IBS No.	Tap Size	W.A.F.	Ht.	Qty
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
6099	10-32	3/8	15/64	100
—	—	—	—	—
6100	1/4-28	7/16	5/16	100
6101	5/16-24	1/2	11/32	100
6102	3/8-24	9/16	29/64	100
6103	7/16-20	5/8	29/64	100
6104	1/2-20	3/4	19/32	50
6105	9/16-18	7/8	41/64	50
6106	5/8-18	15/16	3/4	25
6107	3/4-16	1-1/16	7/8	25
6108	7/8-14	1-1/4	63/64	25
6109	1-14	1-7/16	1-3/64	10

IBS, INCORPORATED

Miscellaneous Nuts B35



Hex Jam Nuts

- Jam nuts are thin nuts used under full-sized nuts to develop locking action.
- Zinc plated to protect against rust and corrosion.



NATIONAL COARSE

IBS No.	Tap Size	WAF	Thickness	Qty
4085	1/4-20	7/16	5/32	100
4086	5/16-18	1/2	3/16	100
4087	3/8-16	9/16	7/32	100
4088	7/16-14	11/16	1/4	50
4089	1/2-13	3/4	5/16	50
4090	5/8-11	15/16	3/8	25
4091	3/4-10	1-1/8	27/64	25

NATIONAL FINE

IBS No.	Tap Size	WAF	Thickness	Qty
6085	1/4-28	7/16	5/32	100
6086	5/16-24	1/2	3/16	100
6087	3/8-24	9/16	7/32	100
6088	7/16-20	11/16	1/4	50
6089	1/2-20	3/4	5/16	50
6091	5/8-18	15/16	3/8	25
6092	3/4-16	1-1/8	27/64	25

Nyloc Jam Nuts

- Thin jam nuts with nylon locking rings
- Lock in any position on bolt
- Zinc plated to prevent rust and corrosion



NATIONAL COARSE

IBS No.	Tap Size	WAF	Thickness	Qty
5020	1/4-20	7/16	3/16	100
5021	5/16-18	1/2	1/4	100
5022	3/8-16	9/16	17/64	100
5024	1/2-13	3/4	5/16	50
5026	5/8-11	15/16	3/8	50
5027	3/4-10	1-1/8	13/32	25

NATIONAL FINE

IBS No.	Tap Size	WAF	Thickness	Qty
6114	1/4-28	7/16	3/16	100
6115	5/16-24	1/2	1/4	100
6116	3/8-24	9/16	17/64	100
6118	1/2-20	3/4	5/16	50
6120	5/8-18	15/16	3/8	50
6121	3/4-16	1-1/8	13/32	25

Machine Screw Nuts

**MEETS OR EXCEEDS
AMERICAN STANDARD B18.6.3**

ZINC PLATED FOR CORROSION RESISTANCE



IBS No.	Tap Size	WAF	Thickness	Pkg Qty
5032	4-40	1/4	3/32	200
5033	6-32	5/16	7/64	200
5034	8-32	11/32	1/8	200
5035	10-24	3/8	1/8	200
5036	10-32	3/8	1/8	200
5037	12-24	7/16	5/32	200
5038	1/4-20	7/16	3/16	100
5039	5/16-18	1/2	7/32	100

Heavy Hex Nuts

- Heavier and wider to provide greater bearing area.
- Ideal for heavy duty applications with severe stress and vibration.
- Excellent for oversize holes and certain boiler applications.
- Conforms to all industry standards



IBS No.	Tap Size	W.A.F.	Height	Pkg Qty
4070	1/4-20	1/2	13/64	100
4071	5/16-18	9/16	19/64	100
4072	3/8-16	11/16	23/64	100
4073	7/16-14	3/4	27/64	50
4074	1/2-13	7/8	31/64	50
4076	5/8-11	1-1/16	39/64	25
4077	3/4-10	1-1/4	47/64	25
4078	7/8-9	1-7/16	55/64	25
4079	1-8	1-5/8	63/64	25

HEX NUTS



IBS, INCORPORATED

Machine Screw Nuts B14 / Misc. Nuts B35

Cap Nuts

NICKEL PLATED



IBS No.	Tap Size	Pkg Qty
5075	6-32	100
5076	8-32	100
5077	10-24	100
5079	1/4-20	100
5080	5/16-18	100
5081	3/8-16	50

Whiz Lock Nuts

- Serrated flange provides locking action



IBS No.	Tap Size	Flange O.D.	Pkg Qty
5066	10-24		100
5068	1/4-20	19/32	100
5069	5/16-18	43/64	100
5070	3/8-16	3/4	100

High Nuts Grade 8

150,000 PSI MIN. TENSILE STRENGTH

- Special design gives added strength.
- 40% More thread engagement.
- 40% Higher than ordinary nuts.



IBS No.	Tap Size	W.A.F.	Height	Pkg Qty
6063	7/16-20	5/8	17/32	50
6064	1/2-20	3/4	11/16	50
6066	5/8-18	15/16	27/32	25
6067	3/4-16	1-1/16	1	25
6068	7/8-14	1-1/4	1-5/32	10
6069	1-14	1-7/16	1-5/16	10

Coupling Nuts

- Zinc plated to protect against rust and corrosion



IBS No.	Tap Size	Length	W.A.F.	Pkg Qty
6011 *	1/4-20	7/8	3/8	50
6012 *	5/16-18	7/8	7/16	50
6013 *	3/8-16	1-1/8	1/2	50
6014 *	1/2-13	1-1/4	5/8	50
6015	5/8-11	2-1/8	13/16	20
6016	3/4-10	2-1/4	3/4	20

* Economy - shorter in length than standard units

Kep Nuts



- Combination standard hex nuts and standard lockwasher.
- Eliminates putting separate lockwasher in position.
- Lockwasher spins free under tension, preventing surface marring or galling.

IBS No.	Tap Size	WAF	Thickness	Pkg Qty
5056	6-32	5/16	7/64	100
5057	8-32	11/32	1/8	100
5058	10-24	3/8	1/8	100
5059	10-32	3/8	1/8	100
5060	1/4-20	7/16	3/16	100
5061	5/16-18	1/2	17/64	100
5062	3/8-16	9/16	3/8	100

Wing Nuts



- Cold forged steel.
- Zinc plated for protection from rust and
- Ideal for applications where quick hand assembly is desired or needed, i.e.:
 - > Light or precision machinery: eliminates the chance of over-tightening, causing thread stripping or parts damage.
 - > Power Tools: circular saw blade angle adjustment.
 - > Carburetor Air Filter Hold Down Nut and more!

IBS No.	Tap Size	Pkg Qty
5086	8-32	100
5087	10-24	100
5088	10-32	100
5089	1/4-20	100
5090	5/16-18	100
5091	3/8-16	100
5092	1/2-13	50

Wing Nut - Nyloc

- Zinc Plated to protect against rust and corrosion.
- Nylon locking ring locks in any position on bolt.
- Locking collar will not gall bolt thread or remove plating.
- Vibration and shock proof.

IBS No.	Size	Pkg Qty
5095	3/8-16	25



HEX NUTS

IBS, INCORPORATED

Miscellaneous Nuts B35



“Tee” Nuts

3 Prong - Wood Type



- Pronged nut stays where it's put.
- Zinc plated for protection from rust and corrosion.
- Great for picnic tables and wooden lawn furniture.

IBS No.	Tap Size	Barrel	Flange	Pkg Qty
6000	6-32	1/4	9/16	100
6001	8-32	1/4	3/4	100
6002	10-24	5/16	23/32	100
6004	1/4-20	7/16	25/32	100
6006	3/8-16	7/16	1-1/16	100

Machine Screw Nuts, Wing Nuts & Cap Nuts (A02)

IBS No. 126R • 18 Items - 1225 Pcs.

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM • 800-578-1906		Machine Screw Nuts, Wing Nuts & Cap Nuts		
Assortment No. 126R				
5076 8-32 CAP NUT ZP 	5032 4-40 HEX MACHINE SCREW NUT ZP 	5036 10-32 HEX MACHINE SCREW NUT ZP 	5086 8-32 WING NUT ZP 	5089 1/4-20 WING NUT ZP
5077 10-24 CAP NUT ZP 	5033 6-32 HEX MACHINE SCREW NUT ZP 	5037 12-24 HEX MACHINE SCREW NUT ZP 	5087 10-24 WING NUT ZP 	5090 5/16-18 WING NUT ZP
5079 1/4-20 CAP NUT NP 	5034 8-32 HEX MACHINE SCREW NUT ZP 	5038 1/4-20 HEX MACHINE SCREW NUT 	5088 10-32 WING NUT ZP 	5091 3/8-16 WING NUT ZP
5080 5/16-18 CAP NUT NP 	5035 10-24 HEX MACHINE SCREW NUT ZP 	5039 5/16-18 HEX MACHINE SCREW NUT 		

Machine Screw Sized Nuts & Washers (A02)

IBS No. 392R • 20 Items • 2600 Pcs

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM • 800-578-1906		Machine Screw Nuts & Washers			
Assortment No. 392R					
7100 #4 MEDIUM LOCKWASHER ZP 	7101 #6 MEDIUM LOCKWASHER ZP 	7102 #8 MEDIUM LOCKWASHER ZP 	7103 #10 MEDIUM LOCKWASHER ZP 	7104 #12 MEDIUM LOCKWASHER ZP 	7105 1/4 MEDIUM LOCKWASHER ZP
7044 #4 SAE FLAT WASHER ZP 	7045 #6 SAE FLAT WASHER ZP 	7046 #8 SAE FLAT WASHER ZP 	7047 #10 SAE FLAT WASHER ZP 	7048 #12 SAE FLAT WASHER ZP 	7049 1/4 SAE FLAT WASHER ZP
5032 4-40 HEX MACHINE SCREW NUT ZP 	5033 6-32 HEX MACHINE SCREW NUT ZP 	5034 8-32 HEX MACHINE SCREW NUT ZP 	5035 10-24 HEX MACHINE SCREW NUT ZP 	5036 10-32 HEX MACHINE SCREW NUT ZP 	5038 1/4-20 HEX MACHINE SCREW NUT
5037 12-24 HEX MACHINE SCREW NUT ZP 	5001 6-32 NYLOC NUT ZP 	5002 8-32 NYLOC NUT ZP 	5003 10-24 NYLOC NUT ZP 	6099 10-32 NYLOC NUT ZP 	5004 1/4-20 NYLOC NUT ZP

HEX NUTS



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Washers

A

Assortments

- Flat Washer
 - Copper C-9
 - Fender Washer C-7
 - Heavy Duty C-4
- Lock Washer
 - Internal & External Star Washer C-8
 - Sur-Lock Vibration-Resistant Washers C-6

B

Back-Up Washers

- Aluminum Round C-8

F

Fasteners

- Washers, Flat
 - Copper C-9
 - Fender C-7
 - Finishing C-8
 - Heat Treated SAE C-2
 - Heat Treated USS C-3
 - Heavy Duty C-4
 - Hi-Alloy C-2
- Washers, Lock
 - Alloy C-6
 - High Collar C-6
 - Internal & External Tooth C-8
 - Medium C-6
 - Sur-Lock Washers C-5

G

Gaskets

- Drain Plug C-9

W

Washers, Flat

- Copper C-9
- Fender C-7
- Finishing C-8
- Heat Treated, SAE - Plain & Plated C-2, C-3
- Heavy Duty C-4
- High-Alloy C-2
- Standard
 - USS C-3

Washers, Lock

- Alloy C-6
- External Tooth C-8
- High Collar C-6
- Internal Tooth C-8
- Medium C-6
- Sur-Lock Washers C-5



IBS, INCORPORATED

Washers C01, C02 & C05

High-Alloy Washers (C01)

- Thicker than standard washers to prevent cupping and dishing and to assure a consistent clamp load.
- Special high-alloy hardened material minimizes crushing of bearing surfaces.
- Zinc Yellow Per ASTM B633 plated to resist corrosion & assist torquing.
- Heat treated to Rockwell "C" 40-45.
- Provides smooth bearing surfaces and uniform load distribution to reduce brinelling.



SAE HIGH-ALLOY FLAT WASHERS

IBS No.	Size	I.D.	O.D.	Thick	Qty
7400	1/4	9/32	5/8	.056 / .071	100
7401	5/16	11/32	11/16	.056 / .071	100
7402	3/8	13/32	13/16	.090 / .112	100
7403	7/16	15/32	59/64	.090 / .112	50
7404	1/2	17/32	1-1/16	.090 / .112	50
7405	9/16	19/32	1-11/64	.090 / .112	25
7406	5/8	21/32	1-5/16	.146 / .174	25
7407	3/4	13/16	1-15/32	.146 / .174	20
7408	7/8	15/16	1-3/4	.146 / .174	15
7409	1	1-1/16	2	.146 / .174	10



USS HIGH-ALLOY FLAT WASHERS

IBS No.	Size	I.D.	O.D.	Thick	Qty
7016	1/4	17/64	3/4	.065 / .080	100
7017	5/16	21/64	7/8	.079 / .093	100
7018	3/8	25/64	1	.079 / .093	100
7019	7/16	29/64	1-1/4	.090 / .106	50
7020	1/2	17/32	1-3/8	.122 / .146	50
7021	9/16	19/32	1-1/2	.122 / .146	25
7022	5/8	41/64	1-3/4	.136 / .160	25
7023	3/4	25/32	2	.136 / .160	20
7024	7/8	57/64	2-1/4	.136 / .160	15
7025	1	1-3/32	2-1/2	.136 / .160	10

THE HIGH-ALLOY FASTENING SYSTEM IS DESIGNED AND MANUFACTURED TO BE USED AS A SYSTEM. NO SUBSTITUTIONS OR ALTERATIONS ARE TO BE MADE OF THE BOLT, NUT, WASHER OR FINISH.

Heat Treated SAE Flat Washers (C02 & C05)

- Meets S.A.E. close tolerance specifications.
- Eliminates common washer failures such as dishing, bellying or cracking.
- Through hardened (quenched & tempered) to R/C 38-45.
- Made of heat treated alloy.
- Controlled ductility to eliminate cracking and splitting.
- Maximum strength for use with all grades of cap screws.
- Plated washers are Zinc (Standard) and Yellow Baked (Heat Treated).



HEAT TREATED SAE FLAT WASHERS (C02)

IBS No.	Zinc Yellow Plated		Size	I.D.	O.D.	Thick	Qty
	Plain	Zinc Yellow Plated					
7000	2660	1/4	5/16	5/8	1/16	200	
7001	2661	5/16	3/8	11/16	1/16	100	
7002	2662	3/8	13/32	13/16	1/16	100	
7003	2663	7/16	15/32	15/16	1/16	100	
7004	2664	1/2	17/32	1-1/16	7/64	100	
7005	2665	9/16	19/32	1-3/16	7/64	100	
7006	2666	5/8	21/32	1-5/16	7/64	100	
7007	2667	3/4	13/16	1-1/2	9/64	50	
7008	2668	7/8	15/16	1-3/4	9/64	25	
7009	2669	1	1-1/16	2	9/64	25	
7010	—	1-1/8	1-1/4	2-1/4	9/64	EA	
7011	—	1-1/4	1-3/8	2-1/2	9/64	EA	
7013	—	1-1/2	1-5/8	3	9/64	EA	



STANDARD SAE FLAT WASHERS (C05)

IBS No.	Size	I.D.	O.D.	Thick	Qty
7044	#4	3/32	9/32	3/64	100
7045	#6	1/8	3/8	3/64	100
7046	#8	3/16	15/32	3/64	100
7047	#10	7/32	1/2	3/64	100
7048	#12	1/4	9/16	3/64	100
7049	1/4	9/32	5/8	1/16	200
7050	5/16	11/32	11/16	1/16	100
7051	3/8	13/32	13/16	1/16	100
7052	7/16	7/16	15/16	1/16	100
7053	1/2	1/2	1-1/16	3/32	100
7054	9/16	9/16	1-3/16	3/32	100
7055	5/8	5/8	1-5/16	3/32	100
7056	3/4	3/4	1-1/2	9/64	50
7057	7/8	7/8	1-3/4	9/64	25
7058	1	1	2	9/64	25

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IBS, INCORPORATED

USS Flat Washers HT C04 & Std C06



Heat Treated Flat USS Washers

- U.S. Standard dimensions for applications requiring extra bearing surface in oversize or slotted holes for high strength applications.
- Eliminates common washer failures such as dishing, bellying or cracking.
- Through hardened (quenched & tempered) to R/C 38-45.
- Made of heat treated alloy.
- Controlled ductility to eliminate cracking and splitting.
- Maximum strength for use with all grades of cap screws.
- Plated washers are Zinc (Standard) and Yellow Baked (Heat Treated).
- Certificates of compliance to ASTM Designation F-436 available on request.



USS PLAIN



USS ZINC YELLOW

IBS No.	Size	I.D.	O.D.	Thick	Qty	IBS No.	Size	I.D.	O.D.	Thick	Qty
7030	1/4"	5/16"	3/4"	.066 / .072	100	2770	1/4"	5/16"	3/4"	.066 / .072	100
7031	5/16"	3/8"	7/8"	.064 / .080	100	2771	5/16"	3/8"	7/8"	.064 / .080	100
7032	3/8"	7/16"	1"	.064 / .080	100	2772	3/8"	7/16"	1"	.064 / .080	100
7033	7/16"	1/2"	1-1/4"	.064 / .080	100	2773	7/16"	1/2"	1-1/4"	.064 / .080	100
7034	1/2"	9/16"	1-3/8"	.097 / .121	100	2774	1/2"	9/16"	1-3/8"	.097 / .121	100
7035	9/16"	5/8"	1-1/2"	.097 / .121	50	2775	9/16"	5/8"	1-1/2"	.097 / .121	50
7036	5/8"	11/16"	1-3/4"	.122 / .146	50	2776	5/8"	11/16"	1-3/4"	.122 / .146	50
7037	3/4"	13/16"	2"	.122 / .146	50	2777	3/4"	13/16"	2"	.122 / .146	50
7038	7/8"	15/16"	2-1/4"	.136 / .160	25	2778	7/8"	15/16"	2-1/4"	.136 / .160	25
7039	1"	1-1/16"	2-1/2"	.136 / .160	25	2779	1"	1-1/16"	2-1/2"	.136 / .160	25



Standard Flat Washers USS (Zinc Plated)

IBS No.	Size	I.D.	O.D.	Thick	Qty	IBS No.	Size	I.D.	O.D.	Thick	Qty
7063	1/4"	5/16"	3/4"	1/16"	200	7070	3/4"	13/16"	2"	5/32"	25
7064	5/16"	3/8"	7/8"	5/64"	100	7071	7/8"	15/16"	2-1/4"	11/64"	25
7065	3/8"	7/16"	1"	5/64"	100	7072	1"	1-1/16"	2-1/2"	11/64"	25
7066	7/16"	1/2"	1-1/4"	5/64"	100	7073	1-1/8"	1-1/4"	2-3/4"	11/64"	EA
7067	1/2"	9/16"	1-3/8"	7/64"	100	7074	1-1/4"	1-3/8"	3"	11/64"	EA
7068	9/16"	5/8"	1-1/2"	7/64"	50	7076	1-1/2"	1-5/8"	3-1/2"	3/16"	EA
7069	5/8"	11/16"	1-3/4"	9/64"	50						

WASHERS



IBS, INCORPORATED

Heavy Duty Flat Washers C16

Heavy Duty Flat Washers (Plain)

- Heat treated to Rockwell 38-45.
- Through hardened (quenched and tempered).
- For use with High-Alloy or Grade 8 capscrews.
- Up to 50% thicker than ordinary washers.
- Uniform hardness for greater reliability.
- Won't dish out or crack.
- High torque fastening.
- Less failure under heavy work load.



IBS No.	Size	I.D.	O.D.	Thick	Qty
7300	1/4	17/64	9/16	.090 - .110	50
7301	5/16	11/32	5/8	.090 - .110	50
7302	3/8	13/32	13/16	.090 - .110	25
7303	7/16	15/32	13/16	.090 - .110	25
7304	1/2	17/32	1	.156 - .188	25
7305	9/16	19/32	1-3/32	.156 - .188	10
7306	5/8	21/32	1-3/16	.170 - .195	10
7307	3/4	25/32	1-7/16	.170 - .195	10
7308	7/8	15/16	1-5/8	.235 - .265	10
7309	1	1-1/8	1-7/8	.235 - .265	10
7310	1-1/8	1-3/16	2-1/8	.235 - .265	EA
7311	1-1/4	1-5/16	2-1/4	.235 - .265	EA
7312	1-1/2	1-9/16	2-5/8	.235 - .265	EA

Heavy Duty Flat Washer Assortment

IBS No. 117R • 10 Items - 330 Pcs



IBS, Inc.

SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR
INDUSTRIALBOLT.COM © © © 800-678-1906

Heavy Duty Flat Washers

Assortment No. 117R

<p>7303 7/16 HVY DUTY FLAT WASHER PLN</p> 	<p>7307 3/4 HVY DUTY FLAT WASHER PLN</p> 		
<p>7302 3/8 HVY DUTY FLAT WASHER PLN</p> 	<p>7306 5/8 HVY DUTY FLAT WASHER PLN</p> 		
<p>7301 5/16 HVY DUTY FLAT WASHER PLN</p> 	<p>7305 9/16 HVY DUTY FLAT WASHER PLN</p> 	<p>7309 1 HVY DUTY FLAT WASHER PLN</p> 	
<p>7300 1/4 HVY DUTY FLAT WASHER PLN</p> 	<p>7304 1/2 HVY DUTY FLAT WASHER PLN</p> 	<p>7308 7/8 HVY DUTY FLAT WASHER PLN</p> 	

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IBS, INCORPORATED

Lockwashers C07



Sur-Lock Washers

Sold in Pairs

Sur-Lock washers offer a **safe bolt locking system** that does not rely on traditional techniques to secure the fastener by utilizing tension instead of friction to secure bolted joints. The design is simple and ensures easy installation.

Sur-Lock's system consists of two identical washers which have **inclined cams** on one side and a **series of ridges** on the other. On installation the two cam sides are mated together and placed between the nut and the joint material. Under vibration the nut will attempt to rotate loose, but as the angle of the cams is greater than the pitch angle of the thread on the bolt, the interlocking cams and the non-slip ridges of the washer work together to create a jamming effect. This effect **prevents loosening** and further **locks the assembly**, thereby maintaining joint integrity. Once applied and installed correctly, Sur-Lock Washers will ensure that the fastener remains secure and that **nuts and bolts do not require re-tightening**.

FEATURES & BENEFITS:

- No need for locking nuts, flat or lock washers - minimize inventory and assembly time.
- Retains torque and tension better than any other fastener locking system - resists breaking and loss of shear and tensile strength for less failure.
- Provides maximum safety that keeps equipment and those around it safe from failure.
- Locking function is not affected by lubrication and therefore can be tightened without the need to clean or dry an application and won't deteriorate or loosen around oils.
- Can be used with Grade 2, 5, 8 and even stronger bolts.
- Sur-Lock washers are also reusable - saves time, money and minimizes replacement costs.
- Heat treated to Mil Spec MIL-H-6875H 2.
- Vibration proof to Mil Spec MIL-STD-1312, Vibration Test 7.

WHERE TO USE SUR-LOCK WASHERS

Automotive • Construction • Off-Road • Agriculture • Marine • Trucking • Mining
Offshore • Railroad • Power Plants • Manufacturing • Processing • Utilities



IBS No.	Size	I.D.	O.D.	Pkg	IBS No.	Size	I.D.	O.D.	Pkg
7250	1/4 (M6)	.262	.495	50	7255	9/16 (M14)	.572	1.128	10
7251	5/16 (M8)	.326	.628	50	7256	5/8 (M16)	.651	1.247	10
7252	3/8 (M10)	.409	.705	25	7257	3/4 (M20)	.820	1.381	10
7253	7/16 (M11)	.450	.880	20	7258	7/8 (M22)	.883	1.470	5
7254	1/2 (M12)	.510	1.005	20	7259	1" (M24)	1.015	1.626	5

WASHERS ARE SOLD IN PAIRS (I.E. PKG 50 = 50 PAIRS / 100 PCS)

How to Install

To install the washer, simply mate the cams together and place between the nut and joint material.

As the nut is tightened, one half of the washer is seated to the joint material and the other half to the nut.

As with most fastening devices, washers should only be used against flat, relatively smooth surfaces.

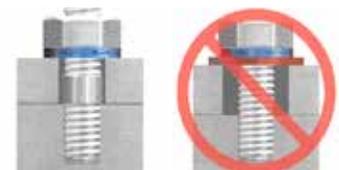
As a loosening moment occurs, one washer rotates with the nut, however since the cam rise angle exceeds the bolt thread angle this results in a locking action.

When the bolt elongates due to vibration and shock, the nut will attempt to rotate loose. As one half of the washer tries to rotate with the nut, the interlocking cams work against each other and maintain the preload and lock the assembly.

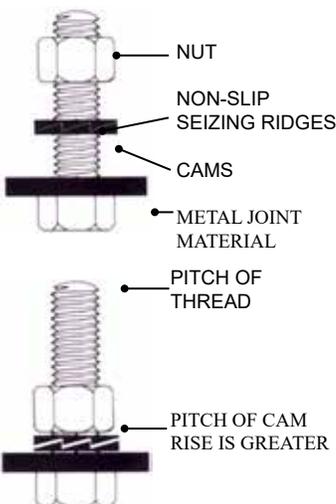
Assembly Examples



SUR-LOCK washers Through holes require two pairs of SUR-LOCK washers.



On stud bolts SUR- DO NOT USE with LOCKS lock the nut washers that are not & eliminate the need captivated in place. for adhesives.





IBS, INCORPORATED

Lockwashers C07

Sur-Lock Washers Assortment

IBS No. 698R • 10 Items • 100 Pcs

IBS, Inc.
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR
INDUSTRIALBOLTY.COM © © 900-878-1986

Sur-Lock Washers
Assortment No. 698R

7250 1/4 & M6 SUR-LOCK WASHER PAIR	7251 5/16 & M8 SUR-LOCK WASHER PAIR	7252 3/8 & M10 SUR-LOCK WASHER PAIR	7253 7/16 & M11 SUR-LOCK WASHER PR
7254 1/2 & M12 SUR-LOCK WASHER PAIR	7255 9/16 & M14 SUR-LOCK WASHER PR	7256 5/8 & M16 SUR-LOCK WASHER PAIR	7257 3/4 & M20 SUR-LOCK WASHER PAIR
7258 7/8 & M22 SUR-LOCK WASHER PAIR	7259 1" & M24 SUR-LOCK WASHER PAIR		

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Alloy Lockwashers (Yellow Zinc Plated)

- Yellow zinc plated for easy identification.
- Spring tempered, high carbon spring steel.
- Springs back to normal position without loss of locking power.
- Non-linking.
- Use with Grade 8 capscrews

IBS No.	Size	O.D.	Qty	IBS No.	Size	O.D.	Qty
7086	1/4	1/2	200	7091	9/16	31/32	100
7087	5/16	9/16	100	7092	5/8	1-1/16	50
7088	3/8	21/32	100	7093	3/4	1-1/4	50
7089	7/16	3/4	100	7094	7/8	1-7/16	25
7090	1/2	7/8	100	7095	1	1-13/16	25

High Collar Lockwashers (Plain)



For Socket

Head Capscrews

- High carbon double heat-treated spring steel.
- Springs back to normal position without loss of locking power.
- Non-linking

IBS No.	Size	Qty	IBS No.	Size	Qty
7145	#8	100	7150	3/8	100
7146	#10	100	7151	7/16	100
7148	1/4	100	7152	1/2	50
7149	5/16	100	7154	5/8	50



Medium Lockwashers (Zinc Plated)

- Spring tempered, high carbon spring steel.
- Springs back to normal position without loss of locking power.
- Non-linking

IBS No.	Size	O.D.	Qty	IBS No.	Size	O.D.	Qty
7100	#4	3/16	200	7109	1/2	7/8	100
7101	#6	1/4	200	7110	9/16	31/32	100
7102	#8	5/16	200	7111	5/8	1-1/16	100
7103	#10	11/32	200	7112	3/4	1-1/4	50
7104	#12	3/8	200	7113	7/8	1-7/16	25
7105	1/4	1/2	200	7114	1	1-5/8	25
7106	5/16	9/16	100	7115	1-1/8	1-13/16	EA
7107	3/8	11/16	100	7116	1-1/4	2	EA
7108	7/16	3/4	100	7118	1-1/2	2-13/32	EA

IBS, INCORPORATED

Fender Washers C15



Fender Washers

- Zinc plated to protect against rust and corrosion.
- Tumbled to remove burrs and sharp corners.
- Heavy Duty Fender Washers are over 50% thicker than regular style.

FENDER WASHERS

IBS No.	Bolt	I.D.	O.D.	Thick	Qty
7224	3/16	7/32	1/2	3/64	100
7225	3/16	7/32	3/4	3/64	100
7226	3/16	7/32	1	3/64	100
7227	3/16	7/32	1-1/4	3/64	100
7222	3/16	7/32	1-1/2	3/64	100
7228	1/4	17/64	9/16	3/64	100
7229	1/4	9/32	1	3/64	100
7230	1/4	9/32	1-1/4	3/64	100
7231	1/4	9/32	1-1/2	3/64	50
7223	1/4	9/32	2	3/64	50
7236	5/16	11/32	1-1/4	3/64	50
7232	5/16	11/32	1-1/2	3/64	50
7233	3/8	13/32	1-1/4	3/64	50
7234	3/8	13/32	1-1/2	3/64	50
7238	3/8	13/32	2	3/64	50
7239	1/2	17/32	1	3/64	50
7235	1/2	17/32	2	3/64	50

Regular

IBS No. 7229



Heavy Duty

IBS No. 7245

Fender Washer Assortment (Z02)

IBS No. 320R • 11 Items - 700 Pieces

Arranged in a large 12 compartment metal drawer



HEAVY DUTY FENDER WASHERS

IBS No.	Bolt	I.D.	O.D.	Thick	Qty
7244	3/16	7/32	1	1/8	50
7245	1/4	9/32	1-1/8	1/8	50
7246	5/16	11/32	1-1/4	1/8	50
7247	3/8	13/32	2	1/8	50
7248	1/2	9/16	2	1/8	50

WASHERS



IBS, INCORPORATED

Star Washers C11 & Finishing Washers C13

WASHERS

Internal & External Tooth Lockwashers (C11)

ZINC CHROMATE PLATING



Internal Tooth			External Tooth		
IBS No.	Size	Qty	IBS No.	Size	Qty
7161	#4	100	7179	#4	100
7162	#6	100	7180	#6	100
7163	#8	100	7181	#8	100
7164	#10	100	7182	#10	100
7165	#12	100	7183	#12	100
7166	1/4	100	7184	1/4	100
7167	5/16	100	7185	5/16	100
7168	3/8	100	7186	3/8	100
7169	7/16	100	7187	7/16	100
7170	1/2	100	7188	1/2	100
7171	9/16	100	7189	9/16	100
7172	5/8	100	7190	5/8	100
7173	3/4	100	7191	3/4	100
			7175A	1-1/8	100

Finishing Washers (C13)

Countersunk Type



- Brass washer resists corrosion indefinitely.
- Nickel plating gives attractive finish.

IBS No.	Size	O.D.	Qty	IBS No.	Size	O.D.	Qty
				7200	#10	19/32	100
7198	#6	7/16	100	7201	#12	11/16	100
7199	#8	17/32	100	7202	#14	11/16	100

Back-Up Washers (W01)

ALUMINUM ROUND

Back-Up Washers are .056" thick for use when fastening soft materials or to compensate for oversize holes where access to both sides of the work is possible.



IBS No.	Size	Dia.	Thick	Qty
AS-8	1/8	3/8	.056	100
AS-9	5/32	7/16	.056	100
AS-10	3/16	1/2	.056	100

Internal & External Star Washer Assortment

IBS No. 797R • 24 Items - 700 Pieces

Arranged in a Locking Steel Drawer for Easy Storage & Organization

Internal and External Star Washers

Assortment No. 797R

<p style="font-size: x-small;">7162 #6 STAR WASHER INTERNAL ZP</p>	<p style="font-size: x-small;">7163 #8 STAR WASHER INTERNAL ZP</p>	<p style="font-size: x-small;">7164 #10 STAR WASH INTERNAL ZP</p>	<p style="font-size: x-small;">7165 #12 STAR WASHER INTERNAL ZP</p>	<p style="font-size: x-small;">7166 1/4 STAR WASHER INTERNAL ZP</p>	<p style="font-size: x-small;">7167 5/16 STAR WASHER INTERNAL ZP</p>
<p style="font-size: x-small;">7168 3/8 STAR WASHER INTERNAL ZP</p>	<p style="font-size: x-small;">7169 7/16 STAR WASHER INTERNAL ZP</p>	<p style="font-size: x-small;">7170 1/2 STAR WASHER INTERNAL ZP</p>	<p style="font-size: x-small;">7171 9/16 STAR WASHER INTERNAL ZP</p>	<p style="font-size: x-small;">7172 5/8 STAR WASHER INTERNAL ZP</p>	<p style="font-size: x-small;">7173 3/4 STAR WASHER INTERNAL ZP</p>
<p style="font-size: x-small;">7180 #6 STAR WASHER EXTERNAL ZP</p>	<p style="font-size: x-small;">7181 #8 STAR WASHER EXTERNAL ZP</p>	<p style="font-size: x-small;">7182 #10 STAR WASHER EXTERNAL ZP</p>	<p style="font-size: x-small;">7183 #12 STAR WASHER EXTERNAL ZP</p>	<p style="font-size: x-small;">7184 1/4 STAR WASHER EXTERNAL ZP</p>	<p style="font-size: x-small;">7185 5/16 STAR WASHER EXTERNAL ZP</p>
<p style="font-size: x-small;">7186 3/8 STAR WASHER EXTERNAL ZP</p>	<p style="font-size: x-small;">7187 7/16 STAR WASHER EXTERNAL ZP</p>	<p style="font-size: x-small;">7188 1/2 STAR WASHER EXTERNAL ZP</p>	<p style="font-size: x-small;">7189 9/16 STAR WASHER EXTERNAL ZP</p>	<p style="font-size: x-small;">7190 5/8 STAR WASHER EXTERNAL ZP</p>	<p style="font-size: x-small;">7191 3/4 STAR WASHER EXTERNAL ZP</p>

IBS, INCORPORATED

Assortments Z02



Automotive Fasteners X05

Copper Washers



IBS No.	I.D.	O.D.	Thick	Qty
D-725-001	1/4	5/8	1/16	25
D-725-002	5/16	11/16	1/16	25
D-725-003	3/8	3/4	1/16	25
D-725-004	7/16	13/16	1/16	25
D-725-005	1/2	7/8	1/16	25
D-725-011	1/4	7/16	1/32	50
D-725-012	5/16	1/2	1/32	50
D-725-013	3/8	9/16	1/32	50
D-725-014	7/16	5/8	1/32	50
D-725-015	1/2	11/16	1/32	50

Drain Plug Gaskets



IBS No.	Size	O.D.	Thick	Material	Qty
D-095-001	1/2	3/4	3/32	Copper	25
D-095-002	5/8	1	3/32	Copper	25

Copper Washer Assortment

IBS No. 160R • 10 Items - 150 Pcs

Arranged in a Locking Steel Drawer for Easy Storage & Organization



IBS, Inc.

SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR
INDUSTRIALBOLT.COM © © © 800-678-1906

Copper Washers

Assortment No. 160R

<p>D-725-001 1/4ID X 5/8OD COPPER WASHER</p>  	<p>D-725-002 5/16ID X 11/16OD COPPER WASHER</p>  	<p>D-725-003 3/8ID X 3/4OD COPPER WASHER</p>  
<p>D-725-004 7/16ID X 13/16OD COPPER WASHER</p>  	<p>D-725-005 1/2ID X 7/8OD COPPER WASHER</p>  	
<p>D-725-011 1/4ID X 7/16OD COPPER WASHER</p>  	<p>D-725-012 5/16ID X 1/2OD COPPER WASHER</p>  	<p>D-725-013 3/8ID X 9/16OD COPPER WASHER</p>  
<p>D-725-014 7/16ID X 5/8OD COPPER WASHER</p>  	<p>D-725-015 1/2ID X 11/16OD COPPER WASHER</p>  	

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Miscellaneous Bolts

C

Carriage Bolts D-3

E

Elevator Bolts D-2

F

Fasteners

Bolts

Carriage Bolts D-3

Lag Screws D-3

Plow Bolts Grade 5 D-2

Plow Bolts Grade 8 D-2

Shaker Screen Bolts D-3

L

Lag Screws D-3

P

Plow Bolts

Grade 5 D-2

Grade 8 D-2

S

Shaker Screen Bolts D-3

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IBS, INCORPORATED

Plow Bolts D05

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Plow Bolts Grade 5

For use on farm machinery and industrial equipment where smaller diameter plow bolts are used.

- 120,000 psi Tensile Strength.
- Hardened sharp square corners to prevent turning in the blade.
- Clean, sharp burr free threads.



Size	3/8-16	Qty	1/2-13	Qty
1-1/2	3670	100	3673F	10
1-3/4			3673G	10
2			3674	10
2-1/2			3675	10

Plow Bolts Grade 8

No. 3 Round Head with Extra-Thick Dome

- 150,000 psi minimum tensile strength.
- Domed head for greater resistance to abrasion and “pull-through”.
- Will not “freeze-up”.
- Can be quickly and easily removed and re-used.
- Exclusive Bronze-Bond finish resists rust and corrosion.
- Meets or exceeds all O.E.M. specifications.



Size	5/8-11	Qty	3/4-10	Qty	7/8-9	Qty	1-8	Qty	1-1/4-7	Qty
1-1/2										
1-3/4										
2	3602	25	3613	20						
2-1/4	3603	25	3614	20						
2-1/2	3604	25	3615	20	3632	10	3645	10		
2-3/4	3605	25	3616	20	3633	10	3646	10		
3	3606	25	3617	20	3634	10	3647	10	3656	10
3-1/4							3648	10		
3-1/2	3607	25	3619	20	3637	10	3649	10		10
3-3/4									3660	
4			3621	20	3639	10	3651	25	3661	10
4-1/2							3652	10		
5			3622	20						
6			3623	20						

Miscellaneous Bolts

Elevator Bolts (D02)

- Ideal for conveyors, machine repair & bowling alley sweeps
- Zinc plated to protect against corrosion
- Large round head
- Full formed square neck
- Clean sharp rolled threads



ELEVATOR BOLTS

Size	1/4-20	Qty	5/16-18	Qty	3/8-16	Qty
1	3266	100	3276	50		
1-1/4	3267	100				
1-1/2	3268	100	3278	50	3287	50
2	3269	100	3280	50		
2-1/2			3281	50		



Carriage Bolts (D03)

- Zinc plated to protect against corrosion.
- Square, sharp neck prevents bolt from turning when nut is tightened.
- Large, round head.
- A307, Grade A, Low Carbon.
- 60,000 psi tensile strength.



Size	10-24	Qty	1/4-20	Qty	5/16-18	Qty	3/8-16	Qty	1/2-13	Qty
3/4	3300	100	3308	100	3330	100	3351	100		
1	3301	100	3309	100	3331	100	3352	100	3380	50
1-1/4	3302	100	3310	100	3332	100	3353	100		
1-1/2	3303	100	3311	100	3333	100	3354	100	3382	50
1-3/4			3312	100			3355	100	3383	50
2			3313	100	3335	100	3356	100	3384	50
2-1/2			3315	100	3337	100	3358	50	3386	50
3			3317	100	3339	100	3360	50	3388	50
3-1/2			3318	100	3340	50	3361	50	3389	50
4			3319	50	3341	50	3362	50	3390	25
4-1/2									3391	25
5									3392	25

Grade 5 Shaker Screen Bolts (D06) (Heat Treated Carriage Bolts)

- 125,000 psi minimum tensile strength.
- Made of special alloy steel.
- Fully threaded.
- Reduces wear and eliminated breakage.
- Triple heat treated and stress relieved for increased life.
- Ideal for use in mines, concrete plants, quarries, etc.



Size	1/2-13	Qty	5/8-11	Qty	3/4-10	Qty
1-1/2	3700	50				
2	3701	50				
2-1/2	3702	25	3711	25		
3	3703	25	3713	25		
3-1/2	3704	25	3714	25		
4	3705	25	3715	25	3722	20
4-1/2			3716	25	3723	20
5	3706	25	3717	25	3724	20
6	3708	25	3718	20	3726	20

Lag Screws (D04)

- Zinc plated to protect against corrosion
- Accepts any standard wrench
- Clean, well formed threads
- Deep threads with wide pitch
- Cleanly trimmed head



Size	1/4	Qty	5/16	Qty	3/8	Qty	1/2	Qty
1	3500	100	3513	100	3530	100		
1-1/4								
1-1/2	3502	100	3517	100	3532	100	3546	50
1-3/4								
2	3504	100	3519	100	3534	100	3547	50
2-1/2	3505	100	3520	100	3535	50	3548	50
3	3506	100	3521	100	3536	50	3549	50
3-1/2	3507	100	3522	50	3537	50	3550	25
4	3508	100	3523	50	3538	50	3551	25
5					3540	50	3553	25
6					3542	50	3555	25

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IBS, INCORPORATED

Miscellaneous Bolts

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Tapping Screws & Driver Bits

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IBS, INCORPORATED

Tapping Screws, General Information



Tapping Screw Hole Size Recommendations

Thickness of Metal			Pierced Hole	Drilled or Clean Punched Hole		Thickness of Metal			Pierced Hole	Drilled or Clean Punched Hole	
Screw Dia.	USS Gauge No.	Equiv	Hole Dia.	Hole Dia.	Drill Size	Screw Dia.	USS Gauge No.	Equiv	Hole Dia	Hole Dia.	Drill Size
4 .112	28	.0156	.086	.0860	44	8 .163	26	.0188	.131	.1160	—
	26	.1088	.086	.0860	44		24	.0250	.131	.1160	32
	24	.0250	.093	.0890	43		22	.0313	.131	.1160	32
	22	.0313	.098	.0935	42		20	.0375	.136	.1285	32
	20	.0375	.100	.0935	42		18	.0500	.140	.1440	30
6 .137	28	.0156	.106	.1040	37	4 .112	26	.0188	.144	.1440	27
	26	.0188	.106	.1040	37		24	.0250	.144	.1440	27
	24	.0250	.106	.1065	36		22	.0313	.144	.1440	27
	22	.0313	.110	.1065	36		20	.0375	.147	.1440	27
	20	.0375	.110	.1100	35		18	.0500	.155	.1660	27
7 .151	26	.1088	.121	.1160	32	12 .212	24	.1025	.185	.1660	19
	24	.0250	.121	.1160	32		22	.0313	.185	.1660	19
	22	.0313	.121	.1160	32		20	.0375	.185	.1695	19
	20	.0375	.121	.1160	32		18	.0500	.185	.1850	18
	18	.0500	.121	.1200	31	14 .243	22	.0313	.209	.1850	13
	16	.0625	—	.1285	30		20	.0375	.209	.1910	13
							18	.0500	.209	.1910	11
							16	.0625	—	.1990	8

TAPPING SCREWS

Slotted Pan Head Tapping Screws (E01)

- Zinc plated for corrosion resistance.
- Sharp, hardened threads.
- Sharp lead point.
- Deep, twist resistant slots.
- Greater resistance to breakage and snapping.



Length	Diameter						
	#4	#6	#7	#8	#10	#12	#14
1/4		7510					
3/8	7502	7512		7537	7553		
1/2	7503	7513	7526	7538	7554	7570	7585
5/8		7514		7539	7555	7571	7586
3/4		7515	7528	7540	7556	7572	7587
1		7517	7530	7542	7558	7574	7589
1-1/4				7543	7559	7575	7590
1-1/2				7544	7560	7576	7591
Qty	100	100	100	100	100	100	100



IBS, INCORPORATED

Phillips Tapping Screws E03

Phillips Pan Head Tapping Screws (E03)



- Zinc plated to resist corrosion.
- Type AB thread design for increased thread engagement and tighter assemblies.
- Sharp lead point and hardened threads.
- Greater resistance to snapping and breakage.

Length	Diameter					
	#4	#6	#8	#10	#12	#14
1/4	7681	7691	7710			
3/8	7683	7693	7712	7728		
1/2	7684	7694	7713	7729	7744	7759
5/8		7695	7714	7730	7745	7760
3/4	7686	7696	7715	7731	7746	7761
1		7698	7717	7733	7748	7763
1-1/4		7699	7718	7734	7749	7764
1-1/2		7700	7719	7735	7750	7765
1-3/4			7720	7736		7766
2			7721	7737	7752	7767
2-1/2				7738	7753*	7768*
3				7739	7754*	7769*
Pkg Qty	100	100	100	100	100/50*	100/50*

Phillips Pan Head Tapping Screws SS (I22)



Length	Diameter				
	#6	#8	#10	#12	#14
3/8	12528	12537	12546		
1/2	12529	12538	12547	12557	12567
5/8	12530	12539	12548	12558	12568
3/4	12531	12540	12549	12559	12569
1	12532	12541	12550	12560	12570
1-1/4	12533	12542*	12551*	12561	12571
1-1/2	12534	12543*	12552*	12562	12572
2			12554*	12564	12574
Pkg Qty	100	100/50*	100/50*	50	50

Phillips Pan Head Tapping Screws (Z02)

IBS No. 113R • 24 Items - 1500 Pieces

Packaged in a locking steel drawer for easy storage & organization.

IBS, Inc.		Phillips E03 Chart		Phillips Pan Head Tapping Screws	
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLTS.COM © & © 200-878-1906		<small>POST #1 - 100 SCREWS @ 4 #4 POST #2 - 100 SCREWS @ 6 #6 POST #3 - 100 SCREWS @ 8 #8 POST #4 - 100 SCREWS @ 10 #10 POST #5 - 100 SCREWS @ 12 #12</small>		Assortment No. 113R	
7693 6 X 3/8 PHIL PAN HD T/S ZP	7698 6 X 1" PHIL PAN HD T/S ZP	7717 8 X 1" PHIL PAN HD T/S ZP	7733 10 X 1" PHIL PAN HD T/S ZP	7748 12 X 1" PHIL PAN HD T/S ZP	7761 14 X 3/4 PHIL PAN HD T/S ZP
7694 6 X 1/2 PHIL PAN HD T/S ZP	7713 8 X 1/2 PHIL PAN HD T/S ZP	7729 10 X 1/2 PHIL PAN HD T/S ZP	7735 10 X 1-1/2 PHIL PAN HD T/S ZP	7749 12 X 1-1/4 PHIL PAN HD T/S ZP	7763 14 X 1" PHIL PAN HD T/S ZP
7695 6 X 5/8 PHIL PAN HD T/S ZP	7714 8 X 5/8 PHIL PAN HD T/S ZP	7730 10 X 5/8 PHIL PAN HD T/S ZP	7746 12 X 3/4 PHIL PAN HD T/S ZP	7750 12 X 1-1/2 PHIL PAN HD T/S ZP	7764 14 X 1-1/4 PHIL PAN HD T/S ZP
7696 6 X 3/4 PHIL PAN HD T/S ZP	7715 8 X 3/4 PHIL PAN HD T/S ZP	7731 10 X 3/4 PHIL PAN HD T/S ZP	7746 12 X 3/4 PHIL PAN HD T/S ZP	7760 14 X 5/8 PHIL PAN HD T/S ZP	7765 14 X 1-1/2 PHIL PAN HD T/S ZP

Phillips Pan Head Tapping Screws - Black Oxide (X05)



Length	Diameter			Length
	#6	#8	#10	
3/8	A-16889			3/8
1/2	A-11917	A-10180	A-11921	1/2
3/4	A-11918	A-10181	A-11922	3/4
1	A-11919	A-10182	A-11923	1
1-1/4		A-10183	A-11924	1-1/4
1-1/2			A-12800	1-1/2
Pkg Qty	100	100	100	Pkg Qty

TAPPING SCREWS



Phillips Flat Head Tapping Screws



- Zinc plated for corrosion resistance.
- Fully threaded for use with plastic, sheet metal, and wood.
- Type AB thread gives 7% more tensile strength and 50% more holding power.
- Easier starting with sharp lead point.
- Finished flat head provides attractive, flush fit in sheet metal or wood.
- Use where flush fit is necessary for operation, safety and cleanliness.

Length	Diameter					
	#4	#6	#8	#10	#12	#14
1/4	7774					
3/8	7776	7785				
1/2	7777	7786	7803	7818		
5/8		7787	7804	7819	7833	
3/4	7779	7788	7805	7820	7834	7847
1		7790	7807	7822	7836	7849
1-1/4		7791	7808	7823	7837	7850
1-1/2		7792	7809	7824	7838	7851
1-3/4			7810			
2			7811	7826	7840	7853*
2-1/2				7827	7841*	7854*
3				7828	7842*	
Pkg Qty	100	100	100	100	100/50*	100/50*

Phillips Flat Head Tapping Screws (Z02)

IBS No. 166R • 24 Items
1550 Pieces

Packaged in a locking steel drawer for easy storage & organization.

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALMARKET.COM • P.O. BOX 578-1906		Phillips Flat Head Tapping Screws		Assortment No. 166R	
7785 6 X 3/8 PHIL FLAT HD T/S ZP	7790 6 X 1 PHIL FLAT HD T/S ZP	7807 8 X 1 PHIL FLAT HD T/S ZP	7820 10 X 3/4 PHIL FLAT HD T/S ZP	7834 12 X 3/4 PHIL FLAT HD T/S ZP	7847 14 X 3/4 PHIL FLAT HD T/S ZP
7786 6 X 1/2 PHIL FLAT HD T/S ZP	7803 8 X 1/2 PHIL FLAT HD T/S ZP	7808 8 X 1-1/4 PHIL FLAT HD T/S ZP	7822 10 X 1 PHIL FLAT HD T/S ZP	7836 12 X 1 PHIL FLAT HD T/S ZP	7849 14 X 1 PHIL FLAT HD T/S ZP
7787 6 X 5/8 PHIL FLAT HD T/S ZP	7804 8 X 5/8 PHIL FLAT HD T/S ZP	7818 10 X 1/2 PHIL FLAT HD T/S ZP	7823 10 X 1-1/4 PHIL FLAT HD T/S ZP	7837 12 X 1-1/4 PHIL FLAT HD T/S ZP	7850 14 X 1-1/4 PHIL FLAT HD T/S ZP
7788 6 X 3/4 PHIL FLAT HD T/S ZP	7805 8 X 3/4 PHIL FLAT HD T/S ZP	7819 10 X 5/8 PHIL FLAT HD T/S ZP	7824 10 X 1-1/2 PHIL FLAT HD T/S ZP	7838 12 X 1-1/2 PHIL FLAT HD T/S ZP	7851 14 X 1-1/2 PHIL FLAT HD T/S ZP

TAPPING SCREWS



Phillips Flat Head Tapping Screws, SS (I22)

- 18-8 Stainless Steel for maximum strength and corrosion resistance.
- Fully threaded for use with plastic, sheet metal, and wood.
- Type AB thread gives 7% more tensile strength and 50% more holding power.
- Easier starting with sharp lead point.
- Finished flat head provides attractive, flush fit in sheet metal or wood.
- Use where flush fit is necessary for operation, safety and cleanliness.

Length	Diameter					Length
	#6	#8	#10	#12	#14	
3/8	12588	12597	12606			3/8
1/2	12589	12598	12607	12618		1/2
3/4	12591	12600	12609	12620	12630	3/4
1	12592	12601	12610	12621	12631	1
1-1/4	12593	12602	12611	12622	12632	1-1/4
1-1/2	12594	12603	12612	12623	12633	1-1/2
2			12614	12625	12635	2
3					NS	3
Pkg Qty	50	50	50	50	50	Pkg Qty



IBS, INCORPORATED

Phillips Tapping Screws E03

Phillips Oval Head Tapping Screws

- Zinc plated for corrosion resistance.
- Sharp lead point.
- Sharp, hardened threads.
- Type AB thread design for increased thread engagement and tighter assemblies.
- Greater resistance to breakage and snapping.
- Use on automotive interiors for a finished look.



Phillips Oval Head Tapping Screws - Black Oxide (X05)



Length	Diameter		
	#6	#8	#10
1/2	A-12795	A-10163	A-11084
3/4	A-12796	A-10165	A-11086
1	A-12797	A-10167	A-11088
1-1/4		A-10169	
Pkg Qty	100	100	100

Phil Pan & Oval Head T/S - Black Oxide Assortment (Z02)

IBS No. 767R • 24 Items

1100 Pieces

Packaged in a locking steel drawer for easy storage & organization.

Length	Diameter					
	#4	#6	#8	#10	#12	#14
3/8	7860	7865	7882			
1/2	7861	7866	7883	7894	7908	
5/8		7867	7884	7895	7909	
3/4	7863	7868	7885	7896	7910	7919
1		7869	7886	7897	7911	7920
1-1/4		7870	7887	7898	7912	
1-1/2			7888	7899	7913	7922*
2				7900		
Pkg Qty	100	100	100	100	100	100/50*

IBS Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLTS.COM © IBS 800-678-1906

Phillips Pan and Oval Head Tapping Screws - Black Oxide

Assortment No. 767R

A-12859 6 X 3/8 PHIL PAN HD T/S B/O	A-11917 6 X 1/2 PHIL PAN HD T/S B/O	A-11918 6 X 3/4 PHIL PAN HD T/S B/O	A-11919 6 X 1 PHIL PAN HD T/S B/O	A-10180 8 X 1/2 PHIL PAN HD T/S B/O	A-10181 8 X 3/4 PHIL PAN HD T/S B/O
A-10182 8 X 1 PHIL PAN HD T/S B/O	A-10183 8 X 1-1/4 PHIL PAN HD T/S B/O	A-12799 8 X 1-1/2 PHIL PAN HD T/S B/O	A-11921 10 X 1/2 PHIL PAN HD T/S B/O	A-11922 10 X 3/4 PHIL PAN HD T/S B/O	A-11923 10 X 1 PHIL PAN HD T/S B/O
A-11924 10 X 1-1/4 PHIL PAN HD T/S B/O	A-12800 10 X 1-1/2 PHIL PAN HD T/S B/O	A-12795 6 X 1/2 PHIL OVAL HD T/S B/O	A-12796 6 X 3/4 PHIL OVAL HD T/S B/O	A-12797 6 X 1 PHIL OVAL HD T/S B/O	A-10163 8 X 1/2 PHIL OVAL HD T/S B/O
A-10165 8 X 3/4 PHIL OVAL HD T/S B/O	A-10167 8 X 1 PHIL OVAL HD T/S B/O	A-10169 10 X 1/4 PHIL OVAL HD T/S B/O	A-11084 10 X 1/2 PHIL OVAL HD T/S B/O	A-11086 10 X 3/4 PHIL OVAL HD T/S B/O	A-11088 10 X 1 PHIL OVAL HD T/S B/O

Phillips Oval Head Tapping Screws SS (I22)

Assortment (Z02) IBS No. 171R

24 Items • 1075 Pieces

Packaged in a locking steel drawer for easy storage & organization.



Length	Diameter				
	#6	#8	#10	#12	#14
1/2	12649	12658	12667	12677	12687
5/8	12650	12659	12668	12678	
3/4	12651	12660	12669	12679	12689
1	12652	12661	12670	12680	12690
1-1/4	12653	12662	12671	12681*	12691
1-1/2	—	12663	12672	12682*	12692
Pkg Qty	100	100	100	100/50*	50

IBS Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLTS.COM © IBS 800-678-1906

Stainless Steel Phillips Oval Head Tapping Screws

Assortment No. 171R

12649 6 X 1/2 PHIL OVAL T/S SS	12653 6 X 1/4 PHIL OVAL T/S SS	12661 8 X 1 PHIL OVAL T/S SS	12669 10 X 3/4 PHIL OVAL T/S SS	12679 12 X 3/4 PHIL OVAL T/S SS	12689 14 X 3/4 PHIL OVAL T/S SS
12650 6 X 5/8 PHIL OVAL T/S SS	12658 8 X 1/2 PHIL OVAL T/S SS	12662 8 X 1-1/4 PHIL OVAL T/S SS	12670 10 X 1 PHIL OVAL T/S SS	12680 12 X 1 PHIL OVAL T/S SS	12690 14 X 1 PHIL OVAL T/S SS
12651 6 X 3/4 PHIL OVAL T/S SS	12659 8 X 3/4 PHIL OVAL T/S SS	12667 10 X 1/2 PHIL OVAL T/S SS	12671 10 X 1-1/4 PHIL OVAL T/S SS	12681 12 X 1-1/4 PHIL OVAL T/S SS	12691 14 X 1-1/4 PHIL OVAL T/S SS
12652 6 X 1 PHIL OVAL T/S SS	12660 8 X 3/4 PHIL OVAL T/S SS	12668 10 X 5/8 PHIL OVAL T/S SS	12672 10 X 1-1/2 PHIL OVAL T/S SS	12682 12 X 1-1/2 PHIL OVAL T/S SS	12692 14 X 1-1/2 PHIL OVAL T/S SS

TAPPING SCREWS



Square Drive Pan Head Tapping Screws Assortment (Z02)

IBS No. 162R • 24 Items • 1250 Pieces
 Packaged in a locking steel drawer for easy storage & organization.



- Zinc plated for corrosion resistance.
- Made from hardened steel.
- Sharp lead point.
- Greater resistance to snapping and breakage.

Length	Diameter				
	#6	#8	#10	#12	#14
3/8	7934				
1/2	7935	7947	7962	7977	7992
5/8	7936	7948	7963	7978	7993
3/4	7937	7949	7964	7979	7994
1	7938	7950	7965	7980	7995
1-1/4		7951	7966	7981	7996
1-1/2	7940	7952	7967	7982	7997
2		7954	7969	7984*	7999
2-1/2				7986*	8001
Pkg Qty	100	100	100	100/50*	50

IBS Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM • 800-678-1906		Square Bit Chart This lead chart will help you match the screw size to the correct square drill.		Square Drive Pan Head Tapping Screws	
POINT #1 - FOR SCREWS #1 & #2		POINT #1 - FOR SCREWS #1 THRU #2		POINT #1 - FOR SCREWS #1 THRU #2	
POINT #2 - FOR SCREWS #3 THRU #4		POINT #2 - FOR SCREWS #3 THRU #4		POINT #2 - FOR SCREWS #3 THRU #4	
POINT #3 - FOR SCREWS #5 THRU #6		POINT #3 - FOR SCREWS #5 THRU #6		POINT #3 - FOR SCREWS #5 THRU #6	
POINT #4 - FOR SCREWS #7 THRU #8		POINT #4 - FOR SCREWS #7 THRU #8		POINT #4 - FOR SCREWS #7 THRU #8	
POINT #5 - FOR SCREWS #9 THRU #10		POINT #5 - FOR SCREWS #9 THRU #10		POINT #5 - FOR SCREWS #9 THRU #10	
POINT #6 - FOR SCREWS #11 THRU #12		POINT #6 - FOR SCREWS #11 THRU #12		POINT #6 - FOR SCREWS #11 THRU #12	
POINT #7 - FOR SCREWS #13 THRU #14		POINT #7 - FOR SCREWS #13 THRU #14		POINT #7 - FOR SCREWS #13 THRU #14	
POINT #8 - FOR SCREWS #15 THRU #16		POINT #8 - FOR SCREWS #15 THRU #16		POINT #8 - FOR SCREWS #15 THRU #16	
POINT #9 - FOR SCREWS #17 THRU #18		POINT #9 - FOR SCREWS #17 THRU #18		POINT #9 - FOR SCREWS #17 THRU #18	
POINT #10 - FOR SCREWS #19 THRU #20		POINT #10 - FOR SCREWS #19 THRU #20		POINT #10 - FOR SCREWS #19 THRU #20	
POINT #11 - FOR SCREWS #21 THRU #22		POINT #11 - FOR SCREWS #21 THRU #22		POINT #11 - FOR SCREWS #21 THRU #22	
POINT #12 - FOR SCREWS #23 THRU #24		POINT #12 - FOR SCREWS #23 THRU #24		POINT #12 - FOR SCREWS #23 THRU #24	
7934 6 X 3/8 SQUARE DR PAN HD T/S	7935 6 X 1/2 SQUARE DR PAN HD T/S	7936 6 X 5/8 SQUARE DR PAN HD T/S	7937 6 X 3/4 SQUARE DR PAN HD T/S	7938 6 X 1 SQUARE DR PAN HD T/S	7939 6 X 1-1/4 SQUARE DR PAN HD T/S
7940 6 X 1-1/2 SQUARE DR PAN HD T/S	7941 6 X 2 SQUARE DR PAN HD T/S	7942 8 X 3/8 SQUARE DR PAN HD T/S	7943 8 X 1/2 SQUARE DR PAN HD T/S	7944 8 X 5/8 SQUARE DR PAN HD T/S	7945 8 X 3/4 SQUARE DR PAN HD T/S
7946 8 X 1 SQUARE DR PAN HD T/S	7947 8 X 1-1/4 SQUARE DR PAN HD T/S	7948 8 X 1-1/2 SQUARE DR PAN HD T/S	7949 8 X 2 SQUARE DR PAN HD T/S	7950 10 X 3/8 SQUARE DR PAN HD T/S	7951 10 X 1/2 SQUARE DR PAN HD T/S
7952 10 X 5/8 SQUARE DR PAN HD T/S	7953 10 X 3/4 SQUARE DR PAN HD T/S	7954 10 X 1 SQUARE DR PAN HD T/S	7955 10 X 1-1/4 SQUARE DR PAN HD T/S	7956 10 X 1-1/2 SQUARE DR PAN HD T/S	7957 10 X 2 SQUARE DR PAN HD T/S
7958 12 X 3/8 SQUARE DR PAN HD T/S	7959 12 X 1/2 SQUARE DR PAN HD T/S	7960 12 X 5/8 SQUARE DR PAN HD T/S	7961 12 X 3/4 SQUARE DR PAN HD T/S	7962 12 X 1 SQUARE DR PAN HD T/S	7963 12 X 1-1/4 SQUARE DR PAN HD T/S
7964 12 X 1-1/2 SQUARE DR PAN HD T/S	7965 12 X 2 SQUARE DR PAN HD T/S	7966 14 X 3/8 SQUARE DR PAN HD T/S	7967 14 X 1/2 SQUARE DR PAN HD T/S	7968 14 X 5/8 SQUARE DR PAN HD T/S	7969 14 X 3/4 SQUARE DR PAN HD T/S
7970 14 X 1 SQUARE DR PAN HD T/S	7971 14 X 1-1/4 SQUARE DR PAN HD T/S	7972 14 X 1-1/2 SQUARE DR PAN HD T/S	7973 14 X 2 SQUARE DR PAN HD T/S	7974 16 X 3/8 SQUARE DR PAN HD T/S	7975 16 X 1/2 SQUARE DR PAN HD T/S
7976 16 X 5/8 SQUARE DR PAN HD T/S	7977 16 X 3/4 SQUARE DR PAN HD T/S	7978 16 X 1 SQUARE DR PAN HD T/S	7979 16 X 1-1/4 SQUARE DR PAN HD T/S	7980 16 X 1-1/2 SQUARE DR PAN HD T/S	7981 16 X 2 SQUARE DR PAN HD T/S
7982 18 X 3/8 SQUARE DR PAN HD T/S	7983 18 X 1/2 SQUARE DR PAN HD T/S	7984 18 X 5/8 SQUARE DR PAN HD T/S	7985 18 X 3/4 SQUARE DR PAN HD T/S	7986 18 X 1 SQUARE DR PAN HD T/S	7987 18 X 1-1/4 SQUARE DR PAN HD T/S
7988 18 X 1-1/2 SQUARE DR PAN HD T/S	7989 18 X 2 SQUARE DR PAN HD T/S	7990 20 X 3/8 SQUARE DR PAN HD T/S	7991 20 X 1/2 SQUARE DR PAN HD T/S	7992 20 X 5/8 SQUARE DR PAN HD T/S	7993 20 X 3/4 SQUARE DR PAN HD T/S
7994 20 X 1 SQUARE DR PAN HD T/S	7995 20 X 1-1/4 SQUARE DR PAN HD T/S	7996 20 X 1-1/2 SQUARE DR PAN HD T/S	7997 20 X 2 SQUARE DR PAN HD T/S	7998 22 X 3/8 SQUARE DR PAN HD T/S	7999 22 X 1/2 SQUARE DR PAN HD T/S
8000 22 X 5/8 SQUARE DR PAN HD T/S	8001 22 X 3/4 SQUARE DR PAN HD T/S	8002 22 X 1 SQUARE DR PAN HD T/S	8003 22 X 1-1/4 SQUARE DR PAN HD T/S	8004 22 X 1-1/2 SQUARE DR PAN HD T/S	8005 22 X 2 SQUARE DR PAN HD T/S

Square Drive Flat Head Tapping Screws



Length	Diameter			
	#6	#8	#10	#12
1/2	8008	8019		
3/4	8010	8021	8036	8054
1	8011	8022	8037	
1-1/4			8038	8056*
1-1/2	8013	8024	8039	
2		8026	8041	
Pkg Qty	100	100	100	100/50*

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IBS, INCORPORATED

Hex Head Tapping Screws E13

Slotted HWH Tapping Screws



- Installs quickly and easily with either a screwdriver or wrench.
- Type "AB" thread for better gripping.
- Washer face protects metal against wrench disfigurements.
- Zinc plated to protect against rust and corrosion.

Length	Diameter					
	#6	#8	#10	#12	#14	5/16
1/4	8097					
3/8	8098	8110	8127			
1/2	8099	8111	8128	8143	8158	
5/8	8100	8112	8129		8159	
3/4	8101	8113	8130	8145	8160	8174
1	8102	8114	8131	8146	8161	8175
1-1/4		8115	8132	8147	8162	8176
1-1/2		8116	8133	8148	8163	8177
1-3/4						
2"		8118	8135	8150	8165	
2-1/2"					8166*	
3"					8167*	
Qty	100	100	100	100	100 /50*	50
Hex Size	1/4	1/4	5/16	5/16	3/8	1/2

Assortment (Z02)

IBS No. 152R • 24 Items • 1325 Pcs
Packaged in a locking steel drawer for easy storage & organization.

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © © © 800-678-1906						Hex Washer Head Tapping Screws					
Assortment No. 152R											
8097 6 X 1/4 SLTD HEX WASHER HD Hex Size 1/4"	8098 6 X 3/8 SLTD HEX WASHER HD Hex Size 1/4"	8099 6 X 1/2 SLTD HEX WASHER HD Hex Size 1/4"	8101 6 X 3/4 SLTD HEX WASHER HD Hex Size 1/4"	8102 6 X 1 SLTD HEX WASHER HD T/5 Hex Size 1/4"	8160 14 X 3/4 SLTD HEX WASHER HD Hex Size 3/8"	8110 8 X 3/8 SLTD HEX WASHER HD Hex Size 1/4"	8111 8 X 1/2 SLTD HEX WASHER HD Hex Size 1/4"	8113 8 X 3/4 SLTD HEX WASHER HD Hex Size 1/4"	8114 8 X 1 SLTD HEX WASHER HD T/5 Hex Size 1/4"	8115 8 X 1-1/4 SLTD HEX WASHER HD Hex Size 1/4"	8161 14 X 1 SLTD HEX WASHER HD T/5 Hex Size 3/8"
8127 10 X 3/8 SLTD HEX WASHER HD Hex Size 5/16"	8128 10 X 1/2 SLTD HEX WASHER HD Hex Size 5/16"	8129 10 X 5/8 SLTD HEX WASHER HD Hex Size 5/16"	8130 10 X 3/4 SLTD HEX WASHER HD Hex Size 5/16"	8131 10 X 1 SLTD HEX WASHER HD T/5 Hex Size 5/16"	8162 14 X 1-1/4 SLTD HEX WASHER HD Hex Size 3/8"	8133 10 X 1-1/2 SLTD HEX WASHER HD Hex Size 5/16"	8143 12 X 1/2 SLTD HEX WASHER HD Hex Size 5/16"	8145 12 X 3/4 SLTD HEX WASHER HD Hex Size 5/16"	8146 12 X 1 SLTD HEX WASHER HD T/5 Hex Size 5/16"	8148 12 X 1-1/2 SLTD HEX WASHER HD Hex Size 5/16"	8163 14 X 1-1/2 SLTD HEX WASHER HD Hex Size 3/8"

TAPPING SCREWS

Hex Washer Head Thread Cutting Screws E09



- Type "F"
- Deep thread cutting slots for cleaner threads and positive chip ejection.
- Hardened threads.
- Zinc plated to protect against rust and corrosion.
- Used on all trailer bodies and walk-in panel trucks.

Length	Diameter					
	8-32	10-24	12-24	1/4-20	5/16-18	3/8-16
Drill	#26	#17	#8	#1	"L"	"T"
3/8	8206					
1/2	8207	8214	8219	8223	8228	
5/8		8215				
3/4	8209	8216	8220	8225	8229	8232
1	8211	8217	8221	8226	8230	8233
1-1/4				8227	8231	8234
1-1/2						8235
Qty	100	100	100	100	50	25
Hex Size	1/4	5/16	5/16	3/8	1/2	9/16

Assortment (Z02)

IBS No. 150R • 20 Items • 380 Pcs
Packaged in a locking steel drawer for easy storage & organization.

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © © © 800-678-1906						Hex Washer Head Thread Cutting Screws Type "F"					
Assortment No. 150R											
8207 8-32 X 1/2 HWH T/C TYPE F ZP Hex Size 1/4"	8209 8-32 X 3/4 HWH T/C TYPE F ZP Hex Size 1/4"	8211 8-32 X 1 HWH T/C TYPE F ZP Hex Size 1/4"	8214 10-24 X 1/2 HWH T/C TYPE F ZP Hex Size 5/16"	8215 10-24 X 5/8 HWH T/C TYPE F ZP Hex Size 5/16"	8216 10-24 X 3/4 HWH T/C TYPE F ZP Hex Size 5/16"	8217 10-24 X 1 HWH T/C TYPE F ZP Hex Size 5/16"	8220 12-24 X 3/4 HWH T/C TYPE F ZP Hex Size 5/16"	8221 12-24 X 1 HWH T/C TYPE F ZP Hex Size 5/16"	8223 1/4-20 X 1/2 HWH T/C TYPE F ZP Hex Size 3/8"	8225 1/4-20 X 3/4 HWH T/C TYPE F ZP Hex Size 3/8"	8226 1/4-20 X 1 HWH T/C TYPE F ZP Hex Size 3/8"
8227 1/4-20 X 1-1/4 HWH T/C TYPE F ZP Hex Size 3/8"	8229 5/16-18 X 3/4 HWH T/C TYPE F ZP Hex Size 1/2"	8230 5/16-18 X 1 HWH T/C TYPE F ZP Hex Size 1/2"	8231 3/8-16 X 3/4 HWH T/C TYPE F ZP Hex Size 9/16"	8232 3/8-16 X 1 HWH T/C TYPE F ZP Hex Size 9/16"	8233 3/8-16 X 1-1/4 HWH T/C TYPE F ZP Hex Size 9/16"	8234 3/8-16 X 1-1/4 HWH T/C TYPE F ZP Hex Size 9/16"	8235 3/8-16 X 1-1/2 HWH T/C TYPE F ZP Hex Size 9/16"				

Deck Screws E11

Flat Head Deck Screws

Torx® Drive



- Type “F” self cutting threads.
- Phosphate and oil finish.
- Torx® design gives positive torque control and higher wrenchability.
- Optimum driver-fastener alignment.
- No cam-out (driver pre-spinning).
- No head damage or distortion.
- Speeds assembly and provides efficient, economical fastening.
- Used on truck and bus bodies.

Phillips Drive



- Self-tapping.
- Type “F” self-cutting threads.
- Zinc plated to protect against rust and corrosion.
- Heat treated.

Length	Bit Size	Dia	Zinc Plate
1-1/2	#3	1/4	8290
2	#3	1/4	8291
2-1/2	#3	1/4	8292
Qty			100

Length	1/4 Dia	5/16 Dia
	Bit Size	
	T30	T40
1-1/2	8281	
2	8282	8285
2-1/2	8283*	8286
3	8284*	8287
Qty	100/50*	50

Drywall Screws E17

Phillips Bugle Head Drywall Screws



- Used for fastening drywall to wood studs.
- Fastens wood to wood fixtures.
- Available in Black Phosphate or Yellow Zinc plate when additional weather resistance is needed.

Length	ZINC YELLOW		BLACK PHOSPHATE		Length
	Diameter		Diameter		
	#6	#8	#6	#8	
1	8650		8660		1
1-1/4	8651		8661		1-1/4
1-5/8	8652		8662		1-5/8
1-1/2					1-1/2
2	8653		8663		2
2-1/4			8664		2-1/4
2-1/2				8665	2-1/2
3		8654		8666	3
Qty	100	100	100	100	Qty

TAPPING SCREWS



IBS, INCORPORATED

Teks® Screws E16

Serrated Hex Washer Head Tek® Screws

For unmatched performance against strip-out and vibration loosening in sheet metal applications, you can rely on Serrated HWH Tek® Screws. Even after removal and reinsertion, they maintain their strong holding power for more solid assemblies and greater integrity in the finished product.

- Serrations under the head grab materials and resist loosening from vibration creating a stronger hold reducing the chance of failure or pullout.
- Manufactured to SAE J78 Specifications
- Case hardened to Rockwell C50-56 #2 Drill Point
- Steel Zinc Plated



Assortment (Z02)

IBS No. 173R • 16 Items • 900 Pieces

Packaged in a locking steel drawer for easy storage & organization.

TAPPING SCREWS

Length	Diameter			
	8-18	10-16	12-14	1/4-14
1/2	23630	23644		
5/8	23632	23646	23654	23664
3/4	23636	23648	23656	23666
1	23638	23650	23658	23668
1-1/4				
1-1/2			23660*	23670
2				23672
Pkg Qty	100	100	100 / *50	50
Hex Size	1/4	5/16	5/16	3/8

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © & © 2006-07/8-1906		Serrated Hex Washer Head TEK/Drill Point Screws	
Assortment No. 173R			
23630 8-18 X 1/2 HWH SERRATED TEK ZP HEX SIZE: 1/4"	23644 10-16 X 1/2 HWH SERRATED TEK ZP HEX SIZE: 5/16"	23654 12-14 X 5/8 HWH SERRATED TEK ZP HEX SIZE: 5/16"	23666 1/4-14 X 3/4 HWH SERRATED TEK ZP HEX SIZE: 3/8"
23632 8-18 X 5/8 HWH SERRATED TEK ZP HEX SIZE: 1/4"	23646 10-16 X 5/8 HWH SERRATED TEK ZP HEX SIZE: 5/16"	23656 12-14 X 3/4 HWH SERRATED TEK ZP HEX SIZE: 5/16"	23668 1/4-14 X 1 HWH SERRATED TEK ZP HEX SIZE: 3/8"
23636 8-18 X 3/4 HWH SERRATED TEK ZP HEX SIZE: 1/4"	23648 10-16 X 3/4 HWH SERRATED TEK ZP HEX SIZE: 5/16"	23658 12-14 X 1 HWH SERRATED TEK ZP HEX SIZE: 5/16"	23670 1/4-14 X 1-1/2 HWH SERRATED TEK ZP HEX SIZE: 3/8"
23638 8-18 X 1 HWH SERRATED TEK ZP HEX SIZE: 1/4"	23650 10-16 X 1 HWH SERRATED TEK ZP HEX SIZE: 5/16"	23660 12-14 X 1-1/2 HWH SERRATED TEK ZP HEX SIZE: 5/16"	23672 1/4-14 X 2 HWH SERRATED TEK ZP HEX SIZE: 3/8"

Hex Washer Head Tek® Screws



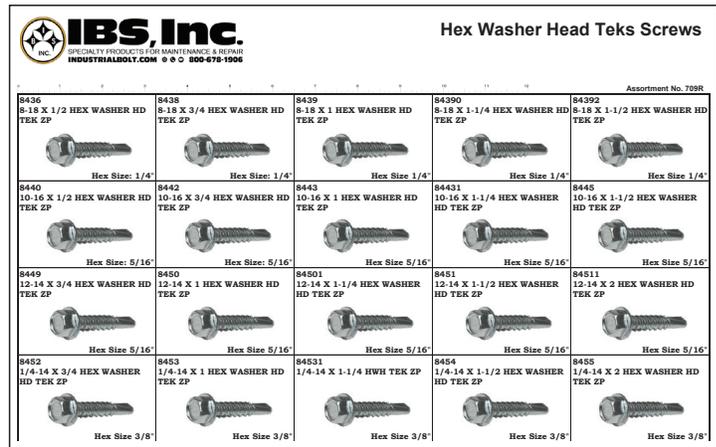
- Forged drill point starts and drills its own hole without center punching - will not walk.
- Self-tapping threads actually form their own threads.
- Zinc plated to protect against rust and corrosion.
- Eliminates hole alignment problems.
- Drills, taps and fastens in one easy motion.
- Fasten metal to metal and a wide range of other materials including wood, synthetics and mechanical components to metal



Assortment IBS No. 709R • 20 Items 1075 Pieces

Packaged in a locking steel drawer for easy storage & organization.

Length	Diameter				
	6-20	8-18	10-16	12-14	1/4-14
3/8	84356				
1/2	84358	8436	8440		
5/8					
3/4	84359	8438	8442	8449	8452
1	84357	8439	8443	8450	8453
1-1/4		84390	84431	84501	84531
1-1/2		84392	8445	8451	8454
2		84397	84452	84511	8455*
2-1/2			8446	84512	8456*
3			8447	84513	8457*
4					8458*
Pkg Qty	100	100	100	100	100 / 50*
Hex Size	1/4	1/4	5/16	5/16	3/8



TAPPING SCREWS



IBS, INCORPORATED

Tek® Screws E16

Phillips Pan Head Tek® Screws

- Forged drill point starts and drills its own hole without center punching - will not walk.
- Self-tapping threads actually form their own threads.
- Zinc plated to protect against rust and corrosion.
- Eliminates hole alignment problems.
- Drills, taps and fastens in one easy motion.
- Fasten metal to metal and a wide range of other materials including wood, synthetics and mechanical components to metal.



Length	Diameter			Length
	6-20	8-18	10-16	
1/2	8427	8428	8433	1/2
3/4	8426	8430	8435	3/4
1	8425	8431	84351	1
1-1/2		8432	8437	1-1/2
Qty	100	100	100	Qty

HWH Tek® Screws with Neoprene Washer



Length	Diameter		Length
	#10	#14	
3/4	8528	8549	3/4
1	8530	8550	1
Qty	100	100	Qty
Hex Size	5/16	3/8	Hex Size

Phillips Pan Head Tek® Screws, SS



Length	Diameter				
	#6	#8	#10	#12	#14
1/2	12740	12745	12750		
3/4	12741	12746	12751	12755	12760
1	12742	12747	12752*	12756	12761
1-1/4				12757*	12762*
1-1/2		12748*	12753*	12758*	12763*
2'					12764*
Qty	100	100/50*	100/50*	50/25*	50/25*

TAPPING SCREWS

Phil Pan & K-Lath Tek Screws Assortment (Z02)
 IBS No. 778R • 17 Items — 1250 Pcs
 Packaged in a locking steel drawer for easy storage & organization.

IBS, Inc.
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR
INDUSTRIALDOLY.COM • 800-678-1906

Phillips Pan Head & K-Lath
TEK Screws

Assortment No. 778R

Phillips RH Chart

POINT #1 - FOR SCREWS #6 & #8
POINT #2 - FOR SCREWS #10-14
POINT #3 - FOR SCREWS #16-18
POINT #4 - FOR SCREWS #20-24
POINT #5 - FOR SCREWS #28-36
POINT #6 - FOR SCREWS #40-48
POINT #7 - FOR SCREWS #56-60
POINT #8 - FOR SCREWS #72-84
POINT #9 - FOR SCREWS #96-108
POINT #10 - FOR SCREWS #120-144
POINT #11 - FOR SCREWS #168-180
POINT #12 - FOR SCREWS #216-240
POINT #13 - FOR SCREWS #288-300
POINT #14 - FOR SCREWS #360-360

8427 6-20 X 1/2 PHIL PAN HD TEK ZP	8426 6-20 X 3/4 PHIL PAN HD TEK ZP	8425 6-20 X 1 PHIL PAN HD TEK ZP	8428 8-18 X 1/2 PHIL PAN HD TEK ZP	8430 8-18 X 3/4 PHIL PAN HD TEK ZP
8431 8-18 X 1 PHIL PAN HD TEK ZP	8432 8-18 X 1-1/2 PHIL PAN HD TEK ZP	8433 10-16 X 1/2 PHIL PAN HD TEK ZP	8435 10-16 X 3/4 PHIL PAN HD TEK ZP	84351 10-16 X 1 PHIL PAN HD TEK ZP
8437 10-16 X 1-1/2 PHIL PAN HD TEK ZP	12790 8 X 1/2 PHIL K-LATH TEK ZP	12791 8 X 3/4 PHIL K-LATH TEK ZP	12792 8 X 1 PHIL K-LATH TEK ZP	12793 8 X 1-1/4 PHIL K-LATH TEK ZP
12794 8 X 1-5/8 PHIL K-LATH TEK ZP	12795 8 X 2 PHIL K-LATH TEK ZP			

Phil Pan Hd Tek® S.S. Assortment (Z08)
 IBS No. 310R • 21 Items — 825 Pcs
 Packaged in a locking steel drawer for easy storage & organization.

IBS, Inc.
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR
INDUSTRIALDOLY.COM • 800-678-1906

Stainless Steel Phillips
Pan Head TEK Screws

Assortment No. 310R

Phillips RH Chart

POINT #1 - FOR SCREWS #6 & #8
POINT #2 - FOR SCREWS #10-14
POINT #3 - FOR SCREWS #16-18
POINT #4 - FOR SCREWS #20-24
POINT #5 - FOR SCREWS #28-36
POINT #6 - FOR SCREWS #40-48
POINT #7 - FOR SCREWS #56-60
POINT #8 - FOR SCREWS #72-84
POINT #9 - FOR SCREWS #96-108
POINT #10 - FOR SCREWS #120-144
POINT #11 - FOR SCREWS #168-180
POINT #12 - FOR SCREWS #216-240
POINT #13 - FOR SCREWS #288-300
POINT #14 - FOR SCREWS #360-360

12740 6 X 1/2 PHIL PAN TEK SS	12741 6 X 3/4 PHIL PAN TEK SS	12742 6 X 1 PHIL PAN TEK SS	12745 8 X 1/2 PHIL PAN TEK SS	12746 8 X 3/4 PHIL PAN TEK SS
12747 8 X 1 PHIL PAN TEK SS	12748 8 X 1-1/2 PHIL PAN TEK SS	12750 10 X 1/2 PHIL PAN TEK SS	12751 10 X 3/4 PHIL PAN TEK SS	12752 10 X 1 PHIL PAN TEK SS
12753 10 X 1-1/2 PHIL PAN TEK SS	12755 12 X 3/4 PHIL PAN TEK SS	12756 12 X 1 PHIL PAN TEK SS	12757 12 X 1-1/4 PHIL PAN TEK SS	12758 12 X 1-1/2 PHIL PAN TEK SS
12760 14 X 3/4 PHIL PAN TEK SS	12761 14 X 1 PHIL PAN TEK SS	12762 14 X 1-1/4 PHIL PAN TEK SS	12763 14 X 1-1/2 PHIL PAN TEK SS	12764 14 X 2 PHIL PAN TEK SS



Square Drive Pan Head Tek® Screws

Assortment (Z08)

IBS No. 312R • 14 Items • 650 Pcs
Packaged in a locking steel drawer for easy storage & organization.

Length	Diameter			Length
	8-18	10-16	12-14	
1/2	8627	8633		1/2
5/8				5/8
3/4	8629	8635	8640	3/4
1	8630	8636	8641	1
1-1/4	8631	8637	8642	1-1/4
1-1/2	8632	8638	8643	1-1/2
2		8639		2
Use with Bit	#2 Sq Drive 250R2 or 250-R12	#2 Sq Drive 250R2 or 250-R12	#3 Sq Drive 250R3 or 250-R13	Use with Bit
Qty	100	100	50	Qty

IBS, Inc.		Square Bit Chart		Square Drive Pan Head TEK Screws	
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALDOLBY.COM © © © 800-678-1906		POINT #1 - 100 SCREWS #1 & 4 POINT #2 - 100 SCREWS #2, 10, 11, 17 POINT #3 - 100 SCREWS #3, 10, 11, 17 POINT #4 - 100 SCREWS #12, 13, #14, #15, #16, #18		Assortment No. 312R	
		8627 8 X 1/2 SQUARE DRIVE PN TEK ZP		8629 8 X 3/4 SQUARE DRIVE PN TEK ZP	
8630 8 X 1 SQUARE DRIVE PAN TEK ZP	8631 8 X 1-1/4 SQUARE DRIVE PAN TEK	8632 8 X 1-1/2 SQUARE DRIVE PAN TEK	8633 10 X 1/2 SQUARE DRIVE PAN TEK		
8635 10 X 3/4 SQUARE DRIVE PAN TEK	8636 10 X 1 SQUARE DRIVE PAN TEK ZP	8637 10 X 1-1/4 SQUARE DRIVE PAN	8638 10 X 1-1/2 SQUARE DRIVE PAN		
8640 12 X 3/4 SQUARE DRIVE PAN TEK	8641 12 X 1 SQUARE DRIVE PAN TEK ZP	8642 12 X 1-1/4 SQUARE DRIVE PAN	8643 12 X 1-1/2 SQUARE DRIVE PAN		



Square Drive Pan Head Tek® Screws SS

Assortment (Z08)

IBS No. 313R • 20 Items • 590 Pcs
Packaged in a locking steel drawer for easy storage & organization.

Length	Diameter				
	#6	#8	#10	#12	#14
3/8	12800	12804			
1/2	12801	12805	12811		
5/8		12806	12812		
3/4	12802	12807	12813	12818	12823
1	12803	12808	12814	12819	12824
1-1/4		12809*	12815	12820*	12825
1-1/2		12810*	12816	12821*	12826
1-3/4					
2			12817	12822*	12827
Use with Bit	#1 Sq Drive 250R1 or 250R11	#2 Sq Drive 250R2 or 250-R12	#2 Sq Drive 250R2 or 250-R12	#3 Sq Drive 250R3 or 250-R13	
Qty	50	100/50*	50	50/25*	25

IBS, Inc.		Square Bit Chart		Stainless Steel Square Drive Pan Head TEK Screws	
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALDOLBY.COM © © © 800-678-1906		POINT #1 - 100 SCREWS #1 & 4 POINT #2 - 100 SCREWS #2, 10, 11, 17 POINT #3 - 100 SCREWS #3, 10, 11, 17 POINT #4 - 100 SCREWS #12, 13, #14, #15, #16, #18		Assortment No. 313R	
12801 6 X 1/2 SQUARE DR PAN TEK	12802 6 X 3/4 SQUARE DR PAN TEK	12803 6 X 1 SQUARE DR PAN TEK SCREW	12805 8 X 1/2 SQUARE DR PAN TEK	12807 8 X 3/4 SQUARE DR PAN TEK	
12808 8 X 1 SQUARE DR PAN TEK SCREW	12810 8 X 1-1/2 SQUARE DR PAN TEK	12811 10 X 1/2 SQUARE DR PAN TEK	12813 10 X 3/4 SQUARE DR PAN TEK	12814 10 X 1 SQUARE DR PAN TEK	
12816 10 X 1-1/2 SQUARE DR PAN TEK	12817 10 X 2 SQUARE DR PAN TEK	12818 12 X 3/4 SQUARE DR PAN TEK	12819 12 X 1 SQUARE DR PAN TEK	12821 12 X 1-1/2 SQUARE DR PAN TEK	
12822 12 X 2 SQUARE DR PAN TEK	12823 14 X 3/4 SQUARE DR PAN TEK	12824 14 X 1 SQUARE DR PAN TEK	12826 14 X 1-1/2 SQUARE DR PAN TEK	12827 14 X 2 SQUARE DR PAN TEK	

TAPPING SCREWS



IBS, INCORPORATED

Tek® Screws SS I23

TAPPING SCREWS



Hex Washer Head Tek® Screws, SS

SS Assortment (Z08)

IBS No. 311R • 13 Items — 525 Pcs
Packaged in a locking steel drawer for easy storage & organization.

Length	Diameter					Length
	#6	#8	#10	#12	#14	
1/2		12770	12774			1/2
3/4	12768	12771	12775	12780	12785	3/4
1	12769	12772	12776	12781	12786	1
1-1/4		12773	12777	12782	12787	1-1/4
1-1/2		12830	12778	12783	12788	1-1/2
2`		12831	12832	12784	12789	2
2-1/2			12833	12835	12838	2-1/2
3			12834	12836	12839	3
4				12837	12840	4
Qty		100	50	25	25	Qty
Hex Size		1/4	5/16	5/16	3/8	Hex Size

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM 8 8 0 800-878-1806		Stainless Steel Hex Washer Head TEK Screws	
Assortment No. 311R			
12770 8 X 1/2 HWH TEK SS Hex Size 1/4"	12771 8 X 3/4 HWH TEK SS Hex Size 1/4"	12772 8 X 1 HWH TEK SS Hex Size 1/4"	12830 8 X 1-1/2 HWH TEK SS Hex Size 1/4"
12774 10 X 1/2 HWH TEK SS Hex Size 5/16"	12775 10 X 3/4 HWH TEK SS Hex Size 5/16"	12776 10 X 1 HWH TEK SS Hex Size 5/16"	12778 10 X 1-1/2 HWH TEK SS Hex Size 5/16"
12780 12 X 3/4 HWH TEK SS Hex Size 5/16"	12781 12 X 1 HWH TEK SS Hex Size 5/16"	12783 12 X 1-1/2 HWH TEK SS Hex Size 5/16"	12784 12 X 2 HWH TEK SS Hex Size 5/16"
12785 14 X 3/4 HWH TEK SS Hex Size 3/8"	12786 14 X 1 HWH TEK SS Hex Size 3/8"	12788 14 X 1-1/2 HWH TEK SS Hex Size 3/8"	12789 14 X 2 HWH TEK SS Hex Size 3/8"

K-Lath Modified Truss Head Screw (E16)

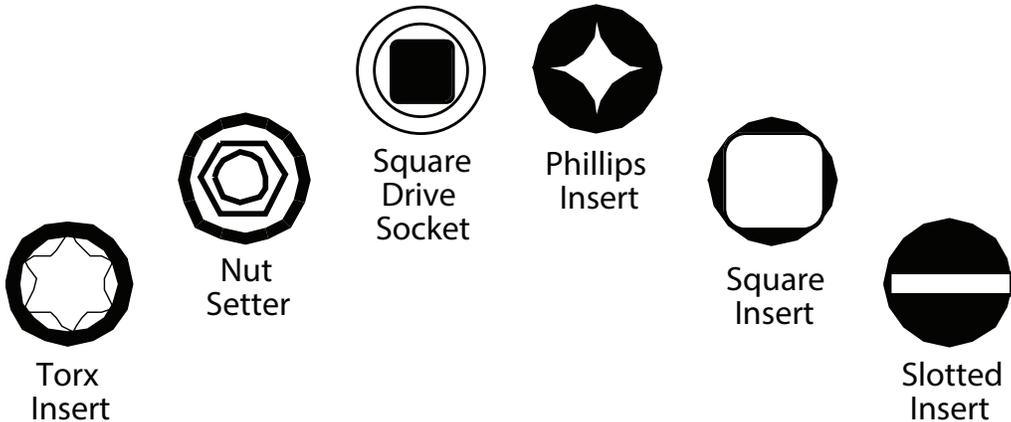
- Commonly known as K-Lath Screw, modified truss head screws are used for a variety of wood and 20-16 gauge metal applications.
- For attaching metal lath in stucco and other applications to steel studs.



Length	Diameter
	#8
1/2	12790
3/4	12791
1	12792
1-1/4	12793
1-5/8	12794
2`	12795
Qty	100



Driver Bits



- Insert bits "float" slightly in the holder, providing easier alignment with the screw recess and reduced bit wear.
- Bits are precision-built of special shock-resistant, heat-treated and tempered steel to insure the proper combination of hardness and toughness.

1/4" Hex Drive Nut-Setters & Bit Holders

- For driving hex head self drilling fasteners & insert bits
- Magnetic



IBS No.	Description	Broached Hex Size	Nose Dia.	Qty
MSH1/4	1/4 Hex Drive - Short	1/4 x 1-1/4	7/16	1
MSH5/16	1/4 Hex Drive - Short	5/16 x 1-3/4	1/2	1
MSH3/8	1/4 Hex Drive - Short	3/8 x 1-3/4	9/16	1
MSHL1/4	1/4 Hex Drive - Long	1/4 x 2-9/16	7/16	1
MSHL5/16	1/4 Hex Drive - Long	5/16 x 2-9/16	1/2	1
MSHL3/8	1/4 Hex Drive - Long	3/8 x 2-9/16	9/16	1
MSHL7/16	1/4 Hex Drive - Long	7/16 x 2-9/16	5/8	1
MSHL1/2	1/4 Hex Drive - Long	1/2 x 2-9/16	3/4	1
MBHL25225	Bit Holder - 2-1/4 Long	1/4 x 2-1/4	3/8	1
MBHL2530	Bit Holder - 3 Long	1/4 x 3	3/8	1
MBHL2560	Bit Holder - 6 Long	1/4 x 6	3/8	1
MBHL25120	Bit Holder - 12 Long	1/4 x 12	3/8	1

Combo Quick Change Bit Holder

IBS No. 140341



- Quick change chuck design provides fast and easy changeout of accessories.
- Accepts all 1/4" quick change accessories — including standard 1" insert bits!
- Quick snap design for one handed assembly.
- Pull sleeve backward to release - easy removal!

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IBS, INCORPORATED

Driver Bits P12

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Slotted Screw Style Insert Bits



IBS No.	Screw Size	Shank	Length	Qty
250SS4	#4	1/4	1	1
250SS5	#5	1/4	1	1
250SS6	#6	1/4	1	1
250SS8	#8	1/4	1	1
250SS10	#10	1/4	1	1
250SS12	#12	1/4	1	1

Slotted Screw Style Power Bits



IBS No.	Screw Size	Shank	Length	Qty
250SSP6	6-8	1/4	1-15/16	1
250SSP8	8-10	1/4	1-15/16	1
250SSP63	6-8	1/4	3	1
250SSP83	8-10	1/4	3	1
250SSP66	6-8	1/4	6	1
250SSP106	10-12	1/4	6	1

Square Recess Insert Bits



IBS No.	Point Size	Shank	Length	Qty
250R1	1	1/4	1	1
250R2	2	1/4	1	1
250R3	3	1/4	1	1

Square Recess Power Bits



IBS No.	Point Size	Shank	Length	Qty
250-R11	1	1/4	1-15/16	1
250-R12	2	1/4	1-15/16	1
250-R13	3	1/4	1-15/16	1
84-R1	1	1/4	3	1
84-R2	2	1/4	3	1
84-R3	3	1/4	3	1
250-R61	1	1/4	6	1
250-R62	2	1/4	6	1
250-R63	3	1/4	6	1

Phillips Recess Insert Bits



IBS No.	Point Size	Shank	Length	Qty
250-PB1	1	1/4	1	1
250-PB2	2	1/4	1	1
250-PB3	3	1/4	1	1
312PB2	2	5/16	1-1/4	1
312PB3	3	5/16	1-1/4	1

Phillips Recess Power Bits



IBS No.	Point Size	Shank	Length	Qty
250-PB11	1	1/4	1-15/16	1
250-PB12	2	1/4	1-15/16	1
250-PB13	3	1/4	1-15/16	1
250-PB31	1	1/4	3-1/2	1
250-PB32	2	1/4	3-1/2	1
250-PB33	3	1/4	3-1/2	1
250-PB61	1	1/4	6	1
250-PB62	2	1/4	6	1
250-PB63	3	1/4	6	1

Torx Insert Bits



IBS No.	Point Size	Shank	Length	Qty
60-T15	T15	1/4	1	1
60-T20	T20	1/4	1	1
60-T25	T25	1/4	1	1
60-T30	T30	1/4	1	1
60-T40	T40	1/4	1	1
61-T30	T30	5/16	1-1/4	1
61-T40	T40	5/16	1-1/4	1

Torx Power Bits



IBS No.	Point Size	Shank	Length	Qty
60-PB15	T15	1/4	1-15/16	1
60-PB20	T20	1/4	1-15/16	1
60-PB25	T25	1/4	1-15/16	1
60-PB30	T30	1/4	1-15/16	1
60-PB40	T40	1/4	1-15/16	1



Security Hex Driver Bits



1/4 x 1 HEX WITH PIN SECURITY DRIVER BITS

IBS No.	Size	Use With	Qty
12944	3/32	#4 Screws	2
12945	1/8	#6 Screws	2
12946	5/32	1/8 - 1/4 Screws	2
12947	3/16	5/16 Screws	2
12948	7/32	3/8 Screws	2

Security Torx Driver Bits



1/4 x 1 TORX WITH PIN SECURITY DRIVER BITS

IBS No.	Size	Use With	Qty
12936	T9	#5 - #6 Screws	2
12937	T10	#6 - #8 Screws	2
12938	T15	#8 - #10 Screws	2
12939	T20	#8 Screw	2
12940	T25	#10 - #12 Screws	2
12942	T30	1/4 Screw	2
12943	T40	5/16 - 3/8 Screw	2

Security Phillips Driver Bits



1/4 x 1 PHILLIPS WITH PIN SECURITY DRIVER BITS

IBS No.	Size	Use With	Qty
12949	#2	#5 - #10 Screws	2
12950	#3	#12-#16 & 1/4 Screws	2

Square Drive Sockets



SQUARE DRIVE SOCKETS - 1/4 HEX SHANK

IBS No.	Description	Nose Dia.	Qty
SSA-5	3" External Adapter with Ball Lock	1/4	1
SSA-4	4" External Adapter with Durable Pin Lock	1/4	1
SSA-6	3" External Adapter with Durable Pin Lock	3/8	1
SSA-7	2" External Adapter with Durable Pin Lock	1/2	1

Spin-It-Out Damaged Screw Removers (T03)

The perfect tool for removing stripped and broken or damaged screws. The Spin-It-Out Damaged Screw Remover is extremely easy to operate. A Spin-It-Out extractor bit and a drill motor in reverse make light work of removing stripped out Phillips, Torx, Square Drive, Posi-Drive or even Tri-Wing head screws.

- Removes stripped and broken screws, saving time and money.
- The serrated design on the tip aggressively bites into damaged screws or drills into broken bolts helping to make broken screw removal faster and easier.
- Made of high quality M2 high speed steel for exceptional strength, making them strong enough to drill into hardened bolts.
- Number size corresponds with the number sizes of Phillips Head Screws.



SPIN-IT-OUT DAMAGED SCREW REMOVERS

IBS No.	Description	Qty
133310	Spin-It-Out 5 Pc Set	1

SPIN-IT-OUT REPLACEMENT BITS

IBS No.	Description	Qty
133311	#0 Spin-It-Out Extractor Bit	1
133312	#1 Spin-It-Out Extractor Bit	1
133313	#2 Spin-It-Out Extractor Bit	1
133314	#3 Spin-It-Out Extractor Bit	1
133315	#4 Spin-It-Out Extractor Bit	1

TAPPING SCREWS



IBS, INCORPORATED

Assortments (Z02)

Driver Bits Assortment

IBS No. 641P • 24 Items • 62 Pcs.

Packaged in a locking steel drawer for easy storage & organization.

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 IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © © © 800-678-1906</small>					Insert Driver Bits
Assortment No. 641P					
MSH1/4 1/4 MAGNETIC NUT DRIVER 	MSHL5/16 5/16 MAGNETIC NUT DRIVER 	250-PB3 1/4 HEX PHILLIPS BITS #3 	60-T20 1/4 HEX TORX 20 	250R1 1/4 HEX SQ DRIVE #1 	MBHL25225 1/4 X 2-1/4 MAG. DRIVER BIT 
MSH5/16 5/16 MAGNETIC NUT DRIVER 	MSHL3/8 3/8 MAGNETIC NUT DRIVER 	250-PB11 #1 PHIL X 1-15/16 POWER BIT 	60-T25 1/4 HEX TORX 25 	250R2 1/4 HEX SQ DRIVE #2 	133319 #2 GRABIT BIT 
MSH3/8 3/8 MAGNETIC NUT DRIVER 	250-PB1 1/4 HEX PHILLIPS BITS #1 	250-PB12 #2 PHIL X 1-15/16 POWER BIT 	60-T30 1/4 HEX TORX 30 	250R3 1/4 HEX SQ DRIVE #3 	133320 #3 GRABIT BIT 
MSHL1/4 1/4 MAGNETIC NUT DRIVER 	250-PB2 1/4 HEX PHILLIPS BIT #2 	250-PB13 #3 PHIL X 1-15/16 POWER BIT 	60-T40 1/4 HEX TORX 40 	SSA-5 1/4 HEX-1/4 SQ DR 2-9/16" EXT 	140341 COMBO QUICK CHANGE BIT HOLDER 

Power Bits Assortment

IBS No. 712R • 17 Items • 30 Pcs.

Packaged in a locking steel drawer for easy storage & organization.

 IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © © © 800-678-1906</small>					Power Bits
Assortment No. 712R					
133319 #2 GRABIT BIT 	250SSP63 1/4 X 3 #6-8 SLOT POWER BIT 	250SSP66 1/4x6 #6-8 SLOT POWER BIT 			
140341 COMBO QUICK CHANGE BIT HOLDER 	250SSP83 1/4 X 3 #8-10 SLOT POWER BIT 	250SSP106 1/4 X 6 #10-12 SLOT POWER BIT 			
250-PB11 #1 PHIL X 1-15/16 POWER BIT 	250-PB31 #1 PHIL X 3-1/2 POWER BIT 	250-PB61 #1 X 6 PHILLIPS POWER DRIVER 			
250-PB12 #2 PHIL X 1-15/16 POWER BIT 	250-PB32 #2 PHIL X 3-1/2 POWER BIT 	250-PB62 #2 X 6 PHILLIPS POWER DRIVER 			
250-PB13 #3 PHIL X 1-15/16 POWER BIT 	250-PB33 #3 PHIL X 3-1/2 POWER BIT 	250-PB63 #3 X 6 PHILLIPS POWER DRIVER 			
MBHL25225 1/4 X 2-1/4 MAG. DRIVER BIT 	MBHL2530 1/4 X 3 MAG DRIVER BIT HOLDER 	MBHL2560 1/4 X 6 MAG DRIVER BIT HOLDER 			



Impact Torsion Bits

- Innovatively designed flex tech torsion zone absorbs high torque stress and reduces bit fracture make these bits perfect for use with impact drivers for faster and easier screw driving and assembly saving time and money.
- Proprietary tool steel and heat treat process for maximum strength and durability ensures superior service life even under extreme conditions saving money in bits and change-out time.
- Hardened S2 Modified Impact Resistant Steel for extended bit life.
- CNC milled magnetic tips make for precision mating with screws offering a supreme grip with minimal slippage for faster, easier and safer screw driving saving time and money.

1/4" Impact Torsion Hex Drive Nut-Setters & Bit Holders

Magnetic Impact Nut Driver



IBS No.	Size	Length	Qty
21055	1/4	2-9/16"	1
21056	5/16	2-9/16"	1
21057	3/8	2-9/16"	1
21058	7/16	2-9/16"	1
21059	1/2	2-9/16"	1

Hex Sq Drive Socket Adapter



IBS No.	Hex	Square Drive	Extension	Qty
21062	1/4	1/4	2-9/16"	1
21063	1/4	3/8	2-9/16"	1
21064	1/4	1/2	2-7/8"	1

Quick Release Impact Magnetic Bit Holder



IBS No.	Description	Qty
21066	Quick Release Impact Magnetic Bit Holder	1

HD Magnetic Bit & Screw Holder



IBS No.	Description	Qty
21065	Heavy Duty Magnetic Bit & Screw Holder	1

Magnetic Driver Bit Holder



IBS No.	Size	Length	Qty
21060	1/4	3"	1
21061	1/4	6"	1

Phillips Impact Insert Bits



IBS No.	Point Size	Shank	Length	Qty
21001	1	1/4	1	1
21002	2	1/4	1	1
21003	3	1/4	1	1

Phillips Impact Recess Power Bits



IBS No.	Point Size	Shank	Length	Qty
21004	1	1/4	1-15/16	1
21005	2	1/4	1-15/16	1
21006	3	1/4	1-15/16	1
21007	1	1/4	3-1/2	1
21008	2	1/4	3-1/2	1
21009	3	1/4	3-1/2	1
21010	1	1/4	6	1
21011	2	1/4	6	1
21012	3	1/4	6	1

TAPPING SCREWS



IBS, INCORPORATED

Impact Torsion Bits P12

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Square Impact Insert Bits



IBS No.	Sq Size	Shank	Length	Qty
21017	#1	1/4	1	1
21018	#2	1/4	1	1
21019	#3	1/4	1	1

Square Impact Recess Power Bits



IBS No.	Point Size	Shank	Length	Qty
21020	1	1/4	1-15/16	1
21021	2	1/4	1-15/16	1
21022	3	1/4	1-15/16	1
21024	1	1/4	3	1
21025	2	1/4	3	1
21026	3	1/4	3	1
21027	1	1/4	6	1
21028	2	1/4	6	1
21029	3	1/4	6	1

Hex Torx Impact Power Bits



IBS No.	Point Size	Shank	Length	Qty
21037	T15	1/4	1-15/16"	1
21038	T20	1/4	1-15/16"	1
21039	T25	1/4	1-15/16"	1
21040	T30	1/4	1-15/16"	1
21041	T40	1/4	1-15/16"	1
21042	T15	1/4	3-1/2"	1
21043	T20	1/4	3-1/2"	1
21044	T25	1/4	3-1/2"	1
21045	T30	1/4	3-1/2"	1
21046	T40	1/4	3-1/2"	1
21047	T15	1/4	6"	1
21048	T20	1/4	6"	1
21049	T25	1/4	6"	1
21050	T30	1/4	6"	1
21051	T40	1/4	6"	1

Torx Impact Insert Bits



IBS No.	Point Size	Shank	Length	Qty
21031	T15	1/4	1"	1
21032	T20	1/4	1"	1
21033	T25	1/4	1"	1
21034	T30	1/4	1"	1
21035	T40	1/4	1"	1

44 Pc Impact Torsion Bit Set

IBS No. 21074 • 28 Items • 44 Pcs.



- **Innovatively designed flex tech torsion zone absorbs high torque stress and reduces bit fracture** make these bits perfect for use with impact drivers for faster and easier screw driving and assembly saving time and money.
- **Proprietary tool steel and heat treat process for maximum strength and durability** ensures superior service life even under extreme conditions saving money in bits and change-out time.
- **Hardened S2 Modified Impact Resistant Steel** for extended bit life.
- **CNC milled magnetic tips make for precision mating with screws offering a supreme grip with minimal slippage** for faster, easier and safer screw driving saving time and money.

SET INCLUDES

- Magnetic bit drivers
- Socket Adapters,
- Phillips, Square, Slotted and Torx Bits in multiple sizes

IBS, INCORPORATED

Assortments Z02



Impact Torsion Phillips & Square Bit Assortment

IBS No. 812R • 24 Items • 37 Pcs.

Packaged in a locking steel drawer for easy storage & organization.



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INDUSTRIALBOLT.COM • 800-678-1906

**Impact Torsion Phillips
and Square Bits**

Assortment No. 812R			
<p>21001 #1 PHILLIPS INSERT BIT</p> 	<p>21004 #1 X 1-15/16 PHILLIPS POWER BIT</p> 	<p>21007 #1 X 3-1/2 PHILLIPS POWER BIT</p> 	<p>21010 #1 X 6 PHILLIPS POWER BIT</p> 
<p>21002 #2 PHILLIPS INSERT BIT</p> 	<p>21005 #2 X 1-15/16 PHILLIPS POWER BIT</p> 	<p>21008 #2 X 3-1/2 PHILLIPS POWER BIT</p> 	<p>21011 #2 X 6 PHILLIPS POWER BIT</p> 
<p>21003 #3 PHILLIPS INSERT BIT</p> 	<p>21006 #3 X 1-15/16 PHILLIPS POWER BIT</p> 	<p>21009 #3 X 3-1/2 PHILLIPS POWER BIT</p> 	<p>21012 #3 X 6 PHILLIPS POWER BIT</p> 
<p>21017 #1 SQUARE INSERT BIT</p> 	<p>21020 #1 X 1-15/16 SQUARE POWER BIT</p> 	<p>21024 #1 X 3-1/2 SQUARE POWER BIT</p> 	<p>21027 #1 X 6 SQUARE POWER BIT</p> 
<p>21018 #2 SQUARE INSERT BIT</p> 	<p>21021 #2 X 1-15/16 SQUARE POWER BIT</p> 	<p>21025 #2 X 3-1/2 SQUARE POWER BIT</p> 	<p>21028 #2 X 6 SQUARE POWER BIT</p> 
<p>21019 #3 SQUARE INSERT BIT</p> 	<p>21022 #3 X 1-15/16 SQUARE POWER BIT</p> 	<p>21026 #3 X 3-1/2 SQUARE POWER BIT</p> 	<p>21029 #3 X 6 SQUARE POWER BIT</p> 

Impact Torsion Torx & Bit Holders Assortment

IBS No. 813R • 24 Items • 31 Pcs.

Packaged in a locking steel drawer for easy storage & organization.



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**Impact Torsion Torx
and Bit Holders**

Assortment No. 813R			
<p>21031 T15 TORX INSERT BIT</p> 	<p>21037 T15 X 1-15/16 TORX POWER BIT</p> 	<p>21042 T15 X 3-1/2 TORX POWER BIT</p> 	<p>21047 T15 X 6 TORX POWER BIT</p> 
<p>21032 T20 TORX INSERT BIT</p> 	<p>21038 T20 X 1-15/16 TORX POWER BIT</p> 	<p>21043 T20 X 3-1/2 TORX POWER BIT</p> 	<p>21048 T20 X 6 TORX POWER BIT</p> 
<p>21033 T25 TORX INSERT BIT</p> 	<p>21039 T25 X 1-15/16 TORX POWER BIT</p> 	<p>21044 T25 X 3-1/2 TORX POWER BIT</p> 	<p>21049 T25 X 6 TORX POWER BIT</p> 
<p>21034 T30 TORX INSERT BIT</p> 	<p>21040 T30 X 1-15/16 TORX POWER BIT</p> 	<p>21045 T30 X 3-1/2 TORX POWER BIT</p> 	<p>21050 T30 X 6 TORX POWER BIT</p> 
<p>21035 T40 TORX INSERT BIT</p> 	<p>21041 T40 X 1-15/16 TORX POWER BIT</p> 	<p>21046 T40 X 3-1/2 TORX POWER BIT</p> 	<p>21051 T40 X 6 TORX POWER BIT</p> 
<p>21065 HEAVY DUTY MAGNETIC BIT AND SCREW HOLDER</p> 	<p>21066 COMBO QUICK CHANGE BIT HOLDER 3"</p> 	<p>21060 1/4 X 3 MAGNETIC DRIVER BIT HOLDER</p> 	<p>21061 1/4 X 6 MAGNETIC DRIVER BIT HOLDER</p> 

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IBS, INCORPORATED

Sealants & Adhesives S02

DriveGrip Anti Cam-Out Fluid

IBS No. 52010 0.5 FL oz. Tube

Drive Grip makes removing and tightening screws and other fasteners a breeze. A single drop creates a positive grip between the metal surfaces of the fastener head and drive tool. Works great in applications where fastener heads or drives are worn or damaged.



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Drive Grip increases the grip strength between the fastener head and tool by as much as **700%** and virtually eliminates tool wear, rounding and deforming of fasteners

APPLICATIONS:

- Aids in the removal of rusted or “frozen-in-place” screws and bolts that won’t budge.
- Use Drive Grip in conjunction with all types of screwdrivers, hex keys, pliers, channel locks, vise grips, sockets, as well as open-end and box-end wrenches

BENEFITS:

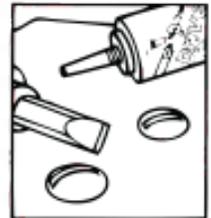
- **Economical:** Spares the time and expense involved with drilling out screws, using “easy outs” or possibly having to re-tap holes.
- **Simplifies Operation:** Works with standard screwdrivers, reducing the need for specially designed screwdrivers, reamers, or drilling out damaged screws.
- **Averts injury:** Helps reduce fatigue and extreme effort that leads to injury.
- **Protects Surrounding Surfaces:** Prevents driver slippage.

Works with all types of screws:

Phillips™, Slotted, Hex, Square, Torx®



No need to drill out or use pliers on stubborn screws.



Prevents screwdriver from slipping and causing damage.



DriveGrip & Insert Bits Assortment

IBS No. 787R 10 Items • 19 Pcs

Packaged in a locking plastic travel tray for easy storage & organization

 IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM 800-678-1906</small>						Drive Grip and Insert Bits					
Assortment 787R											
84-R1 1/4 HEX X 3 SQ DRIVE #1 POINT   	84-R3 1/4 HEX LONG SQ DRIVE #3   	60-PB25 1/4 HEX TORX 25 POWER BIT   	250-PB31 #1 PHIL X 3-1/2 POWER BIT   	250-PB33 #3 PHIL X 3-1/2 POWER BIT   	52010 DRIVE GRIP ANTI-CAM-OUT FLUID .5FL OZ   						
84-R2 1/4 X 3 #2 SQ.DRIVE BIT"   	60-PB20 1/4 HEX TORX 20 POWER BIT   	60-PB30 1/4 HEX TORX 30 POWER BIT   	250-PB32 #2 PHIL X 3-1/2 POWER BIT   								

DriveGrip & Nutserts Assortment

IBS No. 788R 6 Items • 9 Pcs

Packaged in a locking travel tray for easy storage & organization

 IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM 800-678-1906</small>						Drive Grip and Nut Setters					
Assortment 788R											
MSHL1/4 1/4 MAGNETIC NUT DRIVER 2-9/16 OAL   	MSHL5/16 5/16 MAGNETIC NUT DRIVER 2-9/16 OAL   	MSHL3/8 3/8 MAGNETIC NUT DRIVER 2-9/16 OAL   	MSHL7/16 7/16 MAGNETIC NUT DRIVER 2-9/16 OAL   	MSHL1/2 1/2 MAGNETIC NUT DRIVER 2-9/16 OAL   	52010 DRIVE GRIP ANTI-CAM-OUT FLUID .5FL OZ   						

TAPPIING SCREWS



IBS, INCORPORATED

Driver Bits P12

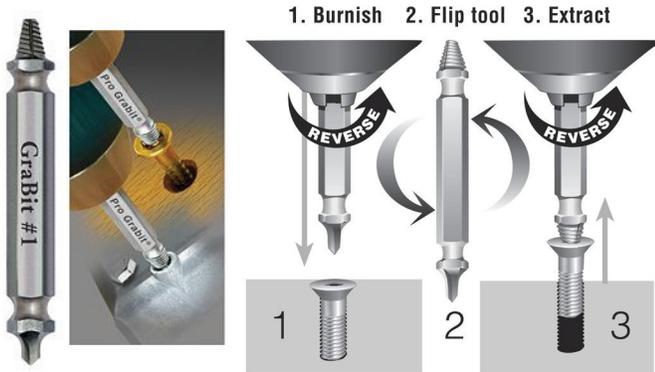
GrabitPro[®] Damaged Screw Remover

The GrabitPro quickly and easily removes most damaged screws such as Hex, Phillips, Torx, and Square Drive from wood, plastic or metal up to 3 inches in length. The serrated extracting end of the tool results in greater torque for hard to remove bolts and screws. The design of the shaft make them compatible with "quick change" chuck systems or can be chucked directly into a drill. Good for multiple extractions with a single tool.

FEATURES & BENEFITS

- The two ended design with a drill bit and extractor in one tool eliminates the need for multiple tools saving time and money.
- There is no bolt preparation required, such as grinding, smoothing, cutting, center punching or pre-drilling, making for a faster and more convenient repair.
- Self-centering drill tip eliminates walking or wandering, saving time and frustration.
- Works on jagged, uneven, and rough breaks where standard drills could chip or break.
- Tempered twice for extra hardness proving a tools with a longer life resulting in multiple extractions per tool saving time and money.
- Four (4) piece kit. Removes screw sizes AN4 to AN24, bolt sizes SAE 10 to 12, 1/4", 5/16", and 3/8" (Metric M5 to M10).
- Made in the U.S.A.

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OPERATING INSTRUCTIONS

Burnishing

1. Insert GRABIT directly into drill or chuck - burnishing end is showing.
2. Set drill for reverse.
3. Place burnishing end of tool into damaged screw head until smooth.
4. NOTE: Burnishing end is not to be used to drill a hole.

Removing

1. Remove burnishing end from chuck, flip tool, replace into drill chuck — Remover end now showing.
2. Maintain reverse setting.
3. Place Remover end of tool into now smooth screw head.
4. Apply firm downward pressure, drill at slow speed. Apply lowest level of power to the hand drill.
5. Remover end of GRABIT will thread into screw head and remove.

IBS No.	Description	Qty	For Screw Sizes
133318	#1 Grabit Pro	1	No. 4 to No. 7
133319	#2 Grabit Pro	1	No 8 to No. 10
133320	#3 Grabit Pro	1	No. 11 to No. 14
133321	#4 Grabit Pro	1	No. 16 to No. 24

Grabit Damaged Screw Remover & DriveGrip Assortment

IBS No. 794R 5 Items • 5 Pcs
Packaged in a locking plastic travel tray for easy storage & organization



WARNING:

Always wear safety glasses when operating or near power tools. Cutting tools may shatter when broken.



Grabit® Drill-Out Broken Bolt Extractor Set

Removing stripped screws and bolts can be a frustrating experience, and now there's a solution! This 4 pc extractor kit removes broken bolts from as small as 1/4" to 1/2" (6mm-12mm) and can drill up to Grade 8 or 10.9 class fasteners. Each Drill-Out is a drill bit and extractor in one and is uniquely designed to drill into the rough surfaces when bolts break.

SINGLE STEP EXTRACTION FAST & EASY TO USE

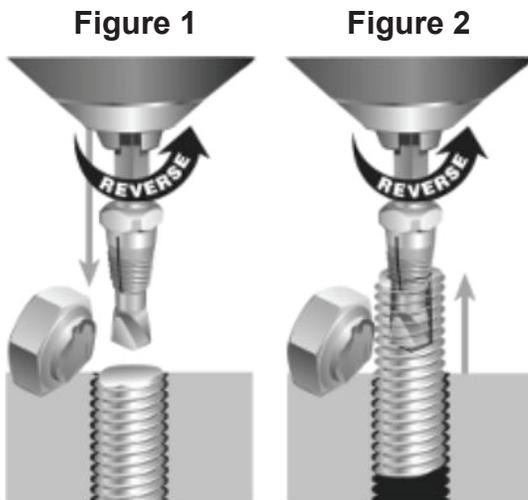
A drill bit and extractor in one tool, the DRILL-OUT creates a unique interaction between drill bit and extractor, resulting in maximum impact and break out ability. Broken bolts and studs are removed quickly and easily without damaging the fastener threads.

- **Unique drill tip** allows the tool to stay on center.
- **Self-centering drill tip eliminates** walking or wandering.
- **No grinding, center punching or pilot hole** required.
- **Works** on jagged, uneven and rough breaks.
- **Tempered twice for extra hardness;** resulting in multiple extractions per tool.
- **Made from the highest quality M2 HSS Steel.**
- **MADE IN THE USA.**



IBS No.	Description	Qty
133309	Grab-It Drill Out Extractor 4 Pc Set 1/4" to 1/2" (6mm to 12mm)	1

USE IN REVERSE ONLY WHILE DRILLING OR EXTRACTING



DRILLING:

1. Choose the correct size DRILL-OUT.
2. Secure round end in the drill chuck and tighten.
3. Thread collet/extractor back against drill chuck.
4. Set drill in reverse and begin drilling at the suggested RPM's.(see Figure 1)

REMEMBER: Hole must be straight & on center.

DO NOT allow collet/extractor to move down toward tip while drilling.

5. Stop drilling just before the collet/extractor reaches the broken bolt. (See Figure 2)
6. Apply penetrating oil to help loosen bolt.

WARNING:

Always wear safety glasses when operating or near power tools. Cutting tools may shatter when broken.

TAPPING SCREWS



Flexible Extension



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Flexible drive bit or drill bit extension holds any 1/4" hex shank bit to access tight or hard to reach areas. Can be used for drilling, driving, tapping or with any rotary tool with a 1/4" hex shank.

- Flexible extension flexes to a full 90 degrees allowing for access in tight and hard to reach areas saving time and money.
- Easy load quick disconnect provides fast and easy changeout of accessories and holds them in place eliminating lost tools.
- Outer cover does not rotate so it can be used safely at any speed and held by hand directing the operation exactly where it needs to be.
- 11" long for optimal reach and control.
- Rated for 13 ft. lbs. of torque makes this a powerful tool for most jobs.
- Can be used with standard 1" insert bits and power bits for added convenience and versatility.
- Standard 1/4" shank fits standard electric and cordless drills or screwdrivers.

FLEXIBLE EXTENSION

IBS No.	Description	Qty
73614	Flexible Extension	1



Wood Screws General Information

- **Sharp, leader points for easy entry.**
- **Sharp, hardened threads.**
- **Deep, twist resistant slots.**
- **Greater resistance to snapping and breakage.**
- **Made of zinc plated steel to prevent corrosion.**

When using screws to join wood, it is necessary to bore pilot holes, especially in hardwoods. Pilot holes make it easier to drive the screws and reduce the chance of damaging either the screws or the wood.

Bore the holes large enough so that they freely accommodate the screw shank in the first piece of wood. In the second piece of wood bore the holes slightly smaller than the thread diameters to a depth of half the length of the threaded portion. The screw length should be at least 1/8" less than the combined measurement of the joined material.

WOOD SCREW HOLE SIZE RECOMMENDATIONS

Screw Size	Pilot Holes		Soft Woods		Shank Clearance Holes		Countersink
	Twist Drill	Drill GA No. ²	Twist Bit ¹	Drill GA No. ²	Twist Bit ¹	Drill GA No. ²	Auger Bit No. ³
0	1/32	66	1/64	75	1/16	52	—
1	—	57	1/32	71	5/16	47	—
2	—	54	1/32	65	3/32	42	3
3	1/16	53	3/64	58	7/64	37	4
4	1/16	53	3/64	58	7/64	37	4
5	5/64	47	1/16	53	1/8	30	4
6	—	44	1/16	52	9/64	27	5
7	—	39	1/16	51	5/32	22	5
8	7/64	35	5/64	48	11/64	18	6
9	7/64	33	5/64	45	3/16	14	6
10	1/8	31	3/32	43	3/16	10	6
11	—	29	3/32	40	13/64	4	7
12	—	25	7/64	38	7/32	2	7
14	3/16	14	7/64	32	1/4	D	8
16	—	10	9/64	29	17/64	I	9
18	13/64	6	9/64	26	19/64	N	10
20	7/32	3	11/64	19	21/64	P	11
24	1/4	D	3/16	15	3/8	V	12

¹Nearest size in fractions of an inch.

²To be used for maximum holding power.

³To counterbore for sinking head (by 16ths).

WOOD SCREWS



IBS, INCORPORATED

Wood Screws

PHILLIPS FLAT HEAD (F03)



Length	Diameter						
	#4	#5	#6	#8	#10	#12	#14
1/2			8797	8811			
5/8			8798	8812			
3/4	8789	9794	8799	8813	8829	8845	
1	8790	8796	8801	8815	8831	8846	
1-1/4			8802	8816	8832	8847	8860
1-1/2			8803	8817	8833	8848	8861
1-3/4				8818	8834		
2			8805	8819	8835	8850	8863
2-1/2				8821	8837	8851	8864
3				8823	8839	8852	8865

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Machine Screws

F

Fasteners

Machine Screws

Hex Head Machine Screws G-2

Hex Head Unslotted G-2

Phillips Flat Head G-5

Phillips Pan Head G-4

Phillips Round Head G-3

Slotted Round Head G-3

Metric Machine Screws

Phillips Pan Head Metric Machine Screws G-5

Stainless Steel

Phillips Flat Head Machine Screws SS G-5

Phillips Oval Head Machine Screws SS G-6

Phillips Pan Head Machine Screws SS G-4

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Screws, Machine

Hex Head Unslotted G-2

Metric

Phillips Pan Head Metric Machine Screws G-5

Phillips

Flat Head G-5

Pan Head G-4

Round Head G-3

Slotted

Round Head G-3

Stainless

Phillips Flat Head G-5

Phillips Oval Head G-6

Phillips Pan Head G-4



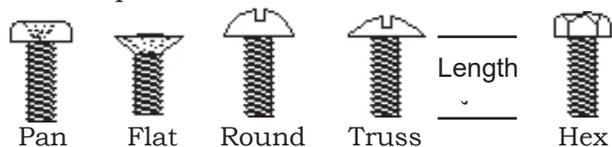
IBS, INCORPORATED

Hex Head Machine Screws G03

MACHINE SCREWS

Measurement of Machine Screws

The length of all screws is measured from the largest diameter of the bearing surface to the extreme point.



Threads Per Inch Table

Size	Coarse UNC	Fine UNF	Basic Major Dia.
0	—	80	.0600
1	64	72	.0730
2	56	64	.0860
3	48	56	.0990
4	40	48	.1120
5	40	44	.1250
6	32	40	.1380
8	32	36	.1640
10	24	32	.1900
12	24	28	.2160
1/4	20	28	.2500
5/16	18	24	.3125

Hex Head Unslotted Machine Screws

Zinc Plated (G03)

- Zinc plated for anti-rust protection.
- Sharp hex head prevents wrench slippage.
- Threads are feather-free for faster, easier assembly.
- **SOLD IN PACKAGES OF 100.**

Stainless Steel (I25)

- Deep twist-resistant slots eliminate screwdriver slippage.
- Threads are feather-free for faster and easier assemblies.
- Stainless steel construction.

Size	4-40	6-32	8-32	10-24	10-32	1/4-20
1/4	NS	9669	9679	NS	NS	
3/8	NS	9671	9681	9693	9707	
1/2	NS	9672	9682	9694	9708	NS
3/4	NS	9674	9684	9696	9710	NS
1		NS	9686	9698	9712	NS
1-1/4			NS		NS	NS
1-1/2			9688	NS	9714	NS
2				NS	9715	NS

Size	6-32	8-32	10-24	10-32	Qty
1/4					-
3/8	NS	NS	NS	NS	-
1/2	12701	12709	12717	12727	50
5/8	NS	NS	NS	NS	-
3/4	12703	12711	12719	12729	50
1	12704	12712	12721	12731	50
1-1/4			NS	NS	-
1-1/2			NS	NS	-
2			NS		-





Slotted Round Head Machine Screws (Z02)

IBS No. 105R • 24 Items
2050 Pcs

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM 800-578-1906						Slotted Round Head Machine Screws					
Assortment No. 105R											
9033 6-32 HEX MACHINE SCREW NUT ZP	9034 8-32 HEX MACHINE SCREW NUT ZP	9036 10-32 HEX MACHINE SCREW NUT ZP	9035 10-24 HEX MACHINE SCREW NUT ZP	9089 10-24 X 1-1/4 SLTD ROUND HD	9134 12-24 X 3/4 SLTD ROUND HD M/S	9044 6-32 X 1/2 SLTD ROUND HD M/S	9064 8-32 X 1/2 SLTD ROUND HD M/S	9108 10-32 X 1/2 SLTD ROUND HD M/S	9084 10-24 X 1/2 SLTD ROUND HD M/S	9090 10-24 X 1-1/2 SLTD ROUND HD	9136 12-24 X 1 SLTD ROUND HD M/S ZP
9046 6-32 X 3/4 SLTD ROUND HD M/S	9066 8-32 X 3/4 SLTD ROUND HD M/S	9110 10-32 X 3/4 SLTD ROUND HD M/S	9086 10-24 X 3/4 SLTD ROUND HD M/S	9037 12-24 HEX MACHINE SCREW NUT ZP	9137 12-24 X 1-1/4 SLTD ROUND HD	9048 6-32 X 1 SLTD ROUND HD M/S ZP	9068 8-32 X 1 SLTD ROUND HD M/S ZP	9112 10-32 X 1 SLTD ROUND HD M/S ZP	9088 10-24 X 1 SLTD ROUND HD M/S ZP	9132 12-24 X 1-1/2 SLTD ROUND HD M/S	9138 12-24 X 1-1/2 SLTD ROUND HD

Slotted Round Head



- Deep, twist-resistant slots eliminate screw driver slippage
- Threads are feather-face for faster and easier assemblies.
- Zinc plated for anti-rust protection.
- **SOLD IN PACKAGES OF 100.**

Size	2-56	4-40	6-32	8-32	10-24	10-32	12-24	1/4-20	5/16-18	3/8-16	Size
1/4	NS	9016	9041	9061	9081	9105					1/4
3/8	NS	9018	9043	9063	9083	9107	NS	9147			3/8
1/2	NS	9019	9044	9064	9084	9108	9132	9148	NS		1/2
5/8		NS	9045	9065	9085	9109	NS	9149			5/8
3/4		9021	9046	9066	9086	9110	9134	9150	NS	9192	3/4
1		9023	9048	9068	9088	9112	9136	9152	NS	9194	1
1-1/4		NS	9049	9069	9089	9113	9137	9153	NS	NS	1-1/4
1-1/2		9025	9050	9070	9090	9114	9138	9154	NS	NS	1-1/2
1-3/4			NS	NS	NS	NS		9155	NS	NS	1-3/4
2			9052	9072	9116	9116	9140	9156	NS	NS	2
2-1/2			9054	NS	9118	9118	NS	9158	NS	NS	2-1/2
3			9056	NS	9120	9120	NS	9160	NS	NS	3
4			9058		NS	NS		9162	NS	NS	4
5								NS	NS	NS	5

Phillips Round Head (G02)

- Threads are feather-face for faster and easier assemblies.
- Zinc plated for anti-rust protection.
- Phillips drive provides for strip-free driving.
- **SOLD IN PACKAGES OF 100.**



Size	6-32	8-32	10-24	10-32	1/4-20
1/4	9565	9573	NS	NS	
3/8	9567	9575	9583	9590	NS
1/2	9568	9576	9584	9591	9599
3/4	9570	9578	9586	9593	9601
1	NS	9580	9588	9595	9603
1-1/2	NS	NS	NS	NS	9605
2	NS	NS	NS	NS	9607
3			9585		9598
4			9587		9608

MACHINE SCREWS



IBS, INCORPORATED

Phillips Machine Screws G02

Phillips Pan Head Machine Screws

- Threads are feather-face for faster and easier assemblies.
- Zinc plated for anti-rust protection.
- Phillips drive provides for strip-free driving.
- **SOLD IN PACKAGES OF 100.**

Assortment (Z02)

IBS No. 169R • 24 Items - 1525 Pcs



Size	4-40	6-32	8-32	10-24	10-32	12-24	1/4-20
1/4	9501	9506	9513	NS	NS	NS	NS
3/8	9503	9508	9515	9523	9535	NS	NS
1/2	9504	9509	9516	9524	9536	95450	9547
5/8	NS	9510	9517	9525	9537	NS	9548
3/4	NS	9511	9518	9526	9538	95452	9549
1	NS	9512	9520	9528	9540	95453	9551
1-1/4	NS	NS	NS	9529	9541	95454	9552
1-1/2	NS	NS	9521	9530	9542	95455	9553
2	NS	NS	NS	9532	9544	95457	9555

IBS Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM • 800-678-1906		Phillips Bit Chart This brief chart will help you match the screw size to the proper Phillips drive.		Phillips Pan Head Machine Screws & Nuts	
POINT #1 - FOR SCREWS #4-4		POINT #2 - FOR SCREWS #5-10		POINT #3 - FOR SCREWS #12-14	
POINT #4 - FOR SCREWS #16-18		POINT #5 - FOR SCREWS #20-24		POINT #6 - FOR SCREWS #28-36	
9503 6-32 HEX MACHINE SCREW NUT ZP	9504 8-32 HEX MACHINE SCREW NUT ZP	9506 10-32 HEX MACHINE SCREW NUT ZP	9505 10-24 HEX MACHINE SCREW NUT ZP	9529 10-24 X 1-1/4 PHIL PAN HD M/S	9549 1/4-20 X 3/4 PHIL PAN HD M/S
9509 6-32 X 1/2 PHIL PAN HD M/S ZP	9516 8-32 X 1/2 PHIL PAN HD M/S ZP	9536 10-32 X 1/2 PHIL PAN HD M/S ZP	9524 10-24 X 1/2 PHIL PAN HD M/S ZP	9530 10-24 X 1-1/2 PHIL PAN HD M/S	9551 1/4-20 X 1 PHIL PAN HD M/S ZP
9511 6-32 X 3/4 PHIL PAN HD M/S ZP	9518 8-32 X 3/4 PHIL PAN HD M/S ZP	9538 10-32 X 3/4 PHIL PAN HD M/S ZP	9526 10-24 X 3/4 PHIL PAN HD M/S ZP	9538 1/4-20 HEX MACHINE SCREW NUT	9552 1/4-20 X 1-1/4 PHIL PAN HD
9512 6-32 X 1 PHIL PAN HD M/S ZP	9520 8-32 X 1 PHIL PAN HD M/S ZP	9540 10-32 X 1 PHIL PAN HD M/S ZP	9528 10-24 X 1 PHIL PAN HD M/S ZP	9547 1/4-20 X 1/2 PHIL PAN HD M/S	9553 1/4-20 X 1-1/2 PHIL PAN HD

Phillips Pan Head Machine Screws SS (I18)

- Threads are feather-face for faster and easier assemblies.
- Stainless steel construction.
- Phillips drive provides for strip-free driving.

Assortment with Hex Nuts (Z02)

IBS No. 194R • 24 Items • 1150 Pcs



Size	6-32	8-32	10-24	10-32	1/4-20	Qty
1/4	12160	NS	NS	NS	NS	50
3/8	12162	12176	NS	NS	12216	50
1/2	12164	12178	12191	12205	12218	50
5/8	NS	NS	NS	12206	NS	50
3/4	12166	12180	12193	12207	12220	50
1	12168	12182	12195	12209	12222	50
1-1/4	NS	12183	12196	12210	12223	25
1-1/2	NS	12184	12197	12211	12224	25
2	NS	NS	NS	NS	12225	25

IBS Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM • 800-678-1906		Phillips Bit Chart This brief chart will help you match the screw size to the proper Phillips drive.		Stainless Steel Phillips Pan Head Machine Screws with Hex Nuts	
POINT #1 - FOR SCREWS #4-4		POINT #2 - FOR SCREWS #5-10		POINT #3 - FOR SCREWS #12-14	
POINT #4 - FOR SCREWS #16-18		POINT #5 - FOR SCREWS #20-24		POINT #6 - FOR SCREWS #28-36	
11002 6-32 MACHINE SCREW NUT SS	11003 8-32 MACHINE SCREW NUT SS	11005 10-32 MACHINE SCREW NUT SS	11004 10-24 MACHINE SCREW NUT SS	12196 10-24 X 1-1/4 PHIL PAN M/S SS	12220 1/4-20 X 3/4 PHIL PAN M/S SS
12164 6-32 X 1/2 PHIL PAN M/S SS	12178 8-32 X 1/2 PHIL PAN M/S SS	12205 10-32 X 1/2 PHIL PAN M/S SS	12191 10-24 X 1/2 PHIL PAN M/S SS	12197 10-24 X 1-1/2 PHIL PAN M/S SS	12222 1/4-20 X 1 PHIL PAN M/S SS
12166 6-32 X 3/4 PHIL PAN M/S SS	12180 8-32 X 3/4 PHIL PAN M/S SS	12207 10-32 X 3/4 PHIL PAN M/S SS	12193 10-24 X 3/4 PHIL PAN M/S SS	11007 1/4-20 MACHINE SCREW NUT SS	12223 1/4-20 X 1-1/4 PHIL PAN M/S SS
12168 6-32 X 1 PHIL PAN M/S SS	12182 8-32 X 1 PHIL PAN M/S SS	12209 10-32 X 1 PHIL PAN M/S SS	12195 10-24 X 1 PHIL PAN M/S SS	12218 1/4-20 X 1/2 PHIL PAN M/S SS	12224 1/4-20 X 1-1/2 PHIL PAN M/S SS

MACHINE SCREWS



Metric Phillips Pan Head Machine Screws (H12)

Assortment with Flat Washers & Nuts (Z02)

IBS No. 715R • 24 Items - 1,455 Pcs

- Threads are feather-face for faster and easier assemblies.
- Zinc plated for anti-rust protection.
- **SOLD IN PACKAGES OF 100.**



IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALMOLLY.COM • 800-678-1906</small>					
Metric Phillips Pan Head Machine Screws Flat Washers & Nuts					
Assortment No. 715R					
10713 M4-.7 X 10 PHIL PAN M/S ZP	10716 M4-.7 X 16 PHIL PAN M/S ZP	10718 M4-.7 X 20 PHIL PAN M/S ZP	10721 M4-.7 X 30 PHIL PAN M/S ZP	10564 M4 FLAT WASHER ZP	10599 M4-.7 FIN HEX NUT CL8 ZP
602 M5-.8 X 10 PHIL PAN M/S ZP	604 M5-.8 X 16 PHIL PAN M/S ZP	606 M5-.8 X 20 PHIL PAN M/S ZP	608 M5-.8 X 30 PHIL PAN M/S ZP	10565 M5 FLAT WASHER ZP	10600 M5-.8 FIN HEX NUT CL8 ZP
10730 M6-1.0 X 10 PHIL PAN M/S ZP	10733 M6-1.0 X 16 PHIL PAN M/S ZP	10735 M6-1.0 X 20 PHIL PAN M/S ZP	10738 M6-1.0 X 30 PHIL PAN M/S ZP	10566 M6 FLAT WASHER ZP	10601 M6-1.0 FIN HEX NUT CL8 ZP
10750 M8-1.25 X 16 PHIL PAN M/S ZP	10752 M8-1.25 X 20 PHIL PAN M/S ZP	10754 M8-1.25 X 25 PHIL PAN M/S ZP	10755 M8-1.25 X 30 PHIL PAN M/S ZP	10568 M8 FLAT WASHER ZP	10603 M8-1.25 FIN HEX NUT CL8 ZP

Size	M4 x .7	M5 x .8	M6 x 1.0	M8 x 1.25
M6	10711			
M8	10712	601		
M10	10713	602	10730	
M12	10714	603	10731	
M14				
M16	10716	604	10733	10750
M20	10718	606	10735	10752
M25	10720	607	10737	10754
M30	10721	608	10738	10755

Phillips Flat Head (G02)

Assortment (Z02)

IBS No. 391R • 20 Items - 1,655 Pcs

- Threads are feather-face for faster and easier assemblies.
- Zinc plated for anti-rust protection.
- Phillips drive provides for strip-free driving.
- **SOLD IN PACKAGES OF 100.**



IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALMOLLY.COM • 800-678-1906</small>					
Phillips Flat Head Machine Screws					
Assortment No. 391R					
9612 6-32 X 3/8 PHIL FLAT HD M/S ZP	9622 8-32 X 3/8 PHIL FLAT HD M/S ZP	9630 10-24 X 1/2 PHIL FLAT HD M/S	9638 10-32 X 1/2 PHIL FLAT HD M/S	9647 1/4-20 X 3/4 PHIL FLAT HD M/S	
9613 6-32 X 1/2 PHIL FLAT HD M/S ZP	9623 8-32 X 1/2 PHIL FLAT HD M/S ZP	9632 10-24 X 3/4 PHIL FLAT HD M/S	9640 10-32 X 3/4 PHIL FLAT HD M/S	9649 1/4-20 X 1 PHIL FLAT HD M/S ZP	
9615 6-32 X 3/4 PHIL FLAT HD M/S ZP	9625 8-32 X 3/4 PHIL FLAT HD M/S ZP	9634 10-24 X 1 PHIL FLAT HD M/S ZP	9642 10-32 X 1 PHIL FLAT HD M/S ZP	9651 1/4-20 X 1-1/2 PHIL FLAT HD M/S	
9617 6-32 X 1 PHIL FLAT HD M/S ZP	9627 8-32 X 1 PHIL FLAT HD M/S ZP	9637 10-32 X 3/8 PHIL FLAT HD M/S	9645 1/4-20 X 1/2 PHIL FLAT HD M/S	9653 1/4-20 X 2 PHIL FLAT HD M/S ZP	

Size	6-32	8-32	10-24	10-32	1/4-20
1/4	9610	9620	NS	NS	NS
3/8	9612	9622	NS	9637	NS
1/2	9613	9623	9630	9638	9645
3/4	9615	9625	9632	9640	9647
1	9617	9627	9634	9642	9649
1-1/2	9618	9628	9635	9643	9651
2	9619	9629	9636	9644	9653
3			9639		
4			9641		

Phillips Flat Head Machine Screws SS (I18)

- Threads are feather-face for faster and easier assemblies.
- Stainless steel construction.
- Phillips drive provides for strip-free driving.

Size	6-32	8-32	10-24	10-32	1/4-20	Qty
1/4	12271	NS	NS	NS	NS	50
3/8	12273	12287	12301	12314	12326	50
1/2	12275	12289	12303	12316	12328	50
3/4	12277	12291	12305	12318	12330	50
1	12279	12293	12307	12320	12332	50
1-1/4	NS	12294	12308	12321	12333	25
1-1/2	NS	12295	12309	12322	12334	25
2	NS	NS	NS	NS	12335	25





IBS, INCORPORATED

Phillips Machine Screws SS I18

Phillips Oval Head Machine Screws SS (I18)

- Threads are feather-face for faster and easier assemblies.
- Stainless steel construction.
- Phillips drive provides for strip-free driving.



Size	4-40	6-32	8-32	10-24	10-32	1/4-20	Qty
1/4	NS	12376					50
3/8	NS	12378	12392	NS			50
1/2	NS	12380	12394	12408	12421	12433	50
5/8	NS		NS		12422		50
3/4	NS	12382	12396	12410	12423	12435	50
1	NS	12384	12398	12412	12425	12437	50
1-1/4				12414	NS	12438	25
1-1/2			12400		12427	12439	25
2						12440	25

M
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S
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S



Metric Fasteners

A

Assortments

- IBS No. 122R | 24 Item | 500 Piece
Metric Capscrews & Nuts Class 8.8 H-7
- IBS No. 143P | 72 Item | 2453 Piece
8.8 Metric Capscrew H-7
- IBS No. 144P | 68 Item | 1323 Piece
10.9 Metric Capscrew H-9
- IBS No. 266R | 24 Items | 475 Piece
Metric 12.9 Socket Head Capscrews H-15
- IBS No. 267R | 24 Items | 435 Piece
Metric Flat Socket Capscrews H-16
- IBS No. 405R | 24 Item | 206 Piece
Metric Socket Set Screw SS H-21
- IBS No. 440P | 40 Item | 1680 Piece
Metric 8.8 Hex Capscrews, Nuts & Washers H-7
- IBS No. 442P | 40 Item | 802 Piece
Metric 10.9 Hex Capscrews, Nuts & Washers
Fine Thread - Zinc Plated H-11
- IBS No. 697R | 20 Item | 595 Piece
J.I.S. Hex Head Capscrews H-18
- IBS No. 715R | 24 Item | 1445 Piece
Metric Phillips Pan Hd Machine Screws, Flat Washers &
Nuts H-14
- IBS No. 779R | 24 Item | 605 Piece
Metric J.I.S. Flange Bolts H-18
- IBS No. 810 | 20 Item | 515 Piece
Metric 10.9 Flange Bolt H-19

Assortments, Bin

- IBS No. 441P | 40 Item | 900 Piece
Metric 10.9 Hex Capscrews, Nuts & Washers
Coarse Thread - Zinc Plated H-10
- IBS No. 808P | 72 Item | 3275 Piece
Metric 8.8 Hex Capscrews, Nuts & Washers H-8
- INS No. 810P | 72 Item | 1716 Piece
Metric 10.9 Hex Capscrews, Nuts & Washers H-10

C

Capscrews Class 8.8, Metric

- Fine Pitch Class 8.8 Plain H-6
- Regular Pitch Class 8.8 Zinc Plated H-6

C/S FINE Pitch Cl. 10.9, Metric

- Metric Hex Capscrews
- Fine Thread Class 10.9 Zinc Plated H-11

C/S Reg. Pitch Cl. 10.9, Metric

- Regular Pitch Class 10.9 Zinc Plated H-9

H

Hex Flange Bolts, Metric

- Metric Hex Flange Bolts 10.9 Zinc Plated H-19

Hex Nuts, Metric

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- Finished Hex Nuts Class 10 H-12
- Flange Nuts H-12
- Grade C Lock Nuts H-12
- Nyloc Hex Nuts Class 6/8 H-12
- Nyloc Hex Nuts Class 10 H-12

J

J.I.S Fasteners

- J.I.S. Hex Flange Bolts 10.9 H-17
- J.I.S. Hex Flange Nuts - Serrated H-17
- J.I.S. Hex Head Bolts 8.8 H-17
- J.I.S. Small Hex Nuts H-17

M

Machine Screws, Metric H-14

- Phillips Pan Head Machine Screws 4.8 H-14

Metric Information & Tables

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- General Information H-2
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Socket Products, Metric

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 - Metric Flat Socket Capscrews H-16
 - Metric Socket Capscrews H-15
 - Metric Socket Set Screws | Cup Point H-16

Stainless Steel Fasteners, Metric

- Fin Hex Nuts SS H-20
- Flat Washer SS H-20
- Lock Washers H-20
- Metric Capscrews SS H-20
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W

Washers, Metric

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- Metric Hi-Collar Lock Washers H-13
- Metric Lock Washers H-13
- Metric Spring Washers H-13



IBS, INCORPORATED

Metric Information & Tables

General Information

The international system of units (commonly known as the metric system) is accepted and used world wide as the modern system of units for measurement. It is used as the international standard for all areas of science, technology, and trade.

GLOSSARY OF TERMS

SI	The International System of Units (Metric System)
ISO	The International Organization of Standards
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
ASME	American Society of Mechanical Engineers
DIN	German National Standards
IFI	Industrial Fasteners Institute
meter (m)	SI unit for length
mega (M)	SI prefix for 1 000 000 units (i.e. 1000000 Pa = 1 MPa)
kilo (k)	SI prefix for 1 000 units (i.e. 1000 m = 1 km)
milli (m)	SI prefix for 0.001 units (i.e. = 0.001 m = 1 mm)
Pitch (P)	Distance between two threads in mm
newton (N)	SI unit for force
N/mm ²	newtons per square millimeter
pascal (Pa)	SI unit for mechanical pressure/stress
MPa	Megapascal (1 MPa = 1 N/mm ²)
R _m	Ultimate tensile strength

Conversion Table US Units to Metric

Type of Dimension	Metric		Converted			For quick ref
	Unit	Symbol	from:	to:	factor	Approx. factor
linear	millimeter	mm	inch	mm	25.4	25 mm = 1 in.
	meter	m	foot	m	0.3048	300 mm = 1 ft.
area	sq. millimeter	mm ²	in. ²	mm ²	645.16	645 mm ² = 1 in. ²
	sq. meter	m ²	ft. ²	m ²	0.0929	1 m ² = 11 ft. ²
Stress or pressure	megapascal	MPa N/mm ²	psi	MPa	0.00689	1 MPa = 145 psi 7 MPa = 1000 psi
temperature	Degree Celsius	°C	°F	°C	0.556 (°F-32)	0°C = 32°F 20°C = 68°F 100°C = 212°F
torque	Newton meter	Nm	in-oz	Nm	0.00706	1 Nm = 140 in oz
			in-lb		0.11298	1 Nm = 9 in lb
			ft-lb		1.3558	1.4 Nm = 1 ft lb
						1 Nm = 0.75 ft lb
force	Newton	N	oz.	N	0.278	1 N = 3.6 oz
			lb.		4.448	4.4N = 1 lb 1 kN = 225 lb

METRICS



Metric Information & Tables

Conversion of Fasteners

Specifications for metric fasteners incorporate both linear measurements and mechanical requirements so it is imperative that one looks at factors other than just the nearest major diameter of the thread. The table below compares the physical data for U.S. Grades 5 and 8 and Metric Property Classes 8.8 and 10.9. As can be seen, converting a 3/4"-10 bolt to M20 results in a 13.7% stronger bolt, but converting a 1/2"-13 to M12 will be 11% lower. It is important to consider this when joints are calculated with regard to high utilization of the yield stress.

When selecting fastener property classes, diameter/pitch combinations and sizes it is best to choose those which have a high usage frequency as these will generally have greater availability. Conversion to metric should be used as an opportunity to simplify your fastener program for improved economy and service.

Comparison Chart U.S. Standard Grades and Metric Strength Classes Tensile Load Comparison

Tensile Load in kN = $A_s \times R_m$ (1 kN = 224.8 lbs.)†

Thread Size	Major Diam mm	Stress Area mm ²	Thread Size	Stress Area mm ²	SAE Grade 5	8.8	SAE Grade 8	10.9
5-40	3.175	5.14	M3	5.03	4.25	4.02	5.32	5.23
6-32	3.505	5.86	M3.5	6.78	4.85	5.42	6.06	7.05
8-32	4.166	9.04	M4	8.78	7.48	7.02	9.35	9.13
10-24	4.826	11.31	M5	14.20	9.36	11.36	11.70	14.77
1/4-20	6.350	20.50	M6	20.10	16.97	16.08	21.21	20.90
5/16-18	7.938	33.80	M8	36.60	27.97	29.28	34.97	38.06
3/8-16	9.525	50.00	M10	58.00	41.38	46.40	51.72	60.32
7/16-14	11.112	68.60			56.77		70.97	
1/2-13	12.700	91.50	M12	84.30	75.72	67.44	94.65	87.67
9/16-12	14.288	117.00	M14	115.00	96.83	92.00	121.03	119.60
5/8-11	15.875	146.00	M16	157.00	120.83	125.60	151.03	163.28
			M18	192.00		159.36		199.68
3/4-10	19.050	216.00	M20	245.00	178.76	203.35	223.45	254.80
7/8-9	22.225	298.00	M22	303.00	246.62	251.49	308.28	315.12
1-8	25.400	391.00	M24	353.00	323.28	292.99	404.48	367.12
1 1/8-7	28.575	492.00	M27	459.00		380.97		477.36
			M30	561.00	356.27	465.63	508.96	583.44
1 1/4-7	31.750	625.00			452.28		646.55	
1 3/8-6	34.925	745.00			539.48	678.11	770.69	
1 1/2-6	38.100	907.00	M36	817.00	656.79		938.27	849.68

† A_s = stress area R_m = min. tensile strength

CONVERT BOTH UNC & UNF TO M (COARSE).
AVOID USING METRIC FINE THREADS WHENEVER POSSIBLE.

M
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S



IBS, INCORPORATED

Metric Information & Tables

Converting PSI to MPa

PSI	MPa	PSI	MPa	PSI	MPa
86000	592.9	96000	661.9	130000	896.3
87000	599.8	97000	668.8	135000	930.8
88000	606.7	98000	675.7	140000	965.3
89000	613.6	99000	682.6	145000	999.7
90000	620.5	100000	689.5	150000	1034.2
91000	627.4	105000	723.9	160000	1103.2
92000	634.3	110000	758.4	170000	1172.1
93000	641.2	115000	792.9	180000	1241.1
94000	648.1	120000	827.4	190000	1310.0
95000	655.0	125000	861.8	200000	1379.0

Conversion factor

1 psi = 0.00689 MPa (N/mm²)

1 MPa (N/mm²) = 145 psi

YIELD LOAD COMPARISON

Yield Load in kN = As x Rp 0.2 (1 kN = 224.8 lbs)>†								
Thread Size	Major Diam. mm	Stress Area mm ²	Thread Size	Stress Area mm ²	SAE Grade 5	8.8	SAE Grade 8	10.9
5-40	3.175	5.14	M3	5.03	3.26	3.22	4.61	4.73
6-32	3.505	5.86	M3.5	6.78	3.72	4.34	5.25	6.37
8-32	4.166	9.04	M4	8.78	5.74	5.62	8.10	8.25
10-24	4.826	11.31	M5	14.20	7.18	9.09	10.14	13.35
1/4-20	6.350	20.50	M6	20.10	13.01	12.86	18.38	18.89
5/16-18	7.938	33.80	M8	36.60	21.45	23.42	30.30	34.40
3/8-16	9.525	50.00	M10	58.00	31.72	37.12	44.83	54.52
7/16-14	11.112	68.60			43.53		61.50	
1/2-13	12.700	91.50	M12	84.30	58.05	53.95	82.03	79.24
9/16-12	14.288	117.00	M14	115.00	74.23	73.60	104.90	108.10
5/8-11	15.875	146.00	M16	157.00	92.63	100.48	130.90	147.58
			M18	192.00		126.72		180.48
3/4-10	19.050	216.00	M20	245.00	137.05	161.70	193.65	230.30
7/8-9	22.225	298.00	M22	303.00	189.08	199.98	267.17	284.82
1-8	25.400	391.00	M24	353.00	248.08	232.98	350.55	331.82
			M27	459.00		302.94		431.46
1 1/8-7	28.575	492.00			274.84		441.10	
			M30	561.00		370.26		527.34
1 1/4-7	31.750	625.00			349.14		560.34	
1 3/8-6	34.925	745.00			416.17		667.93	
			M36	817.00		539.22		767.98
1 1/2-6	38.100	907.00			506.67		813.17	

† As = stress area Rp 0.2 = min. yield strength

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Mechanical Properties Defined

Tensile strength R_m

Tensile strength on full size screws determines how much stress a screw must withstand without breaking. It is calculated as follows:

$$R_{M \text{ screw}} = \frac{F \text{ max}}{A_s} = \frac{N}{\text{mm}^2} \left[\quad \right]$$

A_s = nominal stress area, which is the actual cross section that carries the load. The screw must break in this general area or in the shank when tested for tensile strength.

Yield strength R_p Yield strength is the amount of resistance of a material to plastic deformation. In general terms, yield strength determines how much stress a screw must withstand without being permanently elongated. This applies to relatively soft materials.

0.2 limit $R_{p0.2}$ ($\sigma_{0.2}$)

The yield point of somewhat harder materials is not sharply pronounced. It is then replaced by the stress at which the permanent elongation is 0.2%. This, too, is expressed in N/mm².

Metric Tap & Clearance Hole Drill Size Chart

Metric Size	Pitch		Drill Sizes				Clearance Hole	
	Coarse	Fine	M-Coarse	U.S.	M-Fine	U.S.	Metric	U.S.
3	0.5		2.5	#40			3.4	#29
3.5	0.6		2.9	#33			3.9	#24
4	0.7		3.3	#30			4.5	#16
5	0.8		4.2	#19			5.5	7/32
6	1		5.0	#9			6.6	G
8	1.25	1	6.8	17/64	7	J	9.0	T
10	1.5	1.25	8.5	Q	8.8	11/32 (T)	11.0	27/64
12	1.75	1.25 (1.5)	10.2	J	10.8	27/64 (Z)	13.5	17/32
14	2	1.5	12.0	15/32	12.5	1/2	15.5	39/64
16	2	1.5	14.0	35/64	14.5	37/64	17.5	11/16
18	2.5	1.5	15.5	39/64	16.5	21/32	20.0	51/64
20	2.5	1.5	17.5	11/16	18.5	47/64	22.0	55/64
22	2.5	1.5	19.5	49/64	20.5	13/16	24.0	15/16
24	3	2	21.0	53/64	22.0	7/8	26.0	1 1/64
27	3	2	24.0	15/16	25.0	63/64	30.0	1 11/64
30	3.5	2	26.5	1 3/64	28.0	1 7/64	33.0	1 9/32
36	4	3	32.0	1 1/4	33.0	1 19/64	39.0	1 9/16

«Note» Use metric drill sizes whenever possible. The listed US drill sizes are as close they possibly can be. However, they may not be adequate in all circumstances.

METRICS



IBS, INCORPORATED

Metric Capscrews Class 8.8 H01

Metric Capscrews (H01)

Regular Pitch • Class 8.8 • Zinc Plated



Length	M4 (.7)	M5 (.8)	M6 (1.0)	M7 (1.0)	M8 (1.25)	M10 (1.5)	M12 (1.75)	M14 (2.0)	M16 (2.0)	M18 (2.5)	M20 (2.5)	Length
8	10000											8
10	10001	10018	10036		10078							10
12	10002	10019	10037		10079							12
14			10038									14
16	10004	10021	10039	10063	10081	10106	10132					16
20	10006	10023	10041	10065	10083	10108	10133					20
25	10008	10026	10044	10068	10086	10111	10136	10156				25
30	10012	10029	10047	10071	10089	10114	10138	10159	10172		10205	30
35	10013*	10030*	10048	10072	10090	10115	10139	10160				35
40	10014*	10031*	10049		10091	10116	10140	10161	10174		10207	40
45			10050◇		10092◇	10117◇	10141	10162	10175			45
50		10033◇	10051◇		10093◇	10118◇	10142	10163	10176	10196	10209	50
55						10119◇						55
60			10053◇		10095◇	10120◇	10144	10165	10178	10198	10211	60
65					10096◇	10121◇	10145					65
70					10097◇	10122◇	10146	10167	10180		10213	70
75					10098◇	10123◇						75
80							10148				10215	80
90							10150				10216	90
QTY	100/50*	100/50* 25◇	50/25◇	50	50/25◇	50/25◇	25	25	25	25	10	QTY

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Metric Capscrews (H06)

Fine Pitch • Class 8.8 • Plain



Length	M8 (1.0)	M10 (1.0)	M10 (1.25)	M12 (1.5)	M12 (1.25)	M14 (1.5)	Length
10	10441						10
16	10444						16
20	10446	10465	10480	10502			20
25	10449	10468	10483	10505	10524		25
30	10452	10471	10486	10508	10527	10543	30
35	10453	10472	10487	10509	10528	10544	35
40	10454	10473	10488	10510	10529	10545	40
45	10455◇						45
50	10456◇	10475◇	10490◇	10512	10531	10547	50
60	10458◇		10492◇	10514	10533	10549	60
70			10494◇		10535		70
80	10462◇		10496◇				80
QTY	50/25◇	50/25◇	50/25◇	25	25	25	QTY

IBS, INCORPORATED

Metric C/S Reg. Pitch Cl. 8.8 H01



Metric Capscrews & Nuts Class 8.8 (Z02)

IBS No. 122R • 24 Items - 500 Pieces



IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALMARKET.COM P.O. BOX 470-1000						Metric Cap Screws & Nuts Class 8.8					
Assortment No. 122R											
10601 M6-1.0 FIN HEX NUT CLS ZP	10603 M8-1.25 FIN HEX NUT CLS ZP	10091 M8-1.25 X 40 HEX C/S 8.8 ZP	10605 M10-1.5 FIN HEX NUT CLS ZP	10116 M10-1.5 X 40 HEX C/S 8.8 ZP	10606 M12-1.75 FIN HEX NUT CLS ZP	10047 M6-1.0 X 30 HEX C/S 8.8 ZP	10086 M8-1.25 X 25 HEX C/S 8.8 ZP	10093 M8-1.25 X 50 HEX C/S 8.8 ZP	10111 M10-1.5 X 25 HEX C/S 8.8 ZP	10118 M10-1.5 X 50 HEX C/S 8.8 ZP	10140 M12-1.75 X 40 HEX C/S 8.8 ZP
10048 M6-1.0 X 35 HEX C/S 8.8 ZP	10089 M8-1.25 X 30 HEX C/S 8.8 ZP	10095 M8-1.25 X 60 HEX C/S 8.8 ZP	10114 M10-1.5 X 30 HEX C/S 8.8 ZP	10120 M10-1.5 X 60 HEX C/S 8.8 ZP	10142 M12-1.75 X 50 HEX C/S 8.8 ZP	10049 M6-1.0 X 40 HEX C/S 8.8 ZP	10090 M8-1.25 X 35 HEX C/S 8.8 ZP	10097 M8-1.25 X 70 HEX C/S 8.8 ZP	10115 M10-1.5 X 35 HEX C/S 8.8 ZP	10122 M10-1.5 X 70 HEX C/S 8.8 ZP	10144 M12-1.75 X 60 HEX C/S 8.8 ZP

8.8 Metric Capscrew Assortments (Z06)

IBS No. 143P • 72 Items
2453 Pieces

Arranged in a labeled
18 drawer metal cabinet



8.8 METRIC CAPSCREW ASSORTMENT

Capscrews	Hex Nuts	Flat & Lock Washers
M5-0.8 x 10, 12, 20, 25, 30, 40	M5-08	M5
M6-1.0 x 10, 16, 20, 25, 30, 40, 50	M6-1.0	M6
M8-1.25 x 16, 20, 25, 30, 35, 40, 45, 50, 60	M8-1.25	M8
M10-1.5 x 20, 25, 30, 35, 40, 45, 50, 60	M10-1.5	M10
M12-1.75 x 20, 25, 30, 35, 40, 50, 60	M12-1.75	M12
M14-2.0 x 25, 30, 35, 40, 50, 60	M14-2.0	M14
M16-2.0 x 30, 35, 40, 50, 60, 70	M16-2.0	M16

METRICS

Metric 8.8 Hex Capscrews, Nuts & Washers (Z06)

IBS No. 440P • 40 Items
1680 Pieces
Arranged in a labeled
40 hole bin



Metric 8.8 Fasteners

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALMARKET.COM P.O. BOX 470-1000								Metric 8.8 Fasteners							
Assortment No. 440P															
10600 M5-0.8 FIN HEX NUT CLS ZP	10565 M6 FLAT WASHER ZP	10581 M8 LOCKWASHER ZP	10018 M5-0.8 X 10 HEX C/S 8.8 ZP	10019 M5-0.8 X 12 HEX C/S 8.8 ZP	10023 M5-0.8 X 20 HEX C/S 8.8 ZP	10026 M5-0.8 X 25 HEX C/S 8.8 ZP	10029 M5-0.8 X 30 HEX C/S 8.8 ZP	10601 M6-1.0 FIN HEX NUT CLS ZP	10566 M6 FLAT WASHER ZP	10582 M8 LOCKWASHER ZP	10037 M6-1.0 X 12 HEX C/S 8.8 ZP	10039 M6-1.0 X 16 HEX C/S 8.8 ZP	10041 M6-1.0 X 20 HEX C/S 8.8 ZP	10044 M6-1.0 X 25 HEX C/S 8.8 ZP	10047 M6-1.0 X 30 HEX C/S 8.8 ZP
10603 M8-1.25 FIN HEX NUT CLS ZP	10568 M8 FLAT WASHER ZP	10584 M8 LOCKWASHER ZP	10081 M8-1.25 X 16 HEX C/S 8.8 ZP	10083 M8-1.25 X 20 HEX C/S 8.8 ZP	10086 M8-1.25 X 25 HEX C/S 8.8 ZP	10089 M8-1.25 X 30 HEX C/S 8.8 ZP	10091 M8-1.25 X 40 HEX C/S 8.8 ZP	10605 M10-1.5 FIN HEX NUT CLS ZP	10569 M10 FLAT WASHER ZP	10585 M10 LOCKWASHER ZP	10108 M10-1.5 X 20 HEX C/S 8.8 ZP	10111 M10-1.5 X 25 HEX C/S 8.8 ZP	10114 M10-1.5 X 30 HEX C/S 8.8 ZP	10116 M10-1.5 X 40 HEX C/S 8.8 ZP	10118 M10-1.5 X 50 HEX C/S 8.8 ZP
10606 M12-1.75 FIN HEX NUT CLS ZP	10570 M12 FLAT WASHER ZP	10586 M12 LOCKWASHER ZP	10133 M12-1.75 X 20 HEX C/S 8.8 ZP	10138 M12-1.75 X 30 HEX C/S 8.8 ZP	10140 M12-1.75 X 40 HEX C/S 8.8 ZP	10142 M12-1.75 X 50 HEX C/S 8.8 ZP	10144 M12-1.75 X 60 HEX C/S 8.8 ZP								



IBS, INCORPORATED

Bin Assortments Z06

Metric 8.8 Fasteners

Metric 8.8 Hex Capscrews, Nuts & Washers

IBS No. 808P • 80 Items
3,275 pieces
Arranged in a labeled
80 hole bin



Assortment No. 808P							
10600 M5-8 FIN HEX NUT CL8 ZP	10601 M6-1.0 FIN HEX NUT CL8 ZP	10603 M8-1.25 FIN HEX NUT CL8 ZP	10605 M10-1.5 FIN HEX NUT CL8 ZP	10606 M12-1.75 FIN HEX NUT CL8 ZP	10607 M14-2.0 FIN HEX NUT CL8 ZP	10608 M16-2.0 FIN HEX NUT CL8 ZP	10610 M20-2.5 FIN HEX NUT CL8 ZP
10565 M5 FLAT WASHER ZP	10566 M6 FLAT WASHER ZP	10568 M8 FLAT WASHER ZP	10569 M10 FLAT WASHER ZP	10570 M12 FLAT WASHER ZP	10571 M14 FLAT WASHER ZP	10572 M16 FLAT WASHER ZP	10575 M20 FLAT WASHER ZP
10581 M5 LOCKWASHER ZP	10582 M6 LOCKWASHER ZP	10584 M8 LOCKWASHER ZP	10585 M10 LOCKWASHER ZP	10586 M12 LOCKWASHER ZP	10587 M14 LOCKWASHER ZP	10588 M16 LOCKWASHER ZP	10590 M20 LOCKWASHER ZP
10018 M5-1.0 X 12 HEX C/S 8.8 ZP	10037 M6-1.0 X 12 HEX C/S 8.8 ZP	10081 M8-1.25 X 16 HEX C/S 8.8 ZP	10108 M10-1.5 X 20 HEX C/S 8.8 ZP	10136 M12-1.75 X 25 HEX C/S 8.8 ZP	10159 M14-2.0 X 30 HEX C/S 8.8 ZP	10172 M16-2.0 X 30 HEX C/S 8.8 ZP	10205 M20-2.5 X 30 HEX C/S 8.8 ZP
10019 M5-8 X 12 HEX C/S 8.8 ZP	10039 M6-1.0 X 16 HEX C/S 8.8 ZP	10083 M8-1.25 X 20 HEX C/S 8.8 ZP	10111 M10-1.5 X 25 HEX C/S 8.8 ZP	10138 M12-1.75 X 30 HEX C/S 8.8 ZP	10160 M14-2.0 X 35 HEX C/S 8.8 ZP	10174 M16-2.0 X 40 HEX C/S 8.8 ZP	10207 M20-2.5 X 40 HEX C/S 8.8 ZP
10021 M5-8 X 16 HEX C/S 8.8 ZP	10041 M6-1.0 X 20 HEX C/S 8.8 ZP	10086 M8-1.25 X 25 HEX C/S 8.8 ZP	10114 M10-1.5 X 30 HEX C/S 8.8 ZP	10139 M12-1.75 X 35 HEX C/S 8.8 ZP	10161 M14-2.0 X 40 HEX C/S 8.8 ZP	10175 M16-2.0 X 45 HEX C/S 8.8 ZP	10209 M20-2.5 X 50 HEX C/S 8.8 ZP
10023 M5-8 X 20 HEX C/S 8.8 ZP	10044 M6-1.0 X 25 HEX C/S 8.8 ZP	10089 M8-1.25 X 30 HEX C/S 8.8 ZP	10115 M10-1.5 X 35 HEX C/S 8.8 ZP	10140 M12-1.75 X 40 HEX C/S 8.8 ZP	10162 M14-2.0 X 45 HEX C/S 8.8 ZP	10176 M16-2.0 X 50 HEX C/S 8.8 ZP	10211 M20-2.5 X 60 HEX C/S 8.8 ZP
10026 M5-8 X 25 HEX C/S 8.8 ZP	10047 M6-1.0 X 30 HEX C/S 8.8 ZP	10091 M8-1.25 X 40 HEX C/S 8.8 ZP	10116 M10-1.5 X 40 HEX C/S 8.8 ZP	10142 M12-1.75 X 50 HEX C/S 8.8 ZP	10163 M14-2.0 X 50 HEX C/S 8.8 ZP	10178 M16-2.0 X 60 HEX C/S 8.8 ZP	10213 M20-2.5 X 70 HEX C/S 8.8 ZP
10029 M5-8 X 30 HEX C/S 8.8 ZP	10049 M6-1.0 X 40 HEX C/S 8.8 ZP	10093 M8-1.25 X 50 HEX C/S 8.8 ZP	10118 M10-1.5 X 50 HEX C/S 8.8 ZP	10144 M12-1.75 X 60 HEX C/S 8.8 ZP	10165 M14-2.0 X 60 HEX C/S 8.8 ZP	10180 M16-2.0 X 70 HEX C/S 8.8 ZP	10215 M20-2.5 X 80 HEX C/S 8.8 ZP
10031 M5-8 X 40 HEX C/S 8.8 ZP	10051 M6-1.0 X 50 HEX C/S 8.8 ZP	10095 M8-1.25 X 60 HEX C/S 8.8 ZP	10120 M10-1.5 X 60 HEX C/S 8.8 ZP	10146 M12-1.75 X 70 HEX C/S 8.8 ZP	10167 M14-2.0 X 70 HEX C/S 8.8 ZP	10182 M16-2.0 X 80 HEX C/S 8.8 ZP	10216 M20-2.5 X 90 HEX C/S 8.8 ZP

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IBS, INCORPORATED

Metric C/S Reg. Pitch Cl. 10.9 - H02



Metric Capscrews

Regular Pitch • Class 10.9 • Zinc Plated



Length	M6 (1.0)	M8 (1.25)	M10 (1.5)	M12 (1.75)	M14 (2.0)	M16 (2.0)	M20 (2.5)	M24 (3.0)	M30 (3.0)	Length
12	10250									12
16	10252	10270	10291							16
20	10254	10271	10292	10315						20
25	10257	10272	10293	10316						25
30	10258	10273	10294	10317	10340	10358	10374			30
35	10259	10274	10295	10318	10341	10359	10375			35
40	10260	10275	10296	10319	10342	10360	10376	10389		40
45	10261	10276	10297	10320	10343	10361	10377			45
50	10262	10277	10298	10321	10344	10362	10378	10391		50
55		10278								55
60	10265	10279	10300	10323	10346	10364	10380	10392		60
70	10266	10281	10302	10325	10347	10366	10382	10393		70
75			10303	10326	103470	10367				75
80	10267	10282	10304	10327	10348	10368	10384	10395		80
90	10268	10283	10305	10328	10349	10370	10385	10396		90
100	10269	10284	10306	10329	10350	10371	10387	10397	103984	100
110		10285	10307	10330	10351	10372	10388	103970	103985	110
120		10286	10308	10331	10352	10373	103880	103971	103986	120
130						103730	103881	103972	103987	130
140						103731	103882	103973	103988	140
150						103732	103883	103974	103989	150
160						103733	103884	103975	103990	160
170						103734		103976		170
180						103735	103886	103977	103992	180
190						103736		103978		190
200						103737	103888	103979	103994	200
QTY	50	50	50	25	25	25	10	10	5	QTY

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10.9 Metric Capscrew Assortment (Z06)
IBS No. 144P • 68 Items
1323 Pieces
Arranged in a labeled 18 drawer metal cabinet.



Capscrews	Hex Nuts	Flat & Lock Washers
M6-1.0 x 12, 16, 20, 25, 30, 35, 40, 45, 50	M6-1.0	M6
M8-1.25 x 16, 20, 25, 30, 35, 40, 45, 50, 60, 70	M8-1.25	M8
M10-1.5 x 20, 25, 30, 35, 40, 45, 50, 60, 70	M10-1.5	M10
M12-1.75 x 25, 30, 35, 40, 50, 60, 70	M12-1.75	M12
M16-2.0 x 35, 40, 50, 60, 70, 80, 90	M16-2.0	M16



IBS, INCORPORATED

Bin Assortments Z06

Metric 10.9 Hex Capscrews, Nuts & Washers

COARSE THREAD — ZINC PLATED
IBS No. 441P • 40 Items - 900 pieces
Arranged in a labeled 40 hole bin



IBS, Inc.								Metric 10.9 Fasteners								
Assortment No. 441P																
10410 M6-1.0 FIN HEX NUT CL10 ZP	10430 M6 HARD WASH TP200 ZP	10582 M6 LOCKWASHER ZP	10292 M6-1.0 X 16 HEX C/S 10.9 ZP	10294 M6-1.0 X 20 HEX C/S 10.9 ZP	10277 M6-1.0 X 25 HEX C/S 10.9 ZP	10273 M6-1.0 X 30 HEX C/S 10.9 ZP	10258 M6-1.0 X 35 HEX C/S 10.9 ZP	10260 M6-1.0 X 40 HEX C/S 10.9 ZP	10411 M8-1.25 FIN HEX NUT CL10 ZP	10431 M8 HARD WASH TP200 ZP	10584 M8 LOCKWASHER ZP	10271 M8-1.25 X 20 HEX C/S 10.9 ZP	10272 M8-1.25 X 25 HEX C/S 10.9 ZP	10273 M8-1.25 X 30 HEX C/S 10.9 ZP	10275 M8-1.25 X 40 HEX C/S 10.9 ZP	10277 M8-1.25 X 50 HEX C/S 10.9 ZP
10412 M10-1.5 FIN HEX NUT CL10 ZP	10432 M10 HARD WASH TP200 ZP	10585 M10 LOCKWASHER ZP	10293 M10-1.5 X 20 HEX C/S 10.9 ZP	10294 M10-1.5 X 25 HEX C/S 10.9 ZP	10295 M10-1.5 X 30 HEX C/S 10.9 ZP	10296 M10-1.5 X 35 HEX C/S 10.9 ZP	10298 M10-1.5 X 40 HEX C/S 10.9 ZP	10299 M10-1.5 X 50 HEX C/S 10.9 ZP	10413 M12-1.75 FIN HEX NUT CL10 ZP	10433 M12 HARD WASH TP200 ZP	10586 M12 LOCKWASHER ZP	10316 M12-1.75 X 25 HEX C/S 10.9 ZP	10317 M12-1.75 X 30 HEX C/S 10.9 ZP	10318 M12-1.75 X 35 HEX C/S 10.9 ZP	10319 M12-1.75 X 40 HEX C/S 10.9 ZP	10321 M12-1.75 X 50 HEX C/S 10.9 ZP
10415 M16-2.0 FIN HEX NUT CL10 ZP	10435 M16 HARD WASH TP200 ZP	10588 M16 LOCKWASHER ZP	10358 M16-2.0 X 30 HEX C/S 10.9 ZP	10359 M16-2.0 X 35 HEX C/S 10.9 ZP	10360 M16-2.0 X 40 HEX C/S 10.9 ZP	10362 M16-2.0 X 50 HEX C/S 10.9 ZP	10364 M16-2.0 X 60 HEX C/S 10.9 ZP									

Metric 10.9 Hex Capscrews, Nuts & Washers

IBS No. 810P • 80 Items
1,716 pieces
Arranged in a labeled 80 hole bin



IBS, Inc.								Metric 10.9 Fasteners							
Assortment No. 810P															
10410 M6-1.0 FIN HEX NUT CL10 ZP	10411 M8-1.25 FIN HEX NUT CL10 ZP	10412 M10-1.5 FIN HEX NUT CL10 ZP	10413 M12-1.75 FIN HEX NUT CL10 ZP	10414 M14-2.0 FIN HEX NUT CL10 ZP	10415 M16-2.0 FIN HEX NUT CL10 ZP	10416 M20-2.5 FIN HEX NUT CL10 ZP	10417 M24-3.0 FIN HEX NUT CL10 ZP	10430 M6 HARD WASH TP200 ZP	10431 M8 HARD WASH TP200 ZP	10432 M10 HARD WASH TP200 ZP	10433 M12 HARD WASH TP200 ZP	10434 M14 HARD WASH TP200 ZP	10435 M16 HARD WASH TP200 ZP	10437 M20 HARD WASH TP200 ZP	10438 M24 HARD WASH TP200 ZP
10582 M6 LOCKWASHER ZP	10584 M8 LOCKWASHER ZP	10585 M10 LOCKWASHER ZP	10586 M12 LOCKWASHER ZP	10587 M14 LOCKWASHER ZP	10588 M16 LOCKWASHER ZP	10590 M20 LOCKWASHER ZP	10591 M24 LOCK WASHER ZP	10250 M6-1.0 X 12 HEX C/S 10.9 ZP	10270 M8-1.25 X 16 HEX C/S 10.9 ZP	10292 M10-1.5 X 20 HEX C/S 10.9 ZP	10316 M12-1.75 X 25 HEX C/S 10.9 ZP	10340 M14-2.0 X 30 HEX C/S 10.9 ZP	10360 M16-2.0 X 40 HEX C/S 10.9 ZP	10376 M20-2.5 X 40 HEX C/S 10.9 ZP	10389 M24-3.0 X 40 HEX C/S 10.9 ZP
10252 M6-1.0 X 16 HEX C/S 10.9 ZP	10271 M8-1.25 X 20 HEX C/S 10.9 ZP	10293 M10-1.5 X 25 HEX C/S 10.9 ZP	10317 M12-1.75 X 30 HEX C/S 10.9 ZP	10341 M14-2.0 X 35 HEX C/S 10.9 ZP	10361 M16-2.0 X 45 HEX C/S 10.9 ZP	10378 M20-2.5 X 50 HEX C/S 10.9 ZP	10391 M24-3.0 X 50 HEX C/S 10.9 ZP	10254 M6-1.0 X 20 HEX C/S 10.9 ZP	10272 M8-1.25 X 25 HEX C/S 10.9 ZP	10294 M10-1.5 X 30 HEX C/S 10.9 ZP	10318 M12-1.75 X 35 HEX C/S 10.9 ZP	10342 M14-2.0 X 40 HEX C/S 10.9 ZP	10362 M16-2.0 X 50 HEX C/S 10.9 ZP	10380 M20-2.5 X 60 HEX C/S 10.9 ZP	10392 M24-3.0 X 60 HEX C/S 10.9 ZP
10257 M6-1.0 X 25 HEX C/S 10.9 ZP	10273 M8-1.25 X 30 HEX C/S 10.9 ZP	10295 M10-1.5 X 35 HEX C/S 10.9 ZP	10319 M12-1.75 X 40 HEX C/S 10.9 ZP	10344 M14-2.0 X 50 HEX C/S 10.9 ZP	10364 M16-2.0 X 60 HEX C/S 10.9 ZP	10382 M20-2.5 X 70 HEX C/S 10.9 ZP	10393 M24-3.0 X 70 HEX C/S 10.9 ZP	10258 M6-1.0 X 30 HEX C/S 10.9 ZP	10274 M8-1.25 X 35 HEX C/S 10.9 ZP	10296 M10-1.5 X 40 HEX C/S 10.9 ZP	10321 M12-1.75 X 50 HEX C/S 10.9 ZP	10346 M14-2.0 X 60 HEX C/S 10.9 ZP	10366 M16-2.0 X 70 HEX C/S 10.9 ZP	10384 M20-2.5 X 80 HEX C/S 10.9 ZP	10395 M24-3.0 X 80 HEX C/S 10.9 ZP
10260 M6-1.0 X 40 HEX C/S 10.9 ZP	10275 M8-1.25 X 40 HEX C/S 10.9 ZP	10298 M10-1.5 X 50 HEX C/S 10.9 ZP	10323 M12-1.75 X 60 HEX C/S 10.9 ZP	10347 M14-2.0 X 70 HEX C/S 10.9 ZP	10368 M16-2.0 X 80 HEX C/S 10.9 ZP	10385 M20-2.5 X 90 HEX C/S 10.9 ZP	10396 M24-3.0 X 90 HEX C/S 10.9 ZP	10262 M6-1.0 X 50 HEX C/S 10.9 ZP	10277 M8-1.25 X 50 HEX C/S 10.9 ZP	10300 M10-1.5 X 60 HEX C/S 10.9 ZP	10325 M12-1.75 X 70 HEX C/S 10.9 ZP	10348 M14-2.0 X 80 HEX C/S 10.9 ZP	10370 M16-2.0 X 90 HEX C/S 10.9 ZP	10387 M20-2.5 X 100 HEX C/S 10.9 ZP	10397 M24-3.0 X 100 HEX C/S 10.9 ZP

IBS, INCORPORATED

Metric C/S FINE Pitch Cl. 10.9 H13



Metric Hex Capscrews

Fine Thread • Class 10.9 • Zinc Plated



Length	M8 (1.0)	M10 (1.25)	M12 (1.5)	M14 (1.5)	M16 (1.5)	Length
16	18270					16
20	18271	18292	18315			20
25	18272	18293	18316			25
30	18273	18294		18340		30
35	18274	18295	18318	18341	18359	35
40	18275	18296	18319	18342	18360	40
45					18361	45
50	18277	18298	18321	18344	18362	50
60	18279	18300	18323	18346	18364	60
70	18291	18302	18325	18347	18366	70
80		18304	18327	18348		80
90			18328	18349	18370	90
100			18329	18350	18371	100
110						110
120				18352	18373	120
QTY	50	50	25	25	25	QTY

METRICS

**Metric 10.9 Hex
Capscrews, Nuts &
Washers**
FINE THREAD — ZINC PLATED
IBS No. 442P • 40 Items
802 pieces
Arranged in a labeled 40 hole bin



IBS, Inc. QUALITY PRODUCTS • SUPPORTED SERVICE WWW.IBSINC.COM • 800-875-1188				Metric Hex Head Cap Screws 10.9 Fine Thread Zinc Plated			
Assortment No. 442P							
10401 M8-1.0 FIN HEX NUT CL10 ZP	10568 M8 FLAT WASHER ZP	10584 M8 LOCKWASHER ZP	18271 M8-1.0 X 20 HEX C/S 10.9 ZP	18272 M8-1.0 X 25 HEX C/S 10.9 ZP	18273 M8-1.0 X 30 HEX C/S 10.9 ZP	18275 M8-1.0 X 40 HEX C/S 10.9 ZP	18277 M8-1.0 X 50 HEX C/S 10.9 ZP
10402 M10-1.25 FIN HEX NUT CL10 ZP	10569 M10 FLAT WASHER ZP	10585 M10 LOCKWASHER ZP	18292 M10-1.25 X 20 HEX C/S 10.9 ZP	18293 M10-1.25 X 25 HEX C/S 10.9 ZP	18294 M10-1.25 X 30 HEX C/S 10.9 ZP	18296 M10-1.25 X 40 HEX C/S 10.9 ZP	18298 M10-1.25 X 50 HEX C/S 10.9 ZP
10403 M12-1.5 FIN HEX NUT CL10 ZP	10570 M12 FLAT WASHER ZP	10586 M12 LOCKWASHER ZP	18315 M12-1.5 X 20 HEX C/S 10.9 ZP	18317 M12-1.5 X 30 HEX C/S 10.9 ZP	18319 M12-1.5 X 40 HEX C/S 10.9 ZP	18321 M12-1.5 X 50 HEX C/S 10.9 ZP	18323 M12-1.5 X 60 HEX C/S 10.9 ZP
10404 M14-1.5 FIN HEX NUT CL10 ZP	10571 M14 FLAT WASHER ZP	10587 M14 LOCKWASHER ZP	18340 M14-1.5 X 30 HEX C/S 10.9 ZP	18342 M14-1.5 X 40 HEX C/S 10.9 ZP	18344 M14-1.5 X 50 HEX C/S 10.9 ZP	18346 M14-1.5 X 60 HEX C/S 10.9 ZP	18347 M14-1.5 X 70 HEX C/S 10.9 ZP
10405 M16-1.5 FIN HEX NUT CL10 ZP	10572 M16 FLAT WASHER ZP	10588 M16 LOCKWASHER ZP	18360 M16-1.5 X 40 HEX C/S 10.9 ZP	18362 M16-1.5 X 50 HEX C/S 10.9 ZP	18364 M16-1.5 X 60 HEX C/S 10.9 ZP	18366 M16-1.5 X 70 HEX C/S 10.9 ZP	18370 M16-1.5 X 80 HEX C/S 10.9 ZP



IBS, INCORPORATED

Metric Hex Nuts

Metric Hex Nuts

METRICS



Finished Hex Nuts Class 8 (H09)

IBS No.	Reg Pitch • Class 8 • ZP	Qty
	Size	
10597	M3 (.5)	100
10599	M4 (.7)	100
10600	M5 (.8)	100
10601	M6 (1.0)	100
10602	M7 (1.0)	100
10603	M8 (1.25)	100
10605	M10 (1.5)	50
10606	M12 (1.75)	50
10607	M14 (2.0)	25
10608	M16 (2.0)	10
10609	M18 (2.5)	10
10610	M20 (2.5)	10
10611	M24 (3.0)	10
IBS No.	Fine Pitch • Class 8 • ZP	Qty
	Size	
10615	M8 (1.0)	100
10616	M10 (1.0)	50
10617	M10 (1.25)	50
10618	M12 (1.5)	50
10619	M12 (1.25)	50
10620	M14 (1.5)	50

Finished Hex Nuts Class 10 (H03)

IBS No.	Reg Pitch • Class 10 • ZP	Qty
	Size	
10410	M6 (1.0)	100
10411	M8 (1.25)	100
10412	M10 (1.5)	50
10413	M12 (1.75)	50
10414	M14 (2.0)	25
10415	M16 (2.0)	25
10416	M20 (2.5)	25
10417	M24 (3.0)	25
10418	M30 (3.5)	10
IBS No.	Fine Pitch • Class 10 • ZP	Qty
	Size	
10401	M8 (1.0)	100
10402	M10 (1.25)	50
10403	M12 (1.5)	50
10404	M14 (1.5)	25
10405	M16 (1.5)	25



Flange Nuts (H15)

IBS No.	Reg Pitch • Class 10 • ZP	Qty
	Size	
30800	M6 (1.0)	50
30801	M8 (1.25)	50
30802	M10 (1.5)	50
30803	M12 (1.75)	50



Grade C Lock Nuts (H15)

IBS No.	Reg Pitch • Class 10 • ZP	Qty
	Size	
10420	M6 (1.0)	25
10421	M8 (1.25)	25
10422	M10 (1.5)	25
10423	M12 (1.75)	10
10424	M14 (2.0)	10
10425	M16 (2.0)	10
10426	M20 (2.5)	10
10427	M24 (3.0)	10



Nyloc Hex Nuts Class 6/8 (H15)

IBS No.	Reg Pitch • Class 6/8 • ZP	Qty
	Size	
749	M4 (.7)	100
750	M5 (.8)	100
751	M6 (1.0)	100
752	M8 (1.25)	100
753	M10 (1.5)	50
754	M12 (1.75)	50
755	M14 (2.0)	50
756	M16 (2.0)	50
757	M20 (2.5)	25
758	M24 (3.0)	25

Nyloc Hex Nuts Class 10 (H15)

IBS No.	Reg Pitch • Class 10 • ZP	Qty
	Size	
4751	M6 (1.0)	100
4752	M8 (1.25)	100
4753	M10 (1.5)	50
4754	M12 (1.75)	50
4755	M14 (2.0)	50
4756	M16 (2.0)	50
4757	M20 (2.5)	25
4758	M24 (3.0)	25
4759	M30 (3.5)	10



Metric Washers



Metric Flat Washers (H21)

IBS No.	Size	ID (mm)	OD (mm)	Pkg Qty
10562	M3	3.2	7	100
10564	M4	4.3	9	100
10565	M5	5.3	10	100
10566	M6	6.4	12	100
10567	M7	7.4	14	100
10568	M8	8.4	16	100
10569	M10	10.5	20	100
10570	M12	13	24	100
10571	M14	15	28	50
10572	M16	17	30	50
10575	M18	19	34	25
10573	M20	21	37	25
10574	M24	25	44	25
10576	M30	31	56	10



Metric Lock Washers (H08)

IBS No.	Size	ID (mm)	OD (mm)	Pkg Qty
10580	M4	4.1	7.6	100
10581	M5	5.1	9.2	100
10582	M6	6.1	11.8	100
10583	M7	7.1	12.8	100
10584	M8	8.1	14.8	100
10585	M10	10.2	18.1	100
10586	M12	12.2	21.1	100
10587	M14	14.2	24.1	50
10588	M16	16.2	27.4	50
10589	M18	18.2	29.4	25
10590	M20	20.2	33.6	25
10591	M24	24.5	40	25
10592	M30	30.5	48.2	10



Metric Hi-Collar Lock Washers (H08)

IBS No.	Size	ID (mm)	OD (mm)	Pkg Qty
10880	M4	4.1	7	100
10881	M5	5.1	8.8	100
10882	M6	6.1	9.9	100
10883	M8	8.1	12.7	100
10884	M10	10.2	16	100
10885	M12	12.2	18	100
10886	M14	14.2	21.1	50
10887	M16	16.2	24.4	50
10888	M18	18.2	26.4	25
10889	M20	20.2	30.6	25
10890	M24	24.5	35.9	25



Metric Hard Washers (H05)

IBS No.	Size	ID (mm)	OD (mm)	Pkg Qty
10429	M5	5.3	10	100
10430	M6	6.4	12	100
10431	M8	8.4	16	100
10432	M10	10.5	20	100
10433	M12	13	24	100
10434	M14	15	28	50
10435	M16	17	30	50
10436	M18	19	34	25
10437	M20	21	37	25
10438	M24	25	44	25
10439	M30	31	56	10



Metric Spring Washers (H15)

IBS No.	Size	ID (mm)	OD (mm)	Pkg Qty
870	M4	4.3	8	100
871	M5	5.3	10	100
872	M6	6.4	11	100
873	M8	8.4	15	100
874	M10	10.5	18	100
875	M12	13	24	100



IBS, INCORPORATED

Assortments Z02

Metric Machine Screws



Phillips Pan Head Machine Screws 4.8 (H12)

Length	M4 (.7)	M5 (.8)	M6 (1.0)	M8 (1.25)
6	10711			
8	10712	601		
10	10713	602	10730	
12	10714	603	10731	
14				
16	10716	604	10733	10750
20	10718	606	10735	10752
22				
25	10720	607	10737	10754
30	10721	608	10738	10755
35				
40				
QTY	100	100	100	100



Metric Phillips Pan Hd Machine Screws, Flat Washers & Nuts IBS No. 715R • 24 Items • 1,445 Pieces

 IBS, Inc. <small>SECURITY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © 2008 800-876-1006</small>						Metric Phillips Pan Head Machine Screws Flat Washers & Nuts					
Assortment No. 715R											
10713 M4-.7 X 10 PHIL PAN M/S ZP	10716 M4-.7 X 16 PHIL PAN M/S ZP	10718 M4-.7 X 20 PHIL PAN M/S ZP	10721 M4-.7 X 30 PHIL PAN M/S ZP	10564 M4 FLAT WASHER ZP	10599 M4-.7 FIN HEX NUT CL8 ZP	602 M5-.8 X 10 PHIL PAN M/S ZP	604 M5-.8 X 16 PHIL PAN M/S ZP	606 M5-.8 X 20 PHIL PAN M/S ZP	608 M5-.8 X 30 PHIL PAN M/S ZP	10565 M5 FLAT WASHER ZP	10600 M5-.8 FIN HEX NUT CL8 ZP
10730 M6-1.0 X 10 PHIL PAN M/S ZP	10733 M6-1.0 X 16 PHIL PAN M/S ZP	10735 M6-1.0 X 20 PHIL PAN M/S ZP	10738 M6-1.0 X 30 PHIL PAN M/S ZP	10566 M6 FLAT WASHER ZP	10601 M6-1.0 FIN HEX NUT CL8 ZP	10750 M8-1.25 X 16 PHIL PAN M/S ZP	10752 M8-1.25 X 20 PHIL PAN M/S ZP	10754 M8-1.25 X 25 PHIL PAN M/S ZP	10755 M8-1.25 X 30 PHIL PAN M/S ZP	10568 M8 FLAT WASHER ZP	10603 M8-1.25 FIN HEX HUT CL8 ZP

METRICS



Metric Socket Capscrews

Class 12.9



Length (mm)	M3	M4	M5	M6	M8	M10	M12	M14	M16	M20	M24	Length (mm)
10		815	82200	8242								10
12	810	816	822	824A	828	833						12
16	812	818	823	824B	82800	834	83600					16
20	814	820	823A	824C	829	835	83601					20
25		821	824	824D	829A	835A	836	839				25
30		82105	82400	825	830	835B	836A	83901				30
35		82106	82401	826	830A	835C	83602	840	84110			35
40		82107	82402	827	831	835D	836B	841	84111	845		40
45		82108	82403	82700	83100	83500	83603	84100	84112	846		45
50		82109	82404	827B	832	83501	837A	84101	842	847	860	50
60				82702	83201	83503	838	84103	84201	849	862	60
70				82703	83202	83504	83800	84104	84202	850	863	70
75									843			75
80						83505	83801	84105	84300	851	864	80
90						83506	83802	84106	84301	852	865	90
100						83507	83803	84107	84302	853	866	100
110									84303	854	867	110
120									84304	855	868	120
130									84305	856	869	130
140									84306	857	86900	140
150									84307	858	86901	150
Pkg Qty	25	25	25	25	25	25	10	10	10	5	5	Pkg Qty

METRICS

Metric 12.9 Socket Head Capscrews (Z02)

IBS No. 266R • 24 Items • 475 Pieces



IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR</small> <small>INDUSTRIALBOLT.COM • © C 800-878-1906</small>						Metric 12.9 Socket Head Capscrews					
Assortment No. 266R											
816 M4 X 12 SOCKET HD C/S ALLOY	818 M4 X 16 SOCKET HD C/S ALLOY	820 M4 X 20 SOCKET HD C/S ALLOY	821 M4 X 25 SOCKET HD C/S ALLOY	822 M5 X 12 SOCKET HD C/S ALLOY	823 M5 X 16 SOCKET HD C/S ALLOY	823A M5 X 20 SOCKET HD C/S ALLOY	824 M5 X 25 SOCKET HD C/S ALLOY	824A M6 X 12 SOCKET HD C/S ALLOY	824B M6 X 16 SOCKET HD C/S ALLOY	824C M6 X 20 SOCKET HD C/S ALLOY	824D M6 X 25 SOCKET HD C/S ALLOY
825 M6 X 30 SOCKET HD C/S ALLOY	827 M6 X 40 SOCKET HD C/S ALLOY	829 M8 X 20 SOCKET HD C/S ALLOY	829A M8 X 25 SOCKET HD C/S ALLOY	830 M8 X 30 SOCKET HD C/S ALLOY	830A M8 X 35 SOCKET HD C/S ALLOY	831 M8 X 40 SOCKET HD C/S ALLOY	835 M10 X 20 SOCKET HD C/S ALLOY	835A M10 X 25 SOCKET HD C/S ALLOY	835B M10 X 30 SOCKET HD C/S ALLOY	835C M10 X 35 SOCKET HD C/S ALLOY	835D M10 X 40 SOCKET HD C/S ALLOY



IBS, INCORPORATED

Metric Socket Products H17

Metric Flat Socket



Cap screws Class 12.9

Length	M4	M5	M6	M8	M10	Length
12	84345	84360	84370			12
16	84346	84361	84371			16
20	84347	84362	84372	84381	84391	20
25	84348	84363	84373	84382	84393	25
30			84374	84383	84394	30
35				84384	84395	35
40			84375	84385	84396	40
QTY	25	25	25	25	25	QTY

Metric Flat Socket Capscrews

Class 12.9 (Z02)
IBS No. 267R • 24 Items
435 Pieces



IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR</small> <small>INDUSTRIALBOLT.COM 8 8 2 820-670-1100</small>						Metric 12.9 Flat Socket Head Cap Screws <small>Assortment No. 267R</small>					
<small>84345</small> M4 X 12 FLAT SOCKET C/S ALLOY	<small>84346</small> M4 X 16 FLAT SOCKET C/S ALLOY	<small>84347</small> M4 X 20 FLAT SOCKET C/S ALLOY	<small>84348</small> M4 X 25 FLAT SOCKET C/S ALLOY	<small>84360</small> M5 X 12 FLAT SOCKET C/S ALLOY	<small>84361</small> M5 X 16 FLAT SOCKET C/S ALLOY	<small>84370</small> M6 X 12 FLAT SOCKET C/S ALLOY	<small>84371</small> M6 X 16 FLAT SOCKET C/S ALLOY	<small>84372</small> M6 X 20 FLAT SOCKET C/S ALLOY	<small>84373</small> M6 X 25 FLAT SOCKET C/S ALLOY	<small>84374</small> M6 X 30 FLAT SOCKET C/S ALLOY	<small>84375</small> M6 X 40 FLAT SOCKET C/S ALLOY
<small>84374</small> M6 X 30 FLAT SOCKET C/S ALLOY	<small>84375</small> M6 X 40 FLAT SOCKET C/S ALLOY	<small>84381</small> M8 X 20 FLAT SOCKET C/S ALLOY	<small>84382</small> M8 X 25 FLAT SOCKET C/S ALLOY	<small>84383</small> M8 X 30 FLAT SOCKET C/S 12.9	<small>84384</small> M8 X 35 FLAT SOCKET C/S 12.9	<small>84385</small> M8 X 40 FLAT SOCKET C/S ALLOY	<small>84391</small> M10 X 20 FLAT SOCKET C/S ALLOY	<small>84393</small> M10 X 25 FLAT SOCKET C/S ALLOY	<small>84394</small> M10 X 30 FLAT SOCKET C/S ALLOY	<small>84395</small> M10 X 35 FLAT SOCKET C/S ALLOY	<small>84396</small> M10 X 40 FLAT SOCKET C/S 12.9

METRICS

Metric Socket Set Screws

Cup Point • Class 12.9



Length	M6	M8	M10	M12	Length
6	785				6
8	786	792			8
10	787	793	797		10
12	788	794	798	804	12
16	789	795	799	805	16
20	790	796	800	806	20
25			802	807	25
30				807A	30
35			803	808	35
40				809	40
QTY	25	25	25	25	QTY

Automotive Rivets & Fasteners H04

J.I.S Fasteners

J.I.S. B1180 • STEEL • HEAT TREATED • I.S.O. CLASS 8.8 & 10.9 • ZINC PLATED

J.I.S. fasteners have a smaller hex dimension (across the flats) than DIN or ISO metric fasteners. They fit in those tight spots where the hex of an ISO or DIN fastener is too large. J.I.S. fasteners are OEM equipment on many GM and Japanese import car applications, as well as Japanese imported equipment and machinery.



J.I.S. Hex Head Bolts 8.8

IBS No.	Dia & Pitch	Length	Qty.
M8-1.25 (Width Across the Flats; 12mm)			
10801	8mm-1.25	12mm	100
10802	8mm-1.25	16mm	100
10803	8mm-1.25	20mm	100
10804	8mm-1.25	25mm	50
10805	8mm-1.25	30mm	50
10806	8mm-1.25	35mm	50
10807	8mm-1.25	40mm	50
10809	8mm-1.25	50mm	50
M10-1.25 (Width Across the Flats; 14mm)			
10811	10mm-1.25	20mm	50
10812	10mm-1.25	25mm	50
10813	10mm-1.25	30mm	25
10814	10mm-1.25	35mm	25
10815	10mm-1.25	40mm	25
10816	10mm-1.25	45mm	25
10817	10mm-1.25	50mm	25
10818	10mm-1.25	60mm	25
M12-1.25 (Width Across the Flats; 17mm)			
10821	12mm-1.25	20mm	50
10822	12mm-1.25	25mm	25
10823	12mm-1.25	30mm	25
10824	12mm-1.25	35mm	25
10825	12mm-1.25	40mm	25
10827	12mm-1.25	50mm	25



J.I.S. Hex Flange Bolts 10.9

IBS No.	Dia & Pitch	Length	Qty.
M6-1.00 (Width Across the Flats; 10mm)			
10850	6mm-1.00	12mm	100
10851	6mm-1.00	16mm	100
10852	6mm-1.00	20mm	100
10856	6mm-1.00	25mm	100
10853	6mm-1.00	30mm	100
10854	6mm-1.00	35mm	100
10855	6mm-1.00	40mm	100
M8-1.25 (Width Across the Flats; 12mm)			
10860	8mm-1.25	12mm	50
10861	8mm-1.25	16mm	50
10862	8mm-1.25	20mm	50
10863	8mm-1.25	25mm	50
10864	8mm-1.25	30mm	50
10865	8mm-1.25	35mm	50
10866	8mm-1.25	40mm	50
M10-1.25 (Width Across the Flats; 14mm)			
10870	10mm-1.25	16mm	25
10871	10mm-1.25	20mm	25
10872	10mm-1.25	25mm	25
10873	10mm-1.25	30mm	25
10874	10mm-1.25	35mm	25
10875	10mm-1.25	40mm	25
10876	10mm-1.25	45mm	25
10877	10mm-1.25	50mm	25



J.I.S. Small Hex Nuts

IBS No.	Dia & Pitch	WAF	Qty.
10840	8mm-1.25	12mm	100
10841	10mm-1.25	14mm	100
10842	12mm-1.25	17mm	100



J.I.S. Hex Flange Nuts - Serrated

IBS No.	Dia & Pitch	WAF	Qty.
10845	6mm-1.00	10mm	100
10843	8mm-1.25	12mm	100
10844	10mm-1.25	14mm	100

METRICS



IBS, INCORPORATED

Assortments Z02

J.I.S. Hex Head Capscrews Assortment

IBS No. 697R • 20 Items • 595 Pieces

Packaged in a locking steel drawer for easy storage & organization



JIS Hex Head Capscrews

Assortment No. 697R

10802 M8-1.25 X 16 JIS HEX C/S ZP 	10803 M8-1.25 X 20 JIS HEX C/S ZP 	10804 M8-1.25 X 25 JIS HEX C/S ZP 	10805 M8-1.25 X 30 JIS HEX C/S ZP 	10807 M8-1.25 X 40 JIS HEX C/S ZP 	10811 M10-1.25 X 20 JIS HEX C/S ZP 
10812 M10-1.25 X 25 JIS HEX C/S ZP 	10813 M10-1.25 X 30 JIS HEX C/S ZP 	10814 M10-1.25 X 35 JIS HEX C/S ZP 	10815 M10-1.25 X 40 JIS HEX C/S ZP 	10816 M10-1.25 X 45 JIS HEX C/S ZP 	10817 M10-1.25 X 50 JIS HEX C/S ZP 
10822 M12-1.25 X 25 JIS HEX C/S ZP 	10823 M12-1.25 X 30 JIS HEX C/S ZP 	10824 M12-1.25 X 35 HEX C/S JIS ZP 	10825 M12-1.25 X 40 JIS HEX C/S ZP 	10827 M12-1.25 X 50 JIS HEX C/S ZP 	
10840 M8-1.25 JIS HEX NUT ZP 	10841 M10-1.25 JIS HEX NUT ZP 	10842 M12-1.25 JIS HEX NUT ZP 			

Metric J.I.S. Flange Bolts Assortment

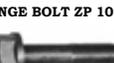
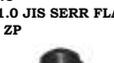
IBS No. 779R • 24 Items • 605 Pieces

Packaged in a locking steel drawer for easy storage & organization



Metric JIS Flange Bolts

Assortment No. 779R

10850 M6-1.0 X 12 JIS FLANGE BOLT ZP 10.9 	10851 M6-1.0 X 16 JIS FLANGE BOLT ZP 10.9 	10852 M6-1.0 X 20 JIS FLANGE BOLT ZP 10.9 	10856 M6-1.0 X 25 JIS FLANGE BOLT ZP 10.9 	10853 M6-1.0 X 30 JIS FLANGE BOLT ZP 10.9 	10854 M6-1.0 X 35 JIS FLANGE BOLT ZP 10.9 
10855 M6-1.0 X 40 JIS FLANGE BOLT ZP 10.9 	10860 M8-1.25 X 12 JIS FLANGE BOLT ZP 10.9 	10861 M8-1.25 X 16 JIS FLANGE BOLT ZP 10.9 	10862 M8-1.25 X 20 JIS FLANGE BOLT ZP 10.9 	10863 M8-1.25 X 25 JIS FLANGE BOLT ZP 10.9 	10864 M8-1.25 X 30 JIS FLANGE BOLT ZP 10.9 
10865 M8-1.25 X 35 JIS FLANGE BOLT ZP 10.9 	10866 M8-1.25 X 40 JIS FLANGE BOLT ZP 10.9 	10870 M10-1.25 X 16 JIS FLANGE BOLT ZP 10.9 	10871 M10-1.25 X 20 JIS FLANGE BOLT ZP 10.9 	10872 M10-1.25 X 25 JIS FLANGE BOLT ZP 10.9 	10873 M10-1.25 X 30 JIS FLANGE BOLT ZP 10.9 
10874 M10-1.25 X 35 JIS FLANGE BOLT ZP 10.9 	10875 M10-1.25 X 40 JIS FLANGE BOLT ZP 10.9 	10877 M10-1.25 X 50 JIS FLANGE BOLT ZP 10.9 	10845 M6-1.0 JIS SERR FLANGE NUT ZP 	10843 M8-1.25 JIS SERR FLANGE NUT ZP 	10844 M10-1.25 JIS SERR FLANGE NUT ZP 

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Metric Hex Flange Bolts

10.9 • ZINC PLATED

Flange bolts are often used in vehicle frames, especially in trucks and anywhere a head bolt is required. They can speed up assembly because of the stop the washer head creates when using socket tools and eliminates the need for a washer. They render four times the bearing area than that of a standard hex screw.



METRIC HEX FLANGE BOLTS

Length	M6-1.0	M8-1.25	M10-1.5	M12-1.75	Qty	Length
W.A.F.*	8MM	10MM	13MM	15MM		
16	30402	30510			10	16
20	30403	30511	30620		10	20
25	30404	30512	30621	30730	10	25
30	30405	30513	30622	30731	10	30
35	30406	30514	30623	30732	10	35
40	30407	30515	30624	30733	10	40
45	30408	30516	30625	30734	10	45
50	30409	30517	30626	30735	10	50
60		30519	30627	30736	10	60
70		30520	30628	30737	10	70
80		30521		30738	10	80
90				30739	10	90
100				30740	10	100
110				30741	10	110
120				30742	10	120

* W.A.F. = With Across Flat

Metric 10.9 Flange Bolt Assortment (Z02)

IBS No. 810R • 20 Items • 515 Pcs

Packaged in a locking steel drawer for easy storage & organization



IBS, Inc.

SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR
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Metric 10.9 Hex Flange Bolts - Zinc Plated

Assortment No. 810R

<p>30800 M6-1.0 HEX FLANGE NUT CL10 ZP</p> 	<p>30402 M6-1.0 X 16 HEX FLANGE BOLT 10.9 ZP</p> 	<p>30403 M6-1.0 X 20 HEX FLANGE BOLT 10.9 ZP</p> 	<p>30404 M6-1.0 X 25 HEX FLANGE BOLT 10.9 ZP</p> 	<p>30405 M6-1.0 X 30 HEX FLANGE BOLT 10.9 ZP</p> 
<p>30801 M8-1.25 HEX FLANGE NUT CL10 ZP</p> 	<p>30510 M8-1.25 X 16 HEX FLANGE BOLT 10.9 ZP</p> 	<p>30511 M8-1.25 X 20 HEX FLANGE BOLT 10.9 ZP</p> 	<p>30512 M8-1.25 X 25 HEX FLANGE BOLT 10.9 ZP</p> 	<p>30513 M8-1.25 X 30 HEX FLANGE BOLT 10.9 ZP</p> 
<p>30802 M10-1.5 HEX FLANGE NUT CL10 ZP</p> 	<p>30620 M10-1.5 X 20 HEX FLANGE BOLT 10.9 ZP</p> 	<p>30621 M10-1.5 X 25 HEX FLANGE BOLT 10.9 ZP</p> 	<p>30622 M10-1.5 X 30 HEX FLANGE BOLT 10.9 ZP</p> 	<p>30624 M10-1.5 X 40 HEX FLANGE BOLT 10.9 ZP</p> 
<p>30803 M12-1.75 HEX FLANGE NUT CL10 ZP</p> 	<p>30730 M12-1.75 X 25 HEX FLANGE BOLT 10.9 ZP</p> 	<p>30731 M12-1.75 X 30 HEX FLANGE BOLT 10.9 ZP</p> 	<p>30733 M12-1.75 X 40 HEX FLANGE BOLT 10.9 ZP</p> 	<p>30735 M12-1.75 X 50 HEX FLANGE BOLT 10.9 ZP</p> 

METRICS



IBS, INCORPORATED

Metric Stainless Steel H19

Metric Stainless Steel Fasteners



Stainless Steel Metric Capscrews

Length	M4	M5	M6	M8	M10	Qty	M12	M14	M16	Qty	Length
10			91451	92010		25					10
12	908		915	92012		25					12
16	909	911	915A	921	929	25					16
20	910	912	916	922	930	25	93610	93620	93630	10	20
25		913	917	923	931	25	93611	93621	93631	10	25
30		914	918	924	932	25	93612	93622	93632	10	30
35			919	925	933	25	93613	93623	93633	10	35
40			920	926	934	25	93614	93624	93634	10	40
45					935	25	93615		93635	10	45
50					936	25	93616	93626	93636	10	50



Fin Hex Nuts SS

IBS No.	Size	Qty
960	M4	100
961	M5	100
962	M6	100
963	M8	100
964	M10	100
965	M12	25
966	M14	25
967	M16	25



Nylon Insert Lock Nuts SS

IBS No.	Size	Qty
980	M4	100
981	M5	100
982	M6	100
983	M8	50
984	M10	25
985	M12	25
986	M14	10
987	M16	10



Flat Washer SS

IBS No.	Size	Qty
940	M4	100
941	M5	100
942	M6	100
943	M8	100
944	M10	100
945	M12	25
946	M14	25
947	M16	25



Lock Washers

IBS No.	Size	Qty
950	M4	100
951	M5	100
952	M6	100
953	M8	100
954	M10	100
955	M12	25
956	M14	25
957	M16	25



Stainless Steel Metric Socket Head Capscrews

Length	M4	M5	M6	M8	Qty	M10	Qty	M12	Qty	Length
10	96850	96855	96860	96870	25					10
16	96851	96856	96861	96871	25					16
20	96852	96857	96862	96872	25	96880	15	96890	10	20
25	96853	96858	96863	96873	25	96881	15	96891	10	25
30			96864	96874	25	96882	15	96892	10	30
35				96875	25	96883	15	96893	10	35
40				96876	25	96884	15	96894	10	40
45				96877	25	96885	15	96895	10	45
Key Size	3mm	4mm	5mm	6mm		8mm		10mm		Key Size

METRICS



Metric Stainless Steel Socket Set Screws



Length	M4	M5	M6	M8	M10	M12	Length
6	96900	96905					6
8	96901	96906	96910				8
10	96902	96907	96911	96915			10
12	96903	96908	96912	96916	96920		12
16			96913	96917	96921	96925	16
20				96918	96922	96926	20
25					96923	96927	25
30						96928	30
QTY	25	25	25	25	15	10	QTY

Metric Socket Set Screw Assortment Stainless Steel (Z02)

IBS No. 405R • 24 Items • 206 Pieces



 IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLTY.COM © © © 800-878-1566</small>						Stainless Steel Metric Socket Set Screws Assortment No. 405R					
96900 M4 X 6 SOC SET SCREW SS  Hex Key: 2mm	96905 M5 X 6 SOC SET SCREW SS  Hex Key: 2.5mm	96910 M6 X 8 SOC SET SCREW SS  Hex Key: 3mm	96915 M8 X 10 SOC SET SCREW SS  Hex Key: 4mm	96920 M10 X 12 SOC SET SCREW SS  Hex Key: 5mm	96925 M12 X 16 SOC SET SCREW SS  Hex Key: 6mm						
96901 M4 X 8 SOC SET SCREW SS  Hex Key: 2mm	96906 M5 X 8 SOC SET SCREW SS  Hex Key: 2.5mm	96911 M6 X 10 SOC SET SCREW SS  Hex Key: 3mm	96916 M8 X 12 SOC SET SCREW SS  Hex Key: 4mm	96921 M10 X 16 SOC SET SCREW SS  Hex Key: 5mm	96926 M12 X 20 SOC SET SCREW SS  Hex Key: 6mm						
96902 M4 X 10 SOC SET SCREW SS  Hex Key: 2mm	96907 M5 X 10 SOC SET SCREW SS  Hex Key: 2.5mm	96912 M6 X 12 SOC SET SCREW SS  Hex Key: 3mm	96917 M8 X 16 SOC SET SCREW SS  Hex Key: 4mm	96922 M10 X 20 SOC SET SCREW SS  Hex Key: 5mm	96927 M12 X 25 SOC SET SCREW SS  Hex Key: 6mm						
96903 M4 X 12 SOC SET SCREW SS  Hex Key: 2mm	96908 M5 X 12 SOC SET SCREW SS  Hex Key: 2.5mm	96913 M6 X 16 SOC SET SCREW SS  Hex Key: 3mm	96918 M8 X 20 SOC SET SCREW SS  Hex Key: 4mm	96923 M10 X 25 SOC SET SCREW SS  Hex Key: 5mm	96928 M12 X 30 SOC SET SCREW SS  Hex Key: 6mm						

METRICS



IBS, INCORPORATED

Metric Stainless Steel H19

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Stainless Steel Fasteners

A

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- Fender Washer, SS I-4
- Flat Socket Head Capscrews, SS I-7
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C

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- Stainless Steel
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- Stainless Steel I-15

D

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- Long Security Hex Driver Bits I-14

E

Fasteners

- General Information
 - Stainless Steel I-2
- Sizing Chart
 - Commercial Flat Washers SS I-3
 - Square Drive Pan Head Tek® Screws SS I-12
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 - Button Socket Capscrews with Pin SS I-13
 - Button Socket Tapping Screws with Pin SS I-13

- Cotter Pins I-15
- Fender Washer I-4
- Finished Hex Nuts I-3
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- Phillips Machine Screws Pan Head I-8
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- Phillips Tapping Screws Oval Head I-10, I-11
- Phillips Tapping Screws Pan Head I-9
- Socket Head Capscrews I-6, I-7
- Socket Set Screws I-8
- Trim Hex Head Machine Screws I-6
- Wing Nuts I-3

H

Hex Nuts

- Finished
 - Stainless Steel I-3
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 - Stainless Steel I-3

L

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M

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- Wing Nut
 - Stainless Steel I-3

S

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 - Phillips Flat Head I-9
 - Phil Pan Head I-8
 - Trim Hex Head I-6

Screws, Security

- Button Socket Capscrews with Pin SS I-13
- Button Socket Tapping Screws with Pin SS I-13

Screws, Tapping

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 - Button Soc Security I-13
 - Phil Flat Head I-10
 - Phil Oval Head I-10
 - Phil Pan Head I-9

Set Screws

- Socket
 - Stainless Steel I-8

- Square Drive Pan Hd Tek® S.S. I-12



Stainless Steel I-2

I

Teks Screws

Square Drive Pan Head

Stainless I-12

Tools

Hex Security Wrenches I-14

W

Washers, Flat

Stainless Steel

Fender I-4

Stainless Steel, Commercial I-3

Washers, Lock

Stainless Steel, Medium I-3

Stainless Steel

Stainless Steels (Iron alloys) generally contain from 12 to 30 per cent Chromium and from 0 to 20 per cent Nickel. This formulation can then be further modified by additions of Carbon and other minor elements. These additions are made to obtain specific effects; i.e. to control mechanical properties or to improve corrosion resistance. As a result stainless steel fasteners possess superior strength and offer considerable resistance to corrosion and elevated temperatures over plain carbon and lower alloy type fasteners.

Stainless steels may be divided into three general classifications:

1. **Martensitic.** Straight chromium, hardenable. Martensitic stainless steel contain from 12 to 20 percent chromium. They may be cold worked with reasonably good result and hot forged with limitations. They are generally used because of their ability to be hardened and tempered by heat treatment. They are also magnetic. Commonly these are the Type 410 and 416 fastening alloys.
2. **Ferritic.** Straight chromium, non-hardenable. These may be hot forged with better results than the Martensitic Steels and may also be cold worked with reasonably good results. These are magnetic and are not hardenable by heat treatment. These are more economical than Austenitic steels but do not have the corrosion resistance that they offer. These are typically Types 430 and 430F fasteners.
3. **Austenitic.** Chrome-nickel, non-hardenable. These make up the 18-8 (or 300) series of fasteners. 18-8 was the original chrome-nickel ratio, but many modifications have been made in the ratio. Small percentages of molybdenum, columbium, or titanium may be added to obtain special characteristics; i.e. increased corrosion resistance, to grain growth when welded, etc. These are not hardenable by heat treatment, non-magnetic, and offer the greatest resistance to corrosion. Some grades are highly resistant to heat. All grades of austenitic work harden very rapidly at room temperature and some grades hot forge fairly well.

Stainless steel fasteners have almost as many uses as there are problems of corrosion, temperature and strength. Stainless steel is a very versatile metal due in part to its high tensile strength, corrosion resistant qualities and ability to attain a mirror-like finish. It is typically used in the petroleum, chemical, food, plumbing, transportation and oil equipment industries. These are just a few of its applications.

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IBS, INCORPORATED

Hex Nuts & Washers SS I01 - I08



Finished Hex Nuts (I01)



IBS No.	Size	Pkg Qty
11011	1/4-20	100
11012	5/16-18	100
11013	3/8-16	50
11014	7/16-14	50
11015	1/2-13	25
11016	5/8-11	25
11017	3/4-10	25

Machine Screw Nuts (I01)



IBS No.	Size	Pkg Qty
11001	4-40	100
11002	6-32	100
11003	8-32	100
11004	10-24	100
11005	10-32	100
11006	12-24	100
11007	1/4-20	100

Nylon Insert Lock Nuts (I05)



IBS No.	Size	Pkg Qty
11052	6-32	100
11053	8-32	100
11054	10-24	100
11055	10-32	100
11056	1/4-20	50
11057	5/16-18	50
11058	3/8-16	25
11058A	7/16-14	25
11059	1/2-13	10
11060	5/8-11	10
11061	3/4-10	10

Wing Nuts SS (I05)



IBS No.	Size	Pkg Qty
11069	1/4-20	25
11070	5/16-18	25
11071	3/8-16	25

Medium Lockwasher SS (I08)



IBS No.	Size	Pkg Qty
11117	#4	100
11118	#6	100
11119	#8	100
11120	#10	100
11121	#12	100
11122	1/4	100
11123	5/16	100
11124	3/8	100
11125	7/16	50
11126	1/2	50
11127	5/8	50
11128	3/4	25

Commercial Flat Washers SS (I07)



IBS No.	Size	O.D.	I.D.	THK	Qty
11097	#4	.312	.125	.031	100
11098	#6	.373	.156	.031	100
11099	#8	.373	.172	.031	100
11100	#10	.435	.203	.031	100
11101	#12	.560	.250	.050	100
11102	1/4	.747	.304	.065	100
11103	5/16	.875	.312	.065	100
11104	3/8	1.000	.391	.062	100
11105	7/16	1.125	.500	.062	50
11106	1/2	1.250	.562	.062	50
11107	5/8	1.500	.688	.079	50
11108	3/4	1.750	.812	.089	25

AN960 Flat Washers SS (I07)



IBS No.	Size	O.D.	I.D.	THK	Qty
11132	1/4	.500	.265	.062	100
11133	5/16	.562	.328	.062	100
11134	3/8	.625	.390	.062	100
11135	7/16	.750	.453	.062	50
11136	1/2	.875	.516	.062	50
11137	5/8	1.187	.641	.062	50
11138	3/4	1.312	.766	.0937	25

S T A I N L E S S



IBS, INCORPORATED

Hex Nuts & Washers SS I01 - I08

Fender Washer SS (I07)



IBS No.	Size	Pkg Qty
12074	10 X 1	100
12075	1/4 X 1	100
12076	1/4 X 1-1/4	100
12077	1/4 X 1-1/2	100
12078	1/4 X 2	25
12079	5/16 X 1	100
12080	5/16 X 1-1/2	100
12081	5/16 X 2	25
12082	3/8 X 1-1/2	50
12083	3/8 X 2	25
12084	1/2 X 2	25

Fender Washer, SS Assortment (Z02)

IBS No. 850R • 11 ITEMS 345 PIECES

Packaged in a locking steel drawer for easy storage & organization





IBS, Inc.
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR
INDUSTRIALBOLT.COM © © © 800-678-1906

Fender Washers
Stainless Steel

Assortment No. 850R

<p>12074 10 X 1 FENDER WASHER SS</p>  	<p>12075 1/4 X 1 FENDER WASHER SS</p>  	<p>12076 1/4 X 1-1/4 FENDER WASHER SS</p>  
<p>12077 1/4 X 1-1/2 FENDER WASHER SS</p>  	<p>12078 1/4 X 2 FENDER WASHER SS</p>  	<p>12079 5/16 X 1 FENDER WASHER SS</p>  
<p>12080 5/16 X 1-1/2 FENDER WASHER SS</p>  	<p>12081 5/16 X 2 FENDER WASHER SS</p>  	<p>12082 3/8 X 1-1/2 FENDER WASHER SS</p>  
<p>12083 3/8 X 2 FENDER WASHER SS</p>  	<p>12084 1/2 X 2 FENDER WASHER SS</p>  	

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IBS, INCORPORATED

NC Hex Hd C/S SS I12



Hex Head Cap Screws SS National Coarse



Size	1/4-20		5/16-18		3/8-16		7/16-14		1/2-13		5/8-11		3/4-10		Size
	IBS No.	Qty													
1/2	11340	50	11360	50	11380	50									1/2
3/4	11342	50	11362	50	11382	50									3/4
1	11344	50	11364	50	11384	50	11400	25	11412	25					1
1-1/4	11345	50	11366	50	11386	50	11402	25	11414	25	11433	15			1-1/4
1-1/2	11346	50	11367	50	11387	50	11403	25	11415	25	11434	15	11454	10	1-1/2
1-3/4	11347	50	11368	50	11388	50	11404	25			11435	15			1-3/4
2	11348	50	11369	50	11389	50	11405	25	11417	25	11436	15	11456	10	2
2-1/2	11350	25	11371	25	11391	25	11407	10	11419	10	11438	10	11458	10	2-1/2
3			11373	25	11393	25	11409	10	11421	10	11440	10	11460	10	3
3-1/2			11375	10	11395	10			11423	10	11442	10			3-1/2
4									11425	10	11444	10			4

Stainless Steel Assortment (Z06) IBS No. 445P • 40 Items - 1,316 Pieces USS SS BOLTS, COMMERCIAL SS FLAT WASHERS USS SS FINISHED NUTS, SS LOCKWASHERS

445P • STAINLESS STEEL ASSORTMENT • 40 Items

1/4-20 Hex Nut	1/4 Med LW	1/4 Com FW	1/4 x 1/2 Capscrew	1/4 x 3/4 Capscrew	1/4 x 1 Capscrew	1/4 x 1-1/4 Capscrew	1/4 x 1-1/2 Capscrew	11011	11122	11102	11340	11342	11344	11345	11346
5/16-18 Hex Nut	5/16 Med LW	5/16 Com FW	5/16 x 1/2 Capscrew	5/16 x 3/4 Capscrew	5/16 x 1 Capscrew	5/16 x 1-1/4 Capscrew	5/16 x 1-1/2 Capscrew	11012	11123	11103	11360	11362	11364	11366	11367
3/8-16 Hex Nut	3/8 Med LW	3/8 Com FW	3/8 x 1/2 Capscrew	3/8 x 3/4 Capscrew	3/8 x 1 Capscrew	3/8 x 1-1/4 Capscrew	3/8 x 1-1/2 Capscrew	11013	11124	11104	11380	11382	11384	11386	11387
7/16-14 Hex Nut	5/16 Med LW	7/16 Com FW	7/16 x 1 Capscrew	7/16 x 1-1/4 Capscrew	7/16 x 1-1/2 Capscrew	7/16 x 1-3/4 Capscrew	7/16 x 2 Capscrew	11014	11125	11105	11400	11402	11403	11404	11405
1/2-13 Hex Nut	1/2 Med LW	1/2 Com FW	1/2 x 1 Capscrew	1/2 x 1-1/4 Capscrew	1/2 x 1-1/2 Capscrew	1/2 x 2 Capscrew	1/2 x 2-1/2 Capscrew	11015	11126	11106	11412	11414	11415	11417	11419

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IBS, INCORPORATED

Socket C/S SS (I13)

Trim Hex Head Machine Screws SS (I25)

• Deep Twist-Resistant Slots eliminate screwdriver slippage.

• Threads Are Feather-Free for faster and easier assemblies.



Size	6-32 IBS No.	8-32 IBS No.	10-24 IBS No.	10-32 IBS No.	Pkg Qty	Size
1/4					50	1/4
3/8	NS*	NS*	NS*	NS*	50	3/8
1/2	12701	12709	12717	12727	50	1/2
5/8	NS*	NS*	NS*	NS*	50	5/8
3/4	12703	12711	12719	12729	50	3/4
1	12704	12712	12721	12731	50	1
1-1/4			NS*	NS*	25	1-1/4
1-1/2			NS*	NS*	25	1-1/2
2			NS*		25	2

* Product may be ordered as a non-stock item

Socket Head C/S SS (I13)



Size	6-32 IBS No.	8-32 IBS No.	10-24 IBS No.	10-32 IBS No.	1/4-20 IBS No.	5/16-18 IBS No.	3/8-16 IBS No.	1/2-13 IBS No.	Pkg Qty	Size
1/4	11500								100	1/4
1/2	11501	11504	11512	11520	11526				50	1/2
3/4	11502	11505	11513	11521	11528	11539	11550	11560	50	3/4
1	11503	11506	11514	11522	11530	11541	11552	11562	50	1
1-1/4					11531				50	1-1/4
1-1/2		11508	11516	11523	11532	11544	11553	11564	50	1-1/2
2		11510	11518	11525	11534	11546	11556	11566	25	2
2-1/2								11567	10	2-1/2
3								11568	10	3

Socket Head Capscrews, SS Assortment (Z02)

IBS No. 836R • 24 ITEMS 850 PIECES

Packaged in a locking steel drawer for easy storage & organization





Socket Screw Size	Hex Size
1/4"	3/16"
3/8"	1/2"
1/2"	3/4"
5/8"	1 1/8"
3/4"	1 1/4"
1"	1 3/8"
1 1/4"	1 7/8"
1 1/2"	2"
2"	2 1/4"
2 1/2"	2 7/8"
3"	3 1/4"

**Stainless Steel
Socket Head Cap Screws**

Assortment No. 836R

<p>11501 6-32 X 1/2 SOCKET HD C/S SS</p> 	<p>11503 6-32 X 1 SOCKET HD C/S SS</p> 	<p>11504 8-32 X 1/2 SOCKET HD C/S SS</p> 	<p>11505 8-32 X 3/4 SOCKET HD C/S SS</p> 	<p>11506 8-32 X 1 SOCKET HD C/S SS</p> 	<p>11512 10-24 X 1/2 SOCKET HD C/S SS</p> 
<p>11513 10-24 X 3/4 SOCKET HD C/S SS</p> 	<p>11514 10-24 X 1 SOCKET HD C/S SS</p> 	<p>11520 10-32 X 1/2 SOCKET HD C/S SS</p> 	<p>11521 10-32 X 3/4 SOCKET HD C/S SS</p> 	<p>11522 10-32 X 1 SOCKET HD C/S SS</p> 	<p>11526 1/4-20 X 1/2 SOCKET HD C/S SS</p> 
<p>11528 1/4-20 X 3/4 SOCKET HD C/S SS</p> 	<p>11530 1/4-20 X 1 SOCKET HD C/S SS</p> 	<p>11532 1/4-20 X 1-1/2 SOCKET HD C/S SS</p> 	<p>11534 1/4-20 X 2 SOCKET HD C/S SS</p> 	<p>11539 5/16-18 X 3/4 SOCKET HD C/S SS</p> 	<p>11541 5/16-18 X 1 SOCKET HD C/S SS</p> 
<p>11544 5/16-18 X 1-1/2 SOCKET HD C/S SS</p> 	<p>11552 3/8-16 X 1 SOCKET HD C/S SS</p> 	<p>11553 3/8-16 X 1-1/2 SOCKET HD C/S SS</p> 	<p>11556 3/8-16 X 2 SOCKET HD C/S SS</p> 		



Flat Head Socket C/S SS (I13)

Size	#6 IBS No.	#8 IBS No.	#10-24 IBS No.	10-32 IBS No.	1/4-20 IBS No.	5/16-18 IBS No.	3/8-16 IBS No.	1/2-13 IBS No.	Pkg Qty	Size
1/4	11950	11955	11960						100	1/4
3/8	11951	11956	11961	11965					100	3/8
1/2	11952	11957	11962	11966	11970				50	1/2
3/4	11953	11958	11963	11967	11971	11976	11981		50	3/4
1	11954	11959	11964	11968	11972	11977	11982	11986	50	1
1-1/4					11973	11978	11983		50	1-1/4
1-1/2					11974	11979	11984	11988	50	1-1/2
2					11975	11980	11985	11989	25	2

Flat Socket Head Capscrews, SS Assortment (Z02)

IBS No. 838R • 24 ITEMS 1080 PIECES

Packaged in a locking steel drawer for easy storage & organization



IBS Inc.		Stainless Steel Flat Socket Cap Screws	
PRECISION PRODUCTS FOR MANUFACTURE & SERVICE INDUSTRIAL/AGRI/CON. 8 8 C 888-878-1808		Assortment No. 838R	
11982 6-32 X 1/2 FLAT SOCKET C/S SS	11983 6-32X 3/4 FLAT SOCKET C/S SS	11984 6-32 X 1 FLAT SOCKET C/S SS	11987 8-32 X 1/2 FLAT SOCKET C/S SS
11985 10-24 X 1/2 FLAT SOCKET C/S SS	11986 10-24 X 3/4 FLAT SOCKET C/S SS	11988 10-24 X 1 FLAT SOCKET C/S SS	11991 8-32 X 1 FLAT SOCKET C/S SS
11990 1/4-20 X 1/2 FLAT SOCKET C/S SS	11991 1/4-20 X 3/4 FLAT SOCKET C/S SS	11992 1/4-20 X 1 FLAT SOCKET C/S SS	11994 1/4-20 X 1-1/2 FLAT SOCKET C/S SS
11978 5/16-18 X 1-1/4 FLAT SOCKET C/S SS	11979 5/16-18 X 1-1/2 FLAT SOCKET C/S SS	11981 3/8-16 X 3/4 FLAT SOCKET C/S SS	11982 3/8-16 X 1 FLAT SOCKET C/S SS
		11983 3/8-16 X 1-1/4 FLAT SOCKET C/S SS	11984 3/8-16 X 1-1/2 FLAT SOCKET C/S SS

Button Head Socket C/S SS (I13)



Size	6-32 IBS No.	8-32 IBS No.	10-24 IBS No.	10-32 IBS No.	1/4-20 IBS No.	5/16-18 IBS No.	3/8-16 IBS No.	1/2-13 IBS No.	Pkg Qty	Size
1/4	11900	11905	11910						100	1/4
3/8	11901	11906	11911	11915					100	3/8
1/2	11902	11907	11912	11916	11920				50	1/2
3/4	11903	11908	11913	11917	11921	11926	11931		50	3/4
1	11904	11909	11914	11918	11922	11927	11932	11936	50	1
1-1/4					11923	11928	11933		50	1-1/4
1-1/2					11924	11929	11934	11938	50	1-1/2
2					11925	11930	11935	11939	25	2

Button Head Socket Capscrews, SS Assortment (Z02)

IBS No. 837R • 24 ITEMS 1060 PIECES

Packaged in a locking steel drawer for easy storage & organization



IBS Inc.		Stainless Steel Button Socket Cap Screws	
PRECISION PRODUCTS FOR MANUFACTURE & SERVICE INDUSTRIAL/AGRI/CON. 8 8 C 888-878-1808		Assortment No. 837R	
11902 6-32 X 1/2 BUTTON SOCKET C/S SS	11903 6-32X 3/4 BUTTON SOCKET C/S SS	11904 6-32 X 1 BUTTON SOCKET C/S SS	11907 8-32 X 1/2 BUTTON SOCKET C/S SS
11912 10-24 X 1/2 BUTTON SOCKET C/S SS	11913 10-24 X 3/4 BUTTON SOCKET C/S SS	11914 10-24 X 1 BUTTON SOCKET C/S SS	11916 10-24 X 1/2 BUTTON SOCKET C/S SS
11920 1/4-20 X 1/2 BUTTON SOCKET C/S SS	11921 1/4-20 X 3/4 BUTTON SOCKET C/S SS	11922 1/4-20 X 1 BUTTON SOCKET C/S SS	11924 1/4-20 X 1-1/2 BUTTON SOCKET C/S SS
11928 5/16-18 X 1-1/4 BUTTON SOCKET C/S SS	11929 5/16-18 X 1-1/2 BUTTON SOCKET C/S SS	11931 3/8-16 X 3/4 BUTTON SOCKET C/S SS	11932 3/8-16 X 1 BUTTON SOCKET C/S SS
		11933 3/8-16 X 1-1/4 BUTTON SOCKET C/S SS	11934 3/8-16 X 1-1/2 BUTTON SOCKET C/S SS

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IBS, INCORPORATED

Socket C/S SS (I13)

Socket Set Screws SS (I13)



Size	10-24 IBS No.	10-32 IBS No.	1/4-20 IBS No.	5/16-18 IBS No.	3/8-16 IBS No.	1/2-13 IBS No.	Pkg Qty	Size
1/4	12963	12978	12991	13007			25	1/4
3/8			12993	13009	13022	13035	25	3/8
1/2	12967	12982	12995	13011	*NS	13037	25	1/2

* Product may be ordered as a non-stock item

Phillips Pan Head Machine Screws SS (I18)



Size	6-32 IBS No.	8-32 IBS No.	10-24 IBS No.	10-32 IBS No.	1/4-20 IBS No.	Pkg Qty	Size
1/4	12160					50	1/4
3/8	12162	12176			12216	50	3/8
1/2	12164	12178	12191	12205	12218	50	1/2
5/8			12192	12206	12219	50	5/8
3/4	12166	12180	12193	12207	12220	50	3/4
1	12168	12182	12195	12209	12222	50	1
1-1/4		12183	12196	12210	12223	25	1-1/4
1-1/2	12170	12184	12197	12211	12224	25	1-1/2
2				12212	12225	25	2

12225* Product may be ordered as a non-stock item

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SS Phillips Pan Head Machine Screws with Hex Nuts (Z02)

IBS No. 194R • 24 ITEMS 1150 PIECES
Packaged in a locking steel drawer for easy storage & organization



IBS, Inc.		Stainless Steel Phillips Pan Head Machine Screws with Hex Nuts			
Assortment No. 194R					
11002 6-32 MACHINE SCREW NUT SS	11003 8-32 MACHINE SCREW NUT SS	11006 10-32 MACHINE SCREW NUT SS	11004 10-24 MACHINE SCREW NUT SS	12196 10-24 X 1-1/4 PHIL PAN M/S SS	12220 1/4-20 X 3/4 PHIL PAN M/S SS
12164 6-32 X 1/2 PHIL PAN M/S SS	12178 8-32 X 1/2 PHIL PAN M/S SS	12205 10-32 X 1/2 PHIL PAN M/S SS	12191 10-24 X 1/2 PHIL PAN M/S SS	12197 10-24 X 1-1/2 PHIL PAN M/S SS	12222 1/4-20 X 1 PHIL PAN M/S SS
12166 6-32 X 3/4 PHIL PAN M/S SS	12180 8-32 X 3/4 PHIL PAN M/S SS	12207 10-32 X 3/4 PHIL PAN M/S SS	12193 10-24 X 3/4 PHIL PAN M/S SS	11007 1/4-20 MACHINE SCREW NUT SS	12223 1/4-20 X 1-1/4 PHIL PAN M/S SS
12168 6-32 X 1 PHIL PAN M/S SS	12182 8-32 X 1 PHIL PAN M/S SS	12209 10-32 X 1 PHIL PAN M/S SS	12195 10-24 X 1 PHIL PAN M/S SS	12215 1/4-20 X 1/2 PHIL PAN M/S SS	12224 1/4-20 X 1-1/2 PHIL PAN M/S SS



Phillips Flat Head Machine Screws SS



Size	6-32 IBS No.	8-32 IBS No.	10-24 IBS No.	10-32 IBS No.	1/4-20 IBS No.	Pkg Qty	Size
1/4	12271	NS*	NS*	NS*	NS*	50	1/4
3/8	12273	12287	12301	12314	12326	50	3/8
1/2	12275	12289	12303	12316	12328	50	1/2
5/8	NS*	NS*	NS*	NS*	NS*	50	5/8
3/4	12277	12291	12305	12318	12330	50	3/4
1	12279	12293	12307	12320	12332	50	1
1-1/4	NS*	12294	12308	12321	12333	25	1-1/4
1-1/2	NS*	12295	12309	12322	12334	25	1-1/2
2	NS*	NS*	NS*	NS*	12335	25	2

Phillips Oval Head Machine Screws SS



Size	4-40 IBS No.	6-32 IBS No.	8-32 IBS No.	10-24 IBS No.	10-32 IBS No.	1/4-20 IBS No.	Pkg Qty	Size
1/4	NS*	12376	NS*	NS*	NS*	NS*	50	1/4
3/8	NS*	12378	12392	NS*	NS*	NS*	50	3/8
1/2	NS*	12380	12394	12408	12421	12433	50	1/2
5/8	NS*	NS*	NS*	NS*	12422	NS*	50	5/8
3/4	NS*	12382	12396	12410	12423	12435	50	3/4
1	NS*	12384	12398	12412	12425	12437	50	1
1-1/4	NS*	NS*	NS*	NS*	NS*	12438	25	1-1/4
1-1/2	NS*	NS*	12400	12414	12427	12439	25	1-1/2
2	NS*	NS*	NS*	NS*	NS*	12440	25	2

* Product may be ordered as a non-stock item

Phillips Pan Head Tapping Screws SS



Size	#6 IBS No.	#8 IBS No.	#10 IBS No.	#12 IBS No.	#14 IBS No.	Pkg Qty	Size
3/8	12528	12537	12546			50	3/8
1/2	12529	12538	12547	12557	12567	50	1/2
5/8	12530	12539	12548	12558	12568	50	5/8
3/4	12531	12540	12549	12559	12569	50	3/4
1	12532	12541	12550	12560	12570	50	1
1-1/4	12533	12542	12551	12561	12571	50	1-1/4
1-1/2	12534	12543	12552	12562	12572	50	1-1/2
2			12554	12564	12574	50	2

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IBS, INCORPORATED

Phillips T/S SS I22

SS Phillips Pan Head Tapping Screws

IBS No. 195R • 24 ITEMS • 1200 PIECES
Packaged in a locking steel drawer for easy storage & organization



IBS, Inc.		Stainless Steel Phillips Pan Head Sheet Metal Screws			
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR		Assortment No. 195R			
12528 6 X 3/8 PHIL PAN T/S SS	12532 6 X 1 PHIL PAN T/S SS	12541 8 X 1 PHIL PAN T/S SS	12550 10 X 1 PHIL PAN T/S SS	12560 12 X 1 PHIL PAN T/S SS	12569 14 X 3/4 PHIL PAN T/S SS
12529 6 X 1/2 PHIL PAN T/S SS	12535 8 X 1/2 PHIL PAN T/S SS	12547 10 X 1/2 PHIL PAN T/S SS	12552 10 X 1-1/2 PHIL PAN T/S SS	12561 12 X 1-1/4 PHIL PAN T/S SS	12570 14 X 1-1/4 PHIL PAN T/S SS
12530 6 X 5/8 PHIL PAN T/S SS	12539 8 X 5/8 PHIL PAN T/S SS	12548 10 X 5/8 PHIL PAN T/S SS	12557 12 X 1/2 PHIL PAN T/S SS	12562 12 X 1-1/2 PHIL PAN T/S SS	12571 14 X 1-1/4 PHIL PAN T/S SS
12531 6 X 3/4 PHIL PAN T/S SS	12540 8 X 3/4 PHIL PAN T/S SS	12549 10 X 3/4 PHIL PAN T/S SS	12559 12 X 3/4 PHIL PAN T/S SS	12568 14 X 5/8 PHIL PAN T/S SS	12572 14 X 1-1/2 PHIL PAN T/S SS

Phillips Flat Head Tapping Screws SS



Size	#6 IBS No.	#8 IBS No.	#10 IBS No.	#12 IBS No.	#14 IBS No.	Pkg Qty	Size
3/8	12588	12597	12606			50	3/8
1/2	12589	12598	12607	12618		50	1/2
3/4	12591	12600	12609	12620	12630	50	3/4
1	12592	12601	12610	12621	12631	50	1
1-1/4	12593	12602	12611	12622	12632	50	1-1/4
1-1/2	12594	12603	12612	12623	12633	50	1-1/2
2			12614	12625	12635	50	2
3					NS*	50	3

* Product may be ordered as a non-stock item

Phillips Oval Head Tapping Screws SS



Size	#6 IBS No.	#8 IBS No.	#10 IBS No.	#12 IBS No.	#14 IBS No.	Pkg Qty	Size
1/2	12649	12658	12667	12677	12687	50	1/2
5/8	12650	12659	12668	12678		50	5/8
3/4	12651	12660	12669	12679	12689	50	3/4
1	12652	12661	12670	12680	12690	50	1
1-1/4	12653	12662	12671	12681	12691	50	1-1/4
1-1/2		12663	12372	12682	12692	50	1-1/2

Phil Oval Head Tapping Screws, Stainless Steel

IBS No. 171R • 24 Items • 1075 Pcs
Packaged in a locking steel drawer for easy storage & organization



IBS, Inc.		Stainless Steel Phillips Oval Head Tapping Screws			
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR		Assortment No. 171R			
12649 6 X 1/2 PHIL OVAL T/S SS	12653 6 X 1-1/4 PHIL OVAL T/S SS	12661 8 X 1 PHIL OVAL T/S SS	12665 10 X 3/4 PHIL OVAL T/S SS	12679 12 X 3/4 PHIL OVAL T/S SS	12689 14 X 3/4 PHIL OVAL T/S SS
12650 6 X 5/8 PHIL OVAL T/S SS	12658 8 X 1/2 PHIL OVAL T/S SS	12662 8 X 1-1/4 PHIL OVAL T/S SS	12670 10 X 1 PHIL OVAL T/S SS	12680 12 X 1 PHIL OVAL T/S SS	12690 14 X 1 PHIL OVAL T/S SS
12651 6 X 3/4 PHIL OVAL T/S SS	12659 8 X 5/8 PHIL OVAL T/S SS	12667 10 X 1/2 PHIL OVAL T/S SS	12671 10 X 1-1/4 PHIL OVAL T/S SS	12681 12 X 1-1/4 PHIL OVAL T/S SS	12691 14 X 1-1/4 PHIL OVAL T/S SS
12652 6 X 1 PHIL OVAL T/S SS	12660 8 X 3/4 PHIL OVAL T/S SS	12668 10 X 5/8 PHIL OVAL T/S SS	12672 10 X 1-1/2 PHIL OVAL T/S SS	12682 12 X 1-1/2 PHIL OVAL T/S SS	12692 14 X 1-1/2 PHIL OVAL T/S SS

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IBS, INCORPORATED

Teks Screws SS (I23)



Hex Washer Head Teks Screws SS (I23)



Size	#6 IBS No.	#8 IBS No.	#10 IBS No.	#12 IBS No.	#14 IBS No.	Pkg Qty	Size
1/2		12770	12774			50	1/2
3/4	12768	12771	12775	12780	12785	50	3/4
1	12769	12772	12776	12781	12786	50	1
1-1/4		12773	12777	12782	12787	25	1-1/4
1-1/2		12830	12778	12783	12788	25	1-1/2
2		12831	12832	12784	12789	25	2
2-1/2			12833	12835	12838	25	2-1/2
3			12834	12836	12839	25	3
4				12837	12840	25	4

HWH Teks® S.S. Assortment (Z02)

IBS No. 311R • 13 Items • 525 Pcs
Packaged in a locking steel drawer for easy storage & organization



IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & SERVICE INDUSTRIALBUILD.COM © 2012 300-670-1300				Stainless Steel Hex Washer Head TEK Screws			
Assortment No. 311R							
12770 6 X 1/2 HWH TEK SS Hex Size 1/4"	12771 8 X 3/4 HWH TEK SS Hex Size 1/4"	12772 8 X 1 HWH TEK SS Hex Size 1/4"	12830 8 X 1-1/2 HWH TEK SS Hex Size 1/4"	12774 10 X 1/2 HWH TEK SS Hex Size 5/16"	12775 10 X 3/4 HWH TEK SS Hex Size 5/16"	12776 10 X 1 HWH TEK SS Hex Size 5/16"	12778 10 X 1-1/2 HWH TEK SS Hex Size 5/16"
12780 12 X 3/4 HWH TEK SS Hex Size 5/16"	12781 12 X 1 HWH TEK SS Hex Size 5/16"	12783 12 X 1-1/2 HWH TEK SS Hex Size 5/16"	12784 12 X 2 HWH TEK SS Hex Size 5/16"	12785 14 X 3/4 HWH TEK SS Hex Size 5/16"	12786 14 X 1 HWH TEK SS Hex Size 5/16"	12788 14 X 1-1/2 HWH TEK SS Hex Size 5/16"	12789 14 X 2 HWH TEK SS Hex Size 5/16"

Phillips Pan Head Teks Screws SS (I23)



Length	Diameter				
	#6	#8	#10	#12	#14
1/2	12740	12745	12750		
3/4	12741	12746	12751	12755	12760
1	12742	12747	12752*	12756	12761
1-1/4				12757*	12762*
1-1/2		12748*	12753*	12758*	12763*
2"					12764*
Qty	100	100/50*	100/50*	50/25*	50/25*

Phil Pan Hd Teks® S.S. Assortment (Z02)

IBS No. 310R • 21 Items • 825 Pcs
Packaged in a locking steel drawer for easy storage & organization



IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & SERVICE INDUSTRIALBUILD.COM © 2012 300-670-1300				Stainless Steel Phillips Pan Head TEK Screws		
Assortment No. 310R						
12740 6 X 1/2 PHIL PAN TEK SS	12741 6 X 3/4 PHIL PAN TEK SS	12742 6 X 1 PHIL PAN TEK SS	12745 8 X 1/2 PHIL PAN TEK SS	12746 8 X 3/4 PHIL PAN TEK SS	12747 6 X 1 PHIL PAN TEK SS	12748 6 X 1-1/2 PHIL PAN TEK SS
12753 10 X 1-1/2 PHIL PAN TEK SS	12755 12 X 3/4 PHIL PAN TEK SS	12756 12 X 1 PHIL PAN TEK SS	12757 12 X 1-1/4 PHIL PAN TEK SS	12758 12 X 1-1/2 PHIL PAN TEK SS	12761 14 X 1-1/4 PHIL PAN TEK SS	12762 14 X 1-1/2 PHIL PAN TEK SS
12760 14 X 3/4 PHIL PAN TEK SS	12761 14 X 1 PHIL PAN TEK SS	12762 14 X 1-1/4 PHIL PAN TEK SS	12763 14 X 1-1/2 PHIL PAN TEK SS	12764 14 X 2 PHIL PAN TEK SS		

STAINLESS



IBS, INCORPORATED

Teks Screws SS (I23)

Square Drive Pan Head Tek Screws SS



Size	#6 IBS No.	#8 IBS No.	#10 IBS No.	#12 IBS No.	#14 IBS No.	Pkg Qty	Size
3/8	12800	12804				50	3/8
1/2	12801	12805	12811			50	1/2
5/8		12806	12812			50	5/8
3/4	12802	12807	12813	12818	12823	50	3/4
1	12803	12808	12814	12819	12824	50	1
1-1/4		12809	12815	12820	12825	50	1-1/4
1-1/2		12810	12816	12821	12826	50	1-1/2
2			12817	12822	12827	50	2

**Square Drive Pan Hd Tek[®]
S.S. Assortment (Z02)**
IBS No. 313R • 20 Items • 590 Pcs
Packaged in a locking steel drawer for easy
storage & organization



IBS, Inc.
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR
INDUSTRIALMARKET.COM © © 2 800-675-1908

**Stainless Steel Square Drive
Pan Head TEK Screws**

Assortment No. 313R

12801 6 X 1/2 SQUARE DR PAN TEK	12802 6 X 3/4 SQUARE DR PAN TEK	12803 6 X 1 SQUARE DR PAN TEK SCREW	12805 8 X 1/2 SQUARE DR PAN TEK	12807 8 X 3/4 SQUARE DR PAN TEK
12808 8 X 1 SQUARE DR PAN TEK SCREW	12810 8 X 1-1/2 SQUARE DR PAN TEK	12813 10 X 1/2 SQUARE DR PAN TEK	12813 10 X 3/4 SQUARE DR PAN TEK	12814 10 X 1 SQUARE DR PAN TEK
12816 10 X 1-1/2 SQUARE DR PAN TEK	12817 10 X 2 SQUARE DR PAN TEK	12818 12 X 3/4 SQUARE DR PAN TEK	12819 12 X 1 SQUARE DR PAN TEK	12821 12 X 1-1/2 SQUARE DR PAN TEK
12822 12 X 2 SQUARE DR PAN TEK	12823 14 X 3/4 SQUARE DR PAN TEK	12824 14 X 1 SQUARE DR PAN TEK	12826 14 X 1-1/2 SQUARE DR PAN TEK	12827 14 X 2 SQUARE DR PAN TEK

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IBS, INCORPORATED

Security Screws SS (I26)



Button Socket Machine Screws with Pin Stainless Steel Security Screws



Size	6-32 IBS No.	Pkg Qty	8-32 IBS No.	Pkg Qty	10-24 IBS No.	Pkg Qty	10-32 IBS No.	Pkg Qty	14-20 IBS No.	Pkg Qty	Size
1/2	12850	50	12853	50	12857	50	12863	50	12869	25	1/2
5/8					12858	50	12864	50	12870	25	5/8
3/4	12851	50	12854	50	12859	50	12865	50	12871	25	3/4
1	12852	50	12855	50	12860	25	12866	25	12872	25	1
1-1/4					12861	25	12867	25	12873	25	1-1/4
1-1/2			12856	25	12862	25	12868	25	12874	25	1-1/2
2									12875	10	2
Use with 1/8 Driver Bit IBS No. 12945			Use with 5/32 Driver Bit IBS No. 12946								

Button Socket Machine Screws with Pin Stainless Steel Security Screws Asst (Z02)

IBS No. 388R • 19 Items • 162 Pcs
Packaged in a locking steel drawer for easy storage & organization



IBS Inc. QUALITY PRODUCTS FOR MAINTENANCE & REPAIR WWW.IBSINC.COM • P.O. BOX 570-1100		Stainless Steel Button Socket Security Machine Screws								
Assortment No. 388R										
12850 6-32 X 1/2 SEC BS C/S SS 1/8 DRIVE	12851 6-32 X 3/4 SEC BS C/S SS 1/8 DRIVE	12852 6-32 X 1 SEC BS C/S SS 1/8 DRIVE	12853 8-32 X 1/2 SEC BS C/S SS 5/32 DRIVE	12854 8-32 X 3/4 SEC BS C/S SS 5/32 DRIVE	12855 8-32 X 1 SEC BS C/S SS 5/32 DRIVE	12857 10-24 X 1/2 SEC BS C/S SS 5/32 DRIVE	12859 10-24 X 3/4 SEC BS C/S SS 5/32 DRIVE	12860 10-24 X 1 SEC BS C/S SS 5/32 DRIVE	12863 10-32 X 1/2 SEC BS C/S SS 5/32 DRIVE	12865 10-32 X 3/4 SEC BS C/S SS 5/32 DRIVE
12865 10-32 X 3/4 SEC BS C/S SS 5/32 DRIVE	12866 10-32 X 1 SEC BS C/S SS 5/32 DRIVE	12871 1/4-20 X 3/4 SEC BS C/S SS 5/32 DRIVE	12872 1/4-20 X 1 SEC BS C/S SS 5/32 DRIVE	12874 1/4-20 X 1-1/2 SEC BS C/S SS 5/32 DRIVE	12880 10-24 SECURITY BREAKAWAY NUT	12881 1/4-20 SECURITY BREAKAWAY NUT	12945 1/8 HEX W/PIN 1/4 HEX DRIVER	12946 5/32 HEX W/PIN 1/4 HEX DRIVER		

Button Socket Tapping Screws with Pin Stainless Steel Security Screws



Size	#6 IBS No.	Pkg Qty	#8 IBS No.	Pkg Qty	#10 IBS No.	Pkg Qty	Size
3/8	12900	50	12904	50			3/8
1/2	12901	50	12905	50	12910	25	1/2
5/8							5/8
3/4	12902	25	12906	25	12911	25	3/4
1	12903	25	12907	25	12912	25	1
1-1/4			12908	25	12913	25	1-1/4
1-1/2			12909	25	12914	25	1-1/2
2					12915	25	2
Use with 1/8 Driver Bit IBS No. 12945			Use 5/32 Driver Bit IBS No. 12946				

S T A I N L E S S



IBS, INCORPORATED

Security Screws SS (I26)

Button Socket Security Tapping Screws SS Asst (Z02)

IBS No. 389R • 18 Items • 232 Pcs
Packaged in a locking steel drawer for easy storage & organization



IBS, Inc.		Stainless Steel Button Socket Security Tapping Screws		
Assortment No. 389R				
12900 6 X 3/8 SEC BS C/S SS 1/8 DRIVE	12901 6 X 1/2 SEC BS C/S SS 1/8 DRIVE	12902 6 X 3/4 SEC BS C/S SS 1/8 DRIVE	12903 6 X 1 SEC BS C/S SS 1/8 DRIVE	12904 8 X 3/8 SEC BS C/S SS 5/32 DRIVE
12905 8 X 1/2 SEC BS C/S SS 5/32 DRIVE	12906 8 X 3/4 SEC BS C/S SS 5/32 DRIVE	12907 8 X 1 SEC BS C/S SS 5/32 DRIVE	12908 8 X 1-1/4 SEC BS C/S SS 5/32 DRIVE	12909 8 X 1-1/2 SEC BS C/S SS 5/32 DRIVE
12910 10 X 1/2 SEC BS C/S SS 5/32 DRIVE	12911 10 X 3/4 SEC BS C/S SS 5/32 DRIVE	12912 10 X 1 SEC BS C/S SS 5/32 DRIVE	12913 10 X 1-1/4 SEC BS C/S SS 5/32 DRIVE	12914 10 X 1-1/2 SEC BS C/S SS 5/32 DRIVE
12915 10 X 2 SEC BS C/S SS 5/32 DRIVE			12945 1/8 HEX W/PIN 1/4 HEX DRIVER	12946 5/32 HEX W/PIN 1/4 HEX DRIVER

Breakaway Security Nuts



IBS No.	Size	Pkg Qty
12880	10-24	25
12881	1/4-20	25

Hex Security Wrenches (P12)



IBS No.	Size	Use With	Pkg Qty
12920	1/8	#6 Screws	2
12922	5/32	#8 & #10 Screws	2

Long Security Hex Driver Bits (P12)



IBS No.	Size	Use With	Pkg Qty
12944	3/32		2
12945	1/8	#6 Screws	2
12946	5/32	1/8 - 1/4 Screws	2
12947	3/16		2
12948	7/32		2

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IBS, INCORPORATED

Cotter Pins SS (I27)



Cotter Pins SS

Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty
1/16	1/2	13300	100	1/8	3/4	13315	100	3/16	1-1/2	13332	25
	3/4	13301	100		1	13316	100		2	13334	25
	1	13302	100		1-1/2	13318	50		2-1/2	13335	25
	1-1/2	13304	100		2	13320	50		3	13336	10
	2	13306	100		2-1/2	13321	50				
3/32	3/4	13308	100	5/32	3	13322	25				
	1	13309	100		1	13323	50				
	1-1/2	13311	100		1-1/2	13325	25				
	2	13313	50		2	13327	25				
					2-1.2	13328	25				
				3	13329	10					



Cotter Pins SS (Z02)

IBS No. 798R • 18 Items • 232 Pcs

Packaged in a locking steel drawer for easy storage & organization

S T A I N L E S S

 IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © 800-678-1906</small>						Stainless Steel Cotter Pins						Assortment No. 798R
13300 1/16 X 1/2 COTTER PIN SS 	13306 1/16 X 2 COTTER PIN SS 	13313 3/32 X 2 COTTER PIN SS 	13320 1/8 X 2 COTTER PIN SS 	13325 5/32 X 1-1/2 COTTER PIN SS 	13332 3/16 X 1-1/2 COTTER PIN SS 							
13301 1/16 X 3/4 COTTER PIN SS 	13308 3/32 X 3/4 COTTER PIN SS 	13315 1/8 X 3/4 COTTER PIN SS 	13321 1/8 X 2-1/2 COTTER PIN SS 	13327 5/32 X 2 COTTER PIN SS 	13334 3/16 X 2 COTTER PIN SS 							
13302 1/16 X 1 COTTER PIN SS 	13309 3/32 X 1 COTTER PIN SS 	13316 1/8 X 1 COTTER PIN SS 	13322 1/8 X 3 COTTER PIN SS 	13328 5/32 X 2-1/2 COTTER PIN SS 	13335 3/16 X 2-1/2 COTTER PIN SS 							
13304 1/16 X 1-1/2 COTTER PIN SS 	13311 3/32 X 1-1/2 COTTER PIN SS 	13318 1/8 X 1-1/2 COTTER PIN SS 	13323 5/32 X 1 COTTER PIN SS 	13329 5/32 X 3 COTTER PIN SS 	13336 3/16 X 3 COTTER PIN SS 							



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Rings & Pins

A

Assortments

- Clevis Pin K-5
- E-Clips, Regular & Reinforced K-13
- Hitch Pin K-9, K-10, K-11
- Key Stock K-21
- O-Ring
 - Metric K-15, K-17
 - Metric O-Rings K-17
 - Metric O-Ring Splice Kit K-17
 - Nitrile Air Conditioning O-Ring Assortment K-20
 - Standard K-14, K-19
 - Standard O-Rings K-15
 - Standard O-Ring Splice Kit K-15
- Viton
 - Viton O-Rings K-19
 - Viton O-Ring Splice Kit K-19
- Retaining Ring K-12
- Roll Pin K-3
- Snapper & Lynch Pins K-22
- Woodruff Key K-4

B

Ball Joints

- Assemblies K-8
- “Flat Top” K-8
- Quick Disconnect K-8
- Rod End K-7

C

Cotter Pins K-2

D

Dowel Pins K-21

H

Hitch Pins K-9

K

Key Stock, Square K-21

L

Lynch Pins K-22

O

O-Rings

- Cord Material K-15
- “O” Ring Cord K-15
- Metric K-16
- Splice Kit K-17
- Nitrile Air Conditioning O-Rings K-20
- Splice Kit K-17
- Standard K-14, K-18, K-20
- “O” Ring Cord K-15
- Viton K-18, K-20
- Viton O-Ring Splice Kit K-19

R

Retaining Rings

- “E” Type K-13
- Reinforced K-13
- External K-12
- Internal K-12

Roll Pins K-3

S

Snapper Pins K-22

Spring Pins

- Rolled K-3. *See also* Roll Pins

W

Woodruff Keys K-4

Y

Yoke Ends

- Drop Forged K-6



IBS, INCORPORATED

Cotter Pins K01

Cotter Pins

Extended Prong - Chisel Point Steel



Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty	
1/16 O.D. .063	1/2	13467	100	7/64 O.D. .109	3/4	13518	100	3/16 O.D. .188	3/4	13557	50	3/8 O.D. .375	2	13616	10	
	3/4	13468	100		1	13519	100		1	13558	50		2-1/2	13618	10	
	1	13469	100		1-1/2	13521	100		1-1/2	13560	50		3	13619	10	
	1-1/2	13471	100		2	13523	50		2	13562	25		4	13621	10	
	2	13473	50		1/2	13503	100		2-1/2	13564	25		5	13623	10	
5/64 O.D. .078	3/4	13492	100	3/4	13504	100	3	13565	25	6	13624		10	7/16 O.D. .438	2-1/2	13629
	1	13493	100	1	13505	100	1	13570	25	1-1/2	13572	25	3		13630	10
	1-1/2	13495	100	1-1/4	13506	100	1-1/2	13574	10	2-1/2	13576	10	3-1/2		13631	10
3/32 O.D. .094	2	13497	50	1-1/2	13507	100	2	13577	10	3	13579	10	1/2 O.D. .500	4	13632	10
	1/2	13479	100	1-3/4	13508	50	4	13581	10	5	13634	10		3	13641	10
	3/4	13480	100	2	13509	50	5	13581	10	6	13646	10		4	13643	10
	1	13481	100	2-1/2	13511	50	2-1/2	13604	10	3	13645	10	5	13645	10	
	1-1/4	13482	100	3	13512	50	3	13605	10	4	13647	10	6	13646	10	
	1-1/2	13483	100	1	13532	100	4	13607	10	5	13609	10	5	13645	10	
2	13485	50	1-1/4	13533	100	5	13609	10	6	13610	10	6	13646	10		
5/32 O.D. .156	1-1/2	13534	100	1-3/4	13535	50	2-1/2	13609	10	2-1/2	13604	10	2-1/2	13604	10	
	1-3/4	13535	50	2	13536	50	2-1/2	13604	10	3	13605	10	3	13605	10	
	2	13536	50	2-1/2	13538	50	4	13607	10	4	13607	10	4	13607	10	
	2-1/2	13538	50	3	13539	25	5	13609	10	5	13609	10	5	13609	10	
	3	13539	25				6	13610	10	6	13610	10	6	13610	10	

RINGS & PINS

Cotter Pin Assortment (Z02)

IBS No. 125R • 24 Items - 1545 Pieces
Packaged in a locking steel drawer for easy storage & organization

IBS, Inc. Cotter Pins					
Assortment No. 125R					
13469 1/16 X 1 COTTER PIN ZP	13471 1/16 X 1-1/2 COTTER PIN ZP	13473 1/16 X 2 COTTER PIN ZP	13481 3/32 X 1 COTTER PIN ZP	13483 3/32 X 1-1/2 COTTER PIN ZP	13577 1/4 X 3 COTTER PIN ZP
13485 3/32 X 2 COTTER PIN ZP	13532 5/32 X 1 COTTER PIN ZP	13534 5/32 X 1-1/2 COTTER PIN ZP	13505 1/8 X 1 COTTER PIN ZP	13507 3/8 X 1-1/2 COTTER PIN ZP	13512 1/8 X 3 COTTER PIN ZP
13509 1/8 X 2 COTTER PIN ZP	13536 5/32 X 2 COTTER PIN ZP	13539 5/32 X 3 COTTER PIN ZP	13558 3/16 X 1 COTTER PIN ZP	13560 3/16 X 1-1/2 COTTER PIN ZP	13565 3/16 X 3 COTTER PIN ZP
13562 3/16 X 2 COTTER PIN ZP	13572 1/4 X 1-1/2 COTTER PIN ZP	13574 1/4 X 2 COTTER PIN ZP	13602 5/16 X 2 COTTER PIN ZP	13616 3/8 X 2 COTTER PIN ZP	13618 3/8 X 2-1/2 COTTER PIN ZP

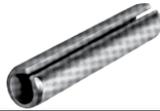
Cotter Pin Assortment (Z02)

LARGE DIAMETER — LONG LENGTH
IBS No. 155R • 13 Items - 115 Pieces
Packaged in a locking steel drawer for easy storage & organization

IBS, Inc. Cotter Pins	
Large Diameter Long Length	
Assortment No. 155R	
13646 1/2 X 6 COTTER PIN ZP	13645 1/2 X 5 COTTER PIN ZP
13624 3/8 X 6 COTTER PIN ZP	13643 1/2 X 4 COTTER PIN ZP
13623 3/8 X 5 COTTER PIN ZP	13579 1/4 X 4 COTTER PIN ZP
13621 3/8 X 4 COTTER PIN ZP	13581 1/4 X 5 COTTER PIN ZP
13605 5/16 X 3 COTTER PIN ZP	13609 5/16 X 5 COTTER PIN ZP
13641 1/2 X 3 COTTER PIN ZP	13604 5/16 X 2-1/2 COTTER PIN ZP
	13607 5/16 X 4 COTTER PIN ZP

IBS, INCORPORATED

Roll Pins K02



Roll Pins

ZINC PLATED CARBON SPRING STEEL

Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty		
1/16	1/4	13652	25	1/8	3/8	13690	25	7/32	3/4	13738	25	5/16	3/4	13767	15		
	1/2	13655	25		3/4	13694	25		1	13740	25		1	13769	15		
	3/4	13658	25		1	13696	25		1-1/4	13742	25		1-1/4	13771	15		
	1	13660	25		1-1/4	13698	25		1-1/2	13744	25		1-1/2	13773	15		
5/64	1/4	13663	25		1-1/2	13622	25	1-3/4	13746	25	1-3/4		13775	15	2	13776	15
	1/2	13666	25		1-3/4	13612	25	1/4	3/4	13751	15	3/8	3/4	13783	15		
	3/4	13669	25	2	13704	25	1		13753	15	1		13785	15			
	1	13671	25	5/32	1/2	13705	25		1-1/4	13755	15		1-1/2	13789	15		
	1-1/2	13675	25		3/4	13708	25		1-1/2	13757	15		1-1/2	13789	15		
3/32	3/8	13679	25		1	13710	25		1-3/4	13759	15		1-3/4	13791	15	2	13792
	1/2	13680	25		1-1/4	13712	25	2	13760	15	2	13792	15	2-1/4	13793	15	
	5/8	13682	25		1-1/2	13714	25	2-1/4	13761	15	2-1/4	13793	15	2-1/2	13794	15	
	3/4	13683	25	2	13717	25	2-1/2	13762	15	2-1/2	13794	15	1/2	1-1/2	13813	10	
	1	13685	25	3/16	5/8	13722	25	3	13764	15	1-1/2	13813		10	1-3/4	13815	10
	1-1/4	13687	25		3/4	13723	25	1/2	1	13725	25	2		13816	10		
1-1/2	13688	25	1		13725	25	1-1/4		13727	25	2-1/2	13818		10			
			1-1/2		13729	25	1-1/2		13729	25							
			2		13732	25											

Roll Pin Assortment

IBS No. 165R • 24 Items - 845 Pieces

Packaged in a locking steel drawer for easy storage & organization

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © © © 800-678-1906						Roll Pins
						Assortment No. 165R
13652 1/16 X 1/4 ROLL PIN ZP	13655 1/16 X 1/2 ROLL PIN ZP	13658 1/16 X 3/4 ROLL PIN ZP	13663 5/64 X 1/4 ROLL PIN ZP	13666 5/64 X 1/2 ROLL PIN ZP	13669 5/64 X 3/4 ROLL PIN ZP	
13679 3/32 X 3/8 ROLL PIN ZP	13683 3/32 X 3/4 ROLL PIN ZP	13685 3/32 X 1 ROLL PIN ZP	13690 1/8 X 3/8 ROLL PIN ZP	13696 1/8 X 1 ROLL PIN ZP	13698 1/8 X 1-1/4 ROLL PIN ZP	
13705 5/32 X 1/2 ROLL PIN ZP	13710 5/32 X 1 ROLL PIN ZP	13714 5/32 X 1-1/2 ROLL PIN ZP	13722 3/16 X 5/8 ROLL PIN ZP	13725 3/16 X 1 ROLL PIN ZP	13732 3/16 X 2 ROLL PIN ZP	
13738 7/32 X 3/4 ROLL PIN ZP	13744 7/32 X 1-1/2 ROLL PIN ZP	13746 7/32 X 1-3/4 ROLL PIN ZP	13753 1/4 X 1 ROLL PIN ZP	13760 1/4 X 2 ROLL PIN ZP	13764 1/4 X 3 ROLL PIN ZP	

RINGS & PINS



IBS, INCORPORATED

Woodruff Keys K05



Woodruff Keys

MACHINED FROM 1035 STEEL

IBS No.	Industry #	Size	Qty	IBS No.	Industry #	Size	Pkg Qty
13951	#2	3/32 x 1/2	25	13966	#13	3/16 x 1	15
13952	#3	1/8 x 1/2	25	13968	#15	1/4 x 1	15
13953	#4	3/32 x 5/8	25	13969	B	5/16 x 1	10
13954	#5	1/8 x 5/8	25	13970	#152	3/8 x 1	10
13955	#6	5/32 x 5/8	25	13971	#16	3/16 x 1-1/8	15
13956	#61	3/16 x 5/8	25	13973	#18	1/4 x 1-1/8	10
13957	#7	1/8 x 3/4	25	13974	C	5/16 x 1-1/8	10
13958	#8	5/32 x 3/4	25	13975	#19	3/16 x 1-1/4	10
13959	#9	3/16 x 3/4	25	13977	#21	1/4 x 1-1/4	10
13960	#91	1/4 x 3/4	25	13983	D	5/16 x 1-1/4	10
13961	#10	5/32 x 7/8	25	13984	E	3/8 x 1-1/4	10
13962	#11	3/16 x 7/8	15	13978	#22	1/4 x 1-3/8	10
13963	#12	7/32 x 7/8	15	13982	#126	3/16 x 2-1/2	15
13964	A	1/4 x 7/8	15	—	—	—	—

Woodruff Key Assortment

IBS No. 148R • 24 Items - 185 Pieces

Packaged in a locking steel drawer for easy storage & organization



Woodruff Keys

Assortment No. 148R

<p>13951 #2 3/32 X 1/2 WOODRUFF KEY</p> 	<p>13957 #7 1/8 X 3/4 WOODRUFF KEY</p> 	<p>13956 #61 3/16 X 5/8 WOODRUFF KEY</p> 	<p>13971 #16 3/16 X 1-1/8 WOODRUFF KEY</p> 	<p>13968 #15 1/4 X 1 WOODRUFF KEY</p> 	<p>13974 #C 5/16 X 1-1/8 WOODRUFF KEY</p> 
<p>13953 #4 3/32 X 5/8 WOODRUFF KEY</p> 	<p>13955 #6 5/32 X 5/8 WOODRUFF KEY</p> 	<p>13959 #9 3/16 X 3/4 WOODRUFF KEY</p> 	<p>13975 #19 3/16 X 1-1/4 WOODRUFF KEY</p> 	<p>13973 #18 1/4 X 1-1/8 WOODRUFF KEY</p> 	<p>13983 #D 5/16 X 1-1/4 WOODRUFF KEY</p> 
<p>13952 #3 1/8 X 1/2 WOODRUFF KEY</p> 	<p>13958 #8 5/32 X 3/4 WOODRUFF KEY</p> 	<p>13962 #11 3/16 X 7/8 WOODRUFF KEY</p> 	<p>13960 #91 1/4 X 3/4 WOODRUFF KEY</p> 	<p>13977 #21 1/4 X 1-1/4 WOODRUFF KEY</p> 	<p>13970 #152 3/8 X 1 WOODRUFF KEY</p> 
<p>13954 #5 1/8 X 5/8 WOODRUFF KEY</p> 	<p>13961 #10 5/32 X 7/8 WOODRUFF KEY</p> 	<p>13966 #13 3/16 X 1 WOODRUFF KEY</p> 	<p>13964 #A 1/4 X 7/8 WOODRUFF KEY</p> 	<p>13969 #B 5/16 X 1 WOODRUFF KEY</p> 	<p>13978 #22 1/4 X 1-3/8 WOODRUFF KEY</p> 

RINGS & PINS

IBS, INCORPORATED

Clevis Pins K03



Clevis Pins

For temporary or permanent fastening of all kinds.



Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty
3/16 Hole Size .094	3/4	13831	10	5/16 Hole Size .141	1	13851	10	7/16 Hole Size .156	1	13876	5	5/8 Hole Size .156	1-1/2	13902	5
	1	13832	10		1-1/4	13854	10		1-1/4	13879	5		1-3/4	13903	5
	1-1/2	13837	10		1-1/2	13856	10		1-1/2	13881	5		2	13904	5
	1-3/4	13839	10		2	13859	10		1-3/4	13883	5				
1/4 Hole Size .094	3/4	13842	10	3/8 Hole Size .156	1	13862	10	1/2 Hole Size .156	2	13884	5				
	1	13843	10		1-1/4	13865	10		1	13887	5				
	1-1/8	13844	10		1-3/8	13866	10		1-1/4	13890	5				
	1-1/4	13846	10		1-1/2	13867	10		1-3/8	13891	5				
	1-1/2	13848	10		1-3/4	13869	10		1-1/2	13892	5				
				2	13870	5	1-3/4	13894	5	2	13895	5			
				2-1/2	13873	5	2	13898	5						

Clevis Pins Assortment

132R • 24 Items • 129 Pieces

Packaged in a locking steel drawer for easy storage & organization

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © © © 800-578-1958						Clevis Pins
						Assortment No. 132R
13831 3/16 X 3/4 CLEVIS PIN	13832 3/16 X 1 CLEVIS PIN	13837 3/16 X 1-1/2 CLEVIS PIN	13843 1/4 X 1 CLEVIS PIN	13848 1/4 X 1-1/2 CLEVIS PIN	13911 1/4 X 2 UNIVERSAL CLEVIS PIN	
13851 5/16 X 1 CLEVIS PIN	13856 5/16 X 1-1/2 CLEVIS PIN	13859 5/16 X 2 CLEVIS PIN	13867 3/8 X 1-1/2 CLEVIS PIN	13870 3/8 X 2 CLEVIS PIN	13915 5/16 X 2 UNIV CLEVIS PIN	
13873 3/8 X 2-1/2 CLEVIS PIN	13881 7/16 X 1-1/2 CLEVIS PIN	13884 7/16 X 2 CLEVIS PIN	13892 1/2 X 1-1/2 CLEVIS PIN	13895 1/2 X 2 CLEVIS PIN	13918 3/8 X 2 UNIVERSAL CLEVIS PIN	
13898 1/2 X 2-1/2 CLEVIS PIN	13902 5/8 X 1-1/2 CLEVIS PIN	13904 5/8 X 2 CLEVIS PIN	13922 7/16 X 2-1/2 UNIV CLEVIS PIN	13928 1/2 X 3 UNIV CLEVIS PIN	13932 5/8 X 3 UNIV CLEVIS PIN	

Universal Clevis Pins



Universal pins have a series of holes which make them adaptable to varying lengths.

Excess length may be trimmed off if desired.

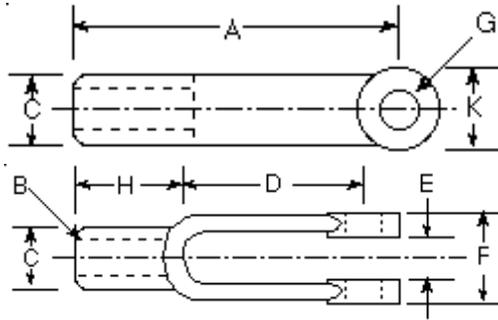
Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty	Dia.	Length	IBS No.	Qty
1/4	2	13911	5	3/8	2	13918	5	1/2	2	13926	5	5/8	3	13932	5
5/16	2	13915	5	7/16	2	13921	5		2-1/2	13927	5				
				2-1/2	13922	5	3		13928	5					



IBS, INCORPORATED

Clevis Pins K03

Drop Forged Yoke Ends



IBS No.	A	B	C	D	E	F	G	H	K	Pkg Qty
A-10737	2	1/4-28	7/16	1-1/4	9/32	5/8	1/4	3/4	1/2	1
A-10738	2-1/4	5/16-24	1/2	1-7/16	11/32	3/4	5/16	13/16	19/32	1
A-10739	2-1/2	3/8-24	5/8	1-5/8	7/16	7/8	3/8	7/8	11/16	1
A-10740	2-7/8	7/16-20	23/32	1-7/8	1/2	1	7/16	1	13/16	1
A-10741	3	1/2-20	13/16	1-7/8	9/16	1-1/8	1/2	1-1/8	15/16	1
A-10742	5	5/8-18	1-1/16	3-11/16	11/16	1-3/8	5/8	1-1/4	1-1/4	1



BRAKE TYPE YOKE
for Type 30

IBS No.	Size	Pin	Pkg Qty
53003	5/8-18	5/8	1

Female Rods Ends, Yoke Ends, Clevis & Cotter Pins & Jam Nuts (Z02)

142R • 18 Items • 247 Pieces

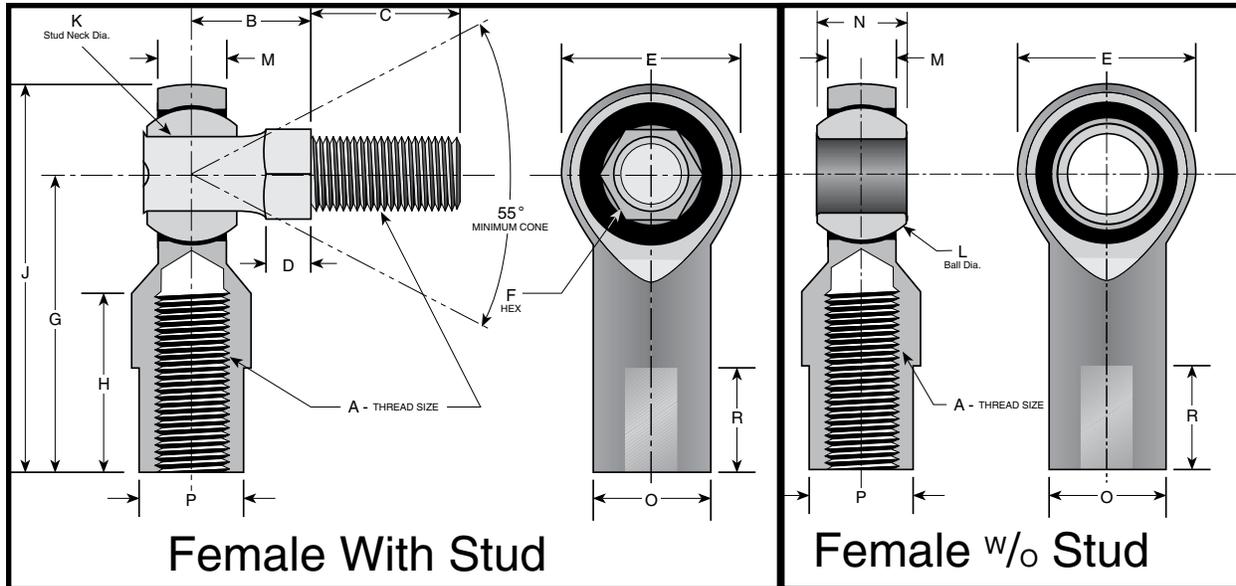
Packaged in a locking steel drawer for easy storage & organization

IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © 2013 800-678-1906</small>		Female Rod Ends, Yoke Ends, Clevis Pins, Cotter Pins & Jam Nuts	
Assortment No. 142R			
A-12034 10-32 RH F. BALL JOINT W/STUD 	A-10737 1/4-28 DROP FORGED-ADJ YOKE END 	13843 1/4 X 1 CLEVIS PIN 	13480 3/32 X 3/4 COTTER PIN ZP 5036 10-32 HEX MACHINE SCREW NUT ZP
A-12035 1/4-28 RH F. BALL JOINT W/STUD 	A-10738 5/16-24 DROP FORG-ADJ YOKE END 	13854 5/16 X 1-1/4 CLEVIS PIN 	13505 1/8 X 1 COTTER PIN ZP 6085 1/4-28 HEX JAM NUT NF ZP
A-12036 5/16-24 RH F. BALL JOINT 	A-10739 3/8-24 DROP FORGED ADJ YOKE END 	13865 3/8 X 1-1/4 CLEVIS PIN 	13532 5/32 X 1 COTTER PIN ZP 6086 5/16-24 HEX JAM NUT NF ZP
A-12037 3/8-24 RH F. BALL JOINT W/STUD 	A-10741 1/2-20 DROP FORGED ADJ YOKE END 	13891 1/2 X 1-3/8 CLEVIS PIN 	13532 5/32 X 1 COTTER PIN ZP 6087 3/8-24 HEX JAM NUT NF ZP

RINGS & PINS



Rod End Ball Joints



Bearing Raceway - Locked in by annular groove-trunnion design. Made of fiber reinforced nylon.
Threaded Stud - Made from medium carbon steel - same as high strength grade 5 capscrews. Cadmium plated .0002 min., plus clear dichromate. **SOLD IN QTYS OF 1**

Outer Member (Housing) - Low carbon steel, cadmium plated .0002 min., plus clear dichromate.
Spherical Ball - Precision made from selected low carbon steel-case hardened .007 minimum deep - file hard. Cadmium plated .0002 minimum.

FEMALE WITH STUDS

IBS No.	Thread	B	C	D	E	F	G	H	J	K	L	M	N	O	P	
A-12034	10-32	.437	.437	.156	.625	.312	1.062	.562	1.375	.189	.438	.250	.312	.406	.312	
A-12035	1/4-28	.469	.562	.156	.750	.375	1.312	.750	1.387	.250	.516	.281	.375	.469	.375	
A-12036	5/16-24	.531	.687	.187	.875	.437	1.375	.750	1.812	.312	.625	.344	.437	.500	.437	
A-12037	3/8-24	.625	.875	.218	1.00	.500	1.625	.937	2.125	.375	.719	.406	.500	.687	.562	
A-12286	3/8-24	LEFT HAND THREAD				ALL OTHER DIMENSIONS SAME AS ABOVE										
A-12491	7/16-20	.844	1.062	.312	1.125	.625	1.812	1.032	2.375	.437	.812	.437	.562	.750	.625	
A-12038	1/2-20	.875	1.125	.312	1.312	.625	2.125	1.187	2.781	.500	.938	.500	.625	.875	.750	
A-12288	5/8-18	1.00	1.125	.375	1.50	.750	2.50	1.50	3.25	.625	1.125	.562	.750	1.00	.875	

FEMALE WITHOUT STUDS

5/8	Thread	Bore	E	G	J	L	K	M	N	O	P	R	Thread	Qty
A-12277	1/4-28	.250	.750	1.312	.750	1.687	.516	.281	.375	.469	.375	.406	Left	1
A-12026	1/4-28	.250	.750	1.312	.750	1.687	.516	.281	.375	.469	.375	.406	Right	1
A-12027	5/16-24	.3125	.875	1.375	.750	1.812	.625	.344	.437	.500	.437	.500	Right	1
A-12028	3/8-24	.375	1.000	1.625	.937	2.125	.719	.406	.500	.687	.562	.562	Right	1
A-12279	3/8-24	.377	ALL OTHER DIMENSIONS SAME AS ABOVE										Left	1
A-12029	1/2-20	.500	1.312	2.125	1.187	2.781	.938	.500	.625	.875	.750	.687	Right	1

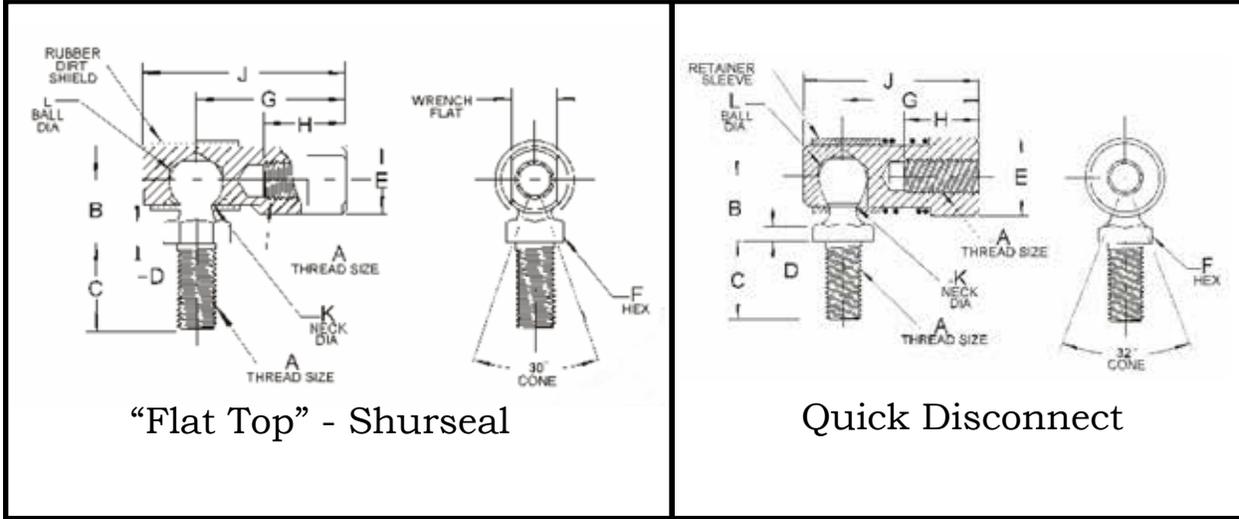
BALL JOINTS SOLD IN UNIT QUANTITIES OF ONE (1)



IBS, INCORPORATED

Clevis Pins K03

Ball Joint Assemblies



“Flat Top” - Shurseal

Quick Disconnect

“Flat Top” - Shurseal

This is a heavy duty ball joint with a high strength design and good wear resistance. It comes with an oil and ozone resistant rubber dirt shield to protect against abrasive dirt. It is designed for standard wrench sizes and the “Flat Top” alignment guide provides a mechanical and visual aid for aligning the ball stud in its vertical position for maximum movement in all directions. They are made of low carbon, free machining steel with ball studs case hardened to a depth of .005 to .008. Plated and clear dichromate treated for corrosion resistance.



FLAT TOP SHURSEAL BALL JOINT ASSEMBLIES

IBS No.	Thread	B	C	D	E	F	G	H	J	K	L	Wrench
A-12039	1/4-28	15/32	9/16	1/8	7/16	3/8	31/32	17/32	1-5/16	.208	.347	3/8
A-12040	5/16-24	17/32	11/16	5/32	1/2	7/16	1-1/8	19/32	1-9/16	.250	.405	7/16

Quick Disconnect

This is a high strength, quick disconnect assembly with good wear characteristics. To operate, the closed end steel retaining sleeve is pushed laterally along the body member. This compresses the spring and allows the simple removal or assembly of the male ball stud. This is an improved design which features a “key hole” cut out of the retaining sleeve which insures that the assembly can only be put together with the sleeve positively aligned with the ball cavity. The assembly is automatically aligned when the spring is released, eliminating the possibility of partial closure.



QUICK DISCONNECT BALL JOINT ASSEMBLIES

IBS No.	Thread	B	C	D	E	F	G	H	J	K	L
A-12044	1/4-28	15/32	9/16	1/8	9/16	3/8	31/32	17/32	1-1/4	.192	.347
A-12045	5/16-24	17/32	11/16	5/32	5/8	7/16	1-1/8	19/32	1-29/64	.224	.405

BALL JOINT ASSEMBLIES SOLD IN UNIT QUANTITIES OF ONE (1)



Hitch Pins K06

Hitch Pins

Hairpin Cotter



- Made of top quality spring wire.
- Ideal where quick assembly and disassembly is required.
- Reusable, strong, secure and convenient.

IBS No.	Industry Number	Wire Diameter	Drill Hole Size	Min. Shaft Diameter	Max Shaft Diameter	Overall Length	Inside Eye Diameter	Pkg Qty
15530	231	.028	1/32	1/8	5/32	.600	.093	25
15520	221	.047	1/16	1/8	3/16	19/32	1/8	25
15521	222	.062	5/64	1/4	1/2	1-5/16	5/16	25
15524	225	.072	5/64	5/16	3/8	1-3/32	9/64	25
15512	213	.080	3/32	1/4	3/8	1-3/16	1/4	25
15516	217	.080	3/32	3/8	1/2	1-9/16	5/16	25
15506	207	.093	7/64	1/4	5/8	2-5/16	5/8	25
15527	228	.093	7/64	3/8	1/2	2	5/8	25
15513	214	.093	7/64	3/8	3/4	2-1/2	7/16	25
15514	215	.125	9/64	1/2	3/4	1-9/16	7/16	25
15515	216	.125	9/64	1/2	3/4	1-15/16	7/16	25
15510	211	.125	9/64	7/16	3/4	2-9/16	9/16	25
15526	227	.125	9/64	5/8	3/4	2-1/2	1/2	25
15501	202	.125	9/64	3/4	3/4	3-1/8	1	25
15500	201	.148	5/32	1/2 x 5/8	7/8	3	1/2	25
15508	209	.148	5/32	3/4	1-1/8	3-5/16	7/8	25
15509	210	.148	5/32	5/8	1	2-15/16	3/4	25
15528	229	.177	3/16	3/4	1-1/16	3-1/2	1	25
15505	206	.177	3/16	5/8	1	3-1/4	7/8	25
15507	208	.177	3/16	7/8	1-1/4	3-3/4	7/8	25
15518	219	.243	17/64	3/4	1	4	15/16	15

RINGS & PINS

Hitch Pin Assortment IBS No. 240R 16 Items 600 Pieces

Packaged in a locking steel drawer for easy storage & organization

Hitch Pin Clips
Assortment No. 240R

<small>15530</small> 1/32 X 9/16 HITCH PIN 31P 	<small>15520</small> 3/64 X 19/32 HITCH PIN 21P 	<small>15521</small> 1/16 X 1-5/16 HITCH PIN 22P 	<small>15524</small> 5/64 X 1-3/32 HITCH PIN 25P
<small>15512</small> 3/32 X 1-3/16 HITCH PIN 13P 	<small>15516</small> 3/32 X 1-9/16 HITCH PIN 17P 	<small>15506</small> 3/32 X 2-5/16 HITCH PIN 7P 	<small>15513</small> 3/32 X 2-1/2 HITCH PIN 14P
<small>15515</small> 1/8 X 1-15/16 HITCH PIN 16P 	<small>15510</small> 1/8 X 2-9/16 HITCH PIN 11P 	<small>15526</small> 1/8 X 2-1/2 HITCH PIN 27P 	<small>15509</small> 5/32 X 2-15/16 HITCH PIN 10P
<small>15505</small> 3/16 X 3-1/4 HITCH PIN 6P 	<small>15507</small> 3/16 X 3-3/4 HITCH PIN 8P 	<small>15528</small> 3/16 X 3-1/2 HITCH PIN 29P 	<small>15518</small> 1/4 X 4 HITCH PIN 19P



IBS, INCORPORATED

Hitch Pins K06

Hitch Pin Chart

RINGS & PINS

226	232	221	231	236	237	223	225	233	213	230	222
.032 X 7/16	.042 X 7/16	.047 X 19/32	.028 X .600	.054 X 3/4	.054 X 7/8	.042 X 1	.072 X 1-3/32	.093 X 1-1/8	.080 X 1-3/16	.105 X 1-1/4	.062 X 1-5/16

201	204	202	206	234 *Plain Finish
.148 X 3	.162 X 3	.125 X 3-1/8	.177 X 3-1/4	.250 X 3-1/4

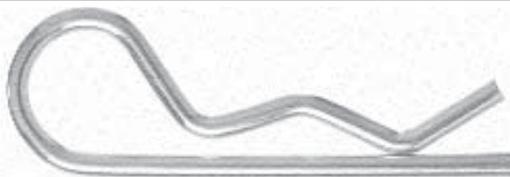
212	229	208	219	220
.162 X 3-7/16	.177 X 3-1/2	.177 X 3-3/4	.243 X 4	.310 X 4-1/16



Hitch Pin Chart

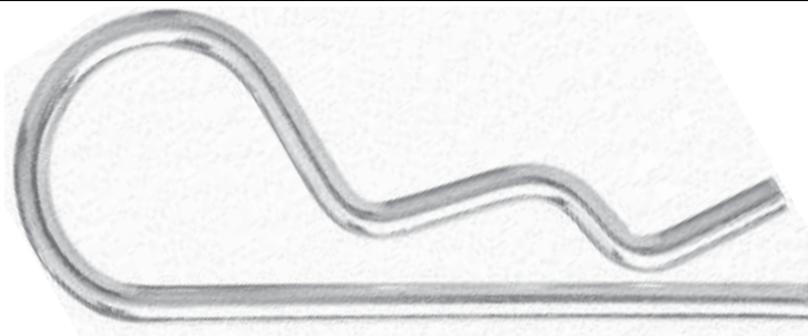
224	218	217	215	203	239	216	228
.047 X 1-9/16	.062 X 1-9/16	.080 X 1-9/16	.125 X 1-9/16	.093 X 1-5/8	.072 X 1-7/8	.125 X 1-15/16	.093 X 2

205	207	214	227	211	238	210
.162 X 2-3/16	.093 X 2-5/16	.093 X 2-1/2	.125 X 2-1/2	.125 X 2-9/16	.125 X 2-7/8	.148 X 2-15/16



209

.148 X 3-5/16



235

.243 X 5-1/8

R
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&
P
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IBS, INCORPORATED

Retaining Rings K08

Internal Retaining Rings

GROOVE REQUIRED IN BORE
Bright Zinc Chromate



IBS No.	Housing Dia.	Groove Dia.	Groove Thick	Pkg Qty
A-8688	1/4	.268	.018	50
A-8689	5/16	.330	.018	50
A-8690	3/8	.397	.029	50
A-8691	7/16	.461	.029	50
A-8692	1/2	.530	.039	50
A-8693	9/16	.596	.039	50
A-8694	5/8	.665	.039	50
A-8695	3/4	.796	.039	50
A-8696	7/8	.931	.046	50
A-8697	1	1.066	.046	50
A-8698	1-1/8	1.197	.056	50
A-8699	1-1/4	1.330	.056	50

External Retaining Rings

GROOVE REQUIRED ON SHAFT
Bright Zinc Chromate



IBS No.	Shaft Dia.	Groove Dia.	Groove Thick	Pkg Qty
A-8701	1/4	.230	.029	50
A-8702	5/16	.290	.029	50
A-8703	3/8	.352	.029	50
A-8704	7/16	.412	.029	50
A-8705	1/2	.468	.039	50
A-8706	9/16	.530	.039	50
A-8707	5/8	.588	.039	50
A-10120	11/16	.646	.046	50
A-8708	3/4	.704	.046	50
A-10121	13/16	.762	.046	50
A-8709	7/8	.821	.046	50
A-10122	15/16	.882	.046	50
A-8710	1	.940	.046	50
A-10123	1-1/16	.998	.056	50
A-8711	1-1/8	1.059	.056	50
A-10124	1-3/16	1.118	.056	50
A-8712	1-1/4	1.176	.056	50
A-10125	1-1/2	1.406	.056	25
A-10126	1-3/4	1.650	.068	25
A-10127	2	1.886	.068	10
A-10128	2-1/4	2.120	.068	10
A-10129	2-1/2	2.360	.068	10

Retaining Ring Assortment (Z02)

IBS No. 163R • 29 Items • 10 Pieces

Packaged in a locking steel drawer for easy storage & organization

Internal and External Retaining Rings

Assortment No. 163R

A-8701 1/4 EXTERNAL SNAP RING	A-8702 5/16 EXT SNAP RING	A-8703 3/8 EXT SNAP RING	A-8704 7/16 EXT SNAP RING	A-8705 1/2 EXT SNAP RING	A-8706 9/16 EXT SNAP RING	A-8707 5/8 EXT SNAP RING	A-10120 11/16 EXT. SNAP RING
A-8708 3/4 EXT SNAP RING	A-10121 13/16 EXT E-CLIP RETAINING RIN	A-8709 7/8 EXT SNAP RING	A-10122 15/16 EXT. SNAP RING	A-8710 1" EXTERNAL SNAP RING	A-10123 1-1/16 EXT. SNAP RING	A-8711 1-1/8 EXT SNAP RING	A-10124 1-3/16 EXT. SNAP RING
A-8712 1-1/4 EXT SNAP RING	A-8688 1/4 INT SNAP RING	A-8689 5/16 INTERNAL SNAP RING	A-8690 3/8 INT SNAP RING	A-8691 7/16 INT SNAP RING	A-8692 1/2 INTERNAL SNAP RING	A-8693 9/16 INT SNAP RING	A-8694 5/8 INT SNAP RING
A-8695 3/4 INT SNAP RING	A-8696 7/8 INT SNAP RING	A-8697 1 INT SNAP RING	A-8698 1-1/8 INTERNAL SNAP RING	A-8699 1-1/4 INT SNAP RING			

RINGS & PINS

IBS, INCORPORATED

Retaining Rings K08



RINGS & PINS

"E" Type Retaining Rings STANDARD



IBS No.	Shaft Dia.	Groove Dia.	Groove Width	Pkg Qty
A-8824	1/16	.052	.012	25
A-8825	3/32	.074	.018	25
A-8826	1/8	.095	.018	25
A-10130	9/64	.105	.018	25
A-10131	5/32	.116	.029	25
A-10132	11/64	.127	.029	25
A-8827	3/16	.147	.029	25
A-10133	7/32	.188	.029	25
A-8828	1/4	.210	.029	25
A-3824	5/16	.250	.029	25
A-8829	3/8	.303	.039	25
A-8830	7/16	.343	.039	25
A-5602	1/2	.396	.046	25
A-5603	5/8	.485	.046	25
A-8831	3/4	.625	.056	25
A-8832	7/8	.675	.056	25
A-8833	1	.835	.056	25

"E" Type Retaining Rings REINFORCED



IBS No.	Shaft Dia.	Groove Dia.	Groove Width	Pkg Qty
A-3165	1/8	.095	.018	25
A-10134	5/32	.116	.029	25
A-3166	3/16	.147	.029	25
A-10135	7/32	.188	.029	25
A-3167	1/4	.210	.029	25
A-3628	5/16	.250	.039	25
A-5600	3/8	.303	.039	25
A-2672	7/16	.343	.039	25
A-8837	1/2	.396	.046	25
A-5601	9/16	.437	.046	25

"E" Clips Assortment REGULAR & REINFORCED

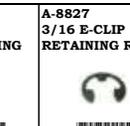
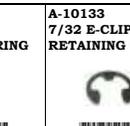
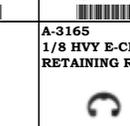
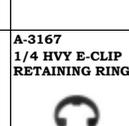
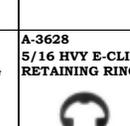
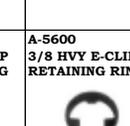
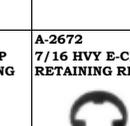
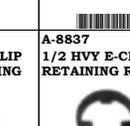
IBS No. 161R • 27 Items • 1,345 Pieces

Packaged in a locking steel drawer for easy storage & organization



"E" Clips Regular & Reinforced

Assortment No. 161R

<p>A-8824 1/16 E-CLIP RETAINING RING</p> 	<p>A-8825 3/32 E-CLIP RETAINING RING</p> 	<p>A-8826 1/8 E-CLIP RETAINING RING</p> 	<p>A-10130 9/64 E-CLIP RETAINING RING</p> 	<p>A-10131 5/32 E-CLIP RETAINING RING</p> 	<p>A-10132 11/64 E-CLIP RETAINING RING</p> 	<p>A-8827 3/16 E-CLIP RETAINING RING</p> 	<p>A-10133 7/32 E-CLIP RETAINING RING</p> 
<p>A-8828 1/4 E-CLIP RETAINING RING</p> 	<p>A-3824 5/16 E-CLIP RETAINING RING</p> 	<p>A-8829 3/8 E-CLIP RETAINING RING</p> 	<p>A-8830 7/16 E-CLIP RETAINING RING</p> 	<p>A-5602 1/2 E-CLIP RETAINING RING</p> 	<p>A-5603 5/8 E-CLIP RETAINING RING</p> 	<p>A-8831 3/4 E-CLIP RETAINING RING</p> 	<p>A-8832 7/8 E-CLIP RETAINING RING</p> 
<p>A-8833 1" E-CLIP RETAINING RING</p> 						<p>A-3165 1/8 HVY E-CLIP RETAINING RING</p> 	<p>A-10134 5/32 HVY E-CLIP RETAINING RING</p> 
<p>A-3166 3/16 HVY E-CLIP RETAINING RING</p> 	<p>A-10135 7/32 HVY E-CLIP RETAINING RING</p> 	<p>A-3167 1/4 HVY E-CLIP RETAINING RING</p> 	<p>A-3628 5/16 HVY E-CLIP RETAINING RING</p> 	<p>A-5600 3/8 HVY E-CLIP RETAINING RING</p> 	<p>A-2672 7/16 HVY E-CLIP RETAINING RING</p> 	<p>A-8837 1/2 HVY E-CLIP RETAINING RING</p> 	<p>A-5601 9/16 HVY E-CLIP RETAINING RING</p> 



IBS, INCORPORATED

O-Rings K09

O-Rings

BUNA-N70 (NITRILE) BASE ELASTOMER



- Excellent Resistance to petroleum products.
- Temperature Range -65°F to +275°F.
- Superior to most elastomers with regard to compression set or cold flow, tear and abrasion resistance.

1/16 THICK

IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty
15545	1/8	1/4	006	25	15551	3/8	1/2	012	25	15556A	3/4	7/8	018	25
15546	5/32	9/32	007	25	15552	7/16	9/16	013	25	15556A1	13/16	15/16	019	25
15547	3/16	5/16	008	25	15553	1/2	5/8	014	25	15556B	15/16	1-1/16	021	25
15548	7/32	11/32	009	25	15554	9/16	11/16	015	25	15556C	1-1/16	1-3/16	023	25
15549	1/4	3/8	010	25	15555	5/8	3/4	016	25	15556D	1-3/16	1-5/16	025	25
15550	5/16	7/16	011	25	15556	11/16	13/16	017	25	15556E	1-1/4	1-3/8	026	25

3/32 THICK

IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty
15557	3/8	9/16	110	25	15560	9/16	3/4	113	25	15563	3/4	15/16	116	25
15558	7/16	5/8	111	25	15561	5/8	13/16	114	25	—	—	—	—	—
15559	1/2	11/16	112	25	15562	11/16	7/8	115	25	—	—	—	—	—

1/8 THICK

IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty
15564	3/4	1	210	25	15573	1-5/16	1-9/16	219	25	15582	2-1/4	2-1/2	228	15
15565	3/16	1-1/16	211	25	15574	1-3/8	1-5/8	220	25	15583	2-3/8	2-5/8	229	15
15566	7/8	1-1/8	212	25	15575	1-7/16	1-11/16	221	25	15584	2-1/2	2-3/4	230	15
15567	15/16	1-3/16	213	25	15576	1-1/2	1-3/4	222	25	15585	2-5/8	2-7/8	231	15
15568	1	1-1/4	214	25	15577	1-5/8	1-7/8	223	25	15586	2-3/4	3	232	15
15569	1-1/16	1-5/16	215	25	15578	1-3/4	2	224	25	15587	2-7/8	3-1/8	233	15
15570	1-1/8	1-3/8	216	25	15579	1-7/8	2-1/8	225	25	15588	3	3-1/4	234	15
15571	1-3/16	1-7/16	217	25	15580	2	2-1/4	226	15	15589A	4-1/4	4-1/2	244	10
15572	1-1/4	1-1/2	218	25	15581	2-1/8	2-3/8	227	15	15604	5-1/8	5-3/8	251	10

3/16 THICK

IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty
15605	1-1/2	1-7/8	325	10	15609	2	2-3/8	329	10	15613	2-1/2	2-7/8	333	10
15606	1-5/8	2	326	10	15610	2-1/8	2-1/2	330	10	15614	2-5/8	3	334	10
15607	1-3/4	2-1/8	327	10	15611	2-1/4	2-5/8	331	10	—	—	—	—	—
15608	1-7/8	2-1/4	328	10	15612	2-3/8	2-5/8	332	10	—	—	—	—	—

Standard O-Rings (Z02)

IBS No. 164R • 30 Items • 805 Pieces

Packaged in a locking steel drawer for easy storage & organization

IBS, Inc. SPECIALTY PRODUCTS FOR MOUNTING & SEALING INDUSTRIAL QUALITY O-RINGS										Standard O-Rings					
Assortment No. 164R															
15545 #006 1/16 WL 1/8 ID O-RING	15549 #010 1/16 WL 1/4 ID O-RING	15558 #111 3/32 WL 7/16 ID O-RING	15562 #115 3/32 WL 11/16 ID O-RING	15566 #212 1/8 WL 7/8 ID O-RING	15570 #218 1/8 WL 1-1/8 ID O-RING	15574 #220 1/8 WL 1-3/8 ID O-RING	15606 #326 3/16 WL 1-5/8 ID O-RING	15546 #007 1/16 WL 5/32 ID O-RING	15550 #011 1/16WL 5/16ID X 7/16OD	15559 #112 3/32 WL 1/2 ID O-RING	15563 #116 3/32 WL 3/4 ID O-RING	15567 #213 1/8 WL 15/16 ID O-RING	15571 #217 1/8 WL 1-3/16 ID O-RING	15575 #221 1/8 WL 1-7/16 ID O-RING	15607 #327 3/16 WL 1-3/4 ID O-RING
15547 #008 1/16 WL 3/16 ID O-RING	15551 #012 1/16 WL 3/8 ID O-RING	15560 #113 3/32 WL 9/16 ID O-RING	15564 #210 1/8 WL 3/4 ID O-RING	15568 #214 1/8 WL 1 ID O-RING	15572 #218 1/8 WL 1-1/4 ID O-RING	15576 #222 1/8 WL 1-1/2 ID O-RING	15548 #009 1/16 WL 7/32 ID O-RING	15557 #110 3/32 WL 3/8 ID O-RING	15561 #114 3/32 WL 5/8 ID O-RING	15565 #211 1/8 WL 13/16 ID O-RING	15569 #215 1/8 WL 1-1/16 ID O-RING	15573 #219 1/8 WL 1-5/16 ID O-RING	15605 #325 3/16 WL 1-1/2 ID O-RING		



Standard O-Rings

IBS No. 15615 • 37 Items • 513 Pcs



- Two compartment plastic carrying case with molded handle.
- Removable locking pegs for storing O-rings and to prevent them from falling off if the case gets tipped.
- Built in gauges for sizing O-rings.
- Includes Sizes #006 through #012, #110 through #116, #210 through #222, #325 through #334.

STANDARD O-RING KIT

IBS No.	Description	Qty
15615	Standard O-Ring Kit	1

“O” Ring Cord

Buna-N Cord Material
70 Durometer • Sold in 4’ lengths



O-RING CORD

IBS No.	Description	Qty
15540	1/16" (.070) x 4'	1
15541	3/32" (.103) x 4'	1
15542	1/8" (.139) x 4'	1
15543	3/16" (.210) x 4'	1
15544	1/4" (.275") x 4'	1

Standard O-Ring Splice Kit

IBS No. 15535 • 8 Items • 10 Pcs

Each kit contains O-Ring cord, splicing jig, razor, glue and detailed instructions for making O-Rings to your specifications.

Material: Buna N70

Kit includes: one 7 foot length of each of the following AS568 cross-sections: .070", .103", .139", .210", and .275".



STANDARD O-RING SPLICE KIT

IBS No.	Description	Qty
15535	O-Ring Splice Kit	1



IBS, INCORPORATED

O-Rings K09

Metric O-Rings

BUNA-N70 (NITRILE) BASE ELASTOMER



- Excellent Resistance to petroleum products.
- Temperature Range -65°F to +275°F.
- Superior to most elastomers with regard to compression set or cold flow, tear and abrasion resistance.

1.5MM THICK

IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty
15700	3.0	6.0	10	15702	7.0	10.0	10	15704	11.0	14.0	10
15701	5.0	8.30	10	15703	9.0	12.0	10	—	—	—	—

2.0MM THICK

IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty
15705	6.0	10.0	10	15708	12.0	16.0	10	15711	20.0	24.0	10
15706	8.0	12.0	10	15709	14.0	18.0	10	—	—	—	—
15707	10.0	14.0	10	15710	18.0	22.0	10	—	—	—	—

2.4MM THICK

IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty
15712	6.3	11.1	10	15714	11.8	16.4	10	15716	17.3	22.1	10
15713	8.3	13.1	10	15715	13.3	18.1	10	—	—	—	—

2.5MM THICK

IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty
15717	5.0	10.0	10	15719	10.0	15.0	10	15721	15.0	20.0	10
15718	7.0	12.0	10	15720	12.0	17.0	10	—	—	—	10

3.0MM THICK

IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty
15722	10.0	16.0	10	15727	20.2	26.2	10	15732	26.2	32.2	10
15723	12.0	18.0	10	15728	22.0	28.0	10	15733	28.0	34.0	10
15724	14.0	20.0	10	15729	22.2	28.2	10	15734	30.2	36.2	10
15725	16.0	22.0	10	15730	24.2	30.2	10	15735	32.0	38.0	10
15726	18.0	24.0	10	15731	25.0	31.0	10	15736	38.0	44.0	10

4.0MM THICK

IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty
15737	25.0	33.0	10	15741	36.0	44.0	10	15745	45.0	53.0	10
15738	30.0	38.0	10	15742	38.0	46.0	10	15746	50.0	58.0	10
15739	32.0	40.0	10	15743	40.0	48.0	10	—	—	—	—
15740	35.0	43.0	10	15744	44.0	52.0	10	—	—	—	—

5.0MM THICK

IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty	IBS No.	I.D.	O.D.	Qty
15747	25.0	35.0	10	15749	35.0	45.0	10	15751	45.0	55.0	10
15748	30.0	40.0	10	15750	40.0	50.0	10	15752	50.0	60.0	10

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IBS, INCORPORATED

Assortments Z02



Metric O-Rings

1.5MM TO 3.0 MM

184R • 30 ITEMS • 220 Pcs.

Packaged in a locking steel drawer for easy storage & organization



IBS, Inc.							Metric O-Rings 1.5mm to 3.0mm	
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALMARK.COM © P.O. BOX 470-1006							Assortment No. 184R	
15700 3.0 X 1.5 METRIC O RING	15701 5.0 X 1.5 METRIC O RING	15702 7.0 X 1.5 METRIC O RING	15703 9.0 X 1.5 METRIC O RING	15704 11.0 X 1.5 METRIC O RING	15705 6.0 X 2.0 METRIC O RING	15706 8.0 X 2.0 METRIC O RING	15707 10.0 X 2.0 METRIC O RING	
15708 12.0 X 2.0 METRIC O RING	15709 14.0 X 2.0 METRIC O RING	15712 6.3 X 2.4 METRIC O RING	15713 8.3 X 2.4 METRIC O RING	15714 11.8 X 2.4 METRIC O RING	15715 13.3 X 2.4 METRIC O RING	15716 17.3 X 2.4 METRIC O RING	15717 5.0 X 2.5 METRIC O RING	
15718 7.0 X 2.5 METRIC O RING	15719 10.0 X 2.5 METRIC O RING	15720 12.0 X 2.5 METRIC O RING	15721 15.0 X 2.5 METRIC O RING	15722 10.0 X 3.0 METRIC O RING	15723 12.0 X 3.0 METRIC O RING	15724 14.0 X 3.0 METRIC O RING	15725 16.0 X 3.0 METRIC O RING	
15726 18.0 X 3.0 METRIC O RING	15727 20.2 X 3.0 METRIC O RING	15729 22.2 X 3.0 METRIC O RING	15730 24.2 X 3.0 METRIC O RING	15732 26.2 X 3.0 METRIC O RING	15734 30.2 X 3.0 METRIC O RING			

Metric O-Rings

2.0MM TO 5.0 MM

185R • 24 ITEMS • 76 Pcs.

Packaged in a locking steel drawer for easy storage & organization



IBS, Inc.							Metric O-Rings 2.0mm to 5.0mm Large Diameter	
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALMARK.COM © P.O. BOX 470-1006							Assortment No. 185R	
15710 16.0 X 2.0 METRIC O RING	15711 20.0 X 2.0 METRIC O RING	15728 22.0 X 3.0 METRIC O RING	15731 25.0 X 3.0 METRIC O RING	15733 28.0 X 3.0 METRIC O RING	15734 30.2 X 3.0 METRIC O RING			
15735 32.2 X 3.0 METRIC O RING	15736 38.0 X 3.0 METRIC O RING	15737 25.0 X 4.0 METRIC O RING	15738 30.0 X 4.0 METRIC O RING	15739 32.0 X 4.0 METRIC O RING	15740 35.0 X 4.0 METRIC O RING			
15741 36.0 X 4.0 METRIC O RING	15742 38.0 X 4.0 METRIC O RING	15743 40.0 X 4.0 METRIC O RING	15744 44.0 X 4.0 METRIC O RING	15745 45.0 X 4.0 METRIC O RING	15746 50.0 X 4.0 METRIC O RING			
15747 25.0 X 5.0 METRIC O RING	15748 30.0 X 5.0 METRIC O RING	15749 35.0 X 5.0 METRIC O RING	15750 40.0 X 5.0 METRIC O RING	15751 45.0 X 5.0 METRIC O RING	15752 50.0 X 5.0 METRIC O RING			

Metric O-Rings (K09)

IBS No. 15753 • 30 Items • 385 Pcs



- Two compartment plastic carrying case with molded handle.
- Removable locking pegs for storing O-rings and to prevent them from falling off if the case gets tipped.
- Built in gauges for sizing O-rings.
- Sizes and quantities include: **16 each** (2mm cross section) in ID's of 3,4,5,6,7,8,10, **13 each** (2.5mm cross-section) in ID's of 10, 11, 12, 14, 16, 17, 19, **12 each** (3mm cross-section) in ID's of 20, 22, 24, 25, 26, 27, 28, 30, 32, 33, 35, 36, 38 **11 each** (3mm cross-section) in ID's of 19 **9 each** (4mm cross-section) in ID's of 38, 41, 44

IBS No.	Description	Qty
15753	Metric O-Ring Kit	1

Metric O-Ring Splice Kit (K09)

IBS No. 15536 • 11 Items • 11 Pcs

Each kit contains O-Ring cord, splicing jig, razor, glue and detailed instructions for making O-Rings to your specifications. Material: Buna N70

Kit includes: one 7 foot length of each of the following metric cross-sections: 1.5mm, 2mm, 2.5mm, 3.0mm, 3.5mm, 4mm, 5mm, 5.7mm, and 8.4mm.



IBS No.	Description	Qty
15536	Metric O-Ring Splice Kit	1

RINGS & PINS

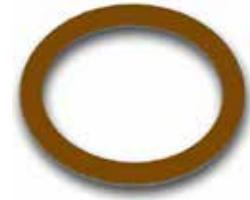


IBS, INCORPORATED

O-Rings K09

Viton O-Rings

VITON COMPOUND BASE ELASTOMER



- Excellent Resistance to higher temperatures, petroleum oils, gasoline.
- Temperature Range -15°F to +400°F.
- Wide Range of chemical resistance.
- Very good ozone, weather and aging resistance.

1/16 THICK

IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind. No.	Qty	IBS No.	I.D.	O.D.	Ind. No.	Qty
30006	1/8	1/4	006	25	30012	3/8	1/2	012	25	30018	3/4	7/8	018	25
30007	5/32	9/32	007	25	30013	7/16	9/16	013	25	30019	13/16	15/16	019	25
30008	3/16	5/16	008	25	30014	1/2	5/8	014	25	30021	15/16	1-1/16	021	25
30009	7/32	11/32	009	25	30015	9/16	11/16	015	25	30023	1-1/16	1-3/16	023	25
30010	1/4	3/8	010	25	30016	5/8	3/4	016	25	30025	1-3/16	1-5/16	025	25
30011	5/16	7/16	011	25	30017	11/16	13/16	017	25	30026	1-1/4	1-3/8	026	25

3/32 THICK

IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty
30110	3/8	9/16	110	25	30113	9/16	3/4	113	25	30116	3/4	15/16	116	25
30111	7/16	5/8	111	25	30114	5/8	13/16	114	25	—	—	—	—	—
30112	1/2	11/16	112	25	30115	11/16	7/8	115	25	—	—	—	—	—

1/8 THICK

IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty
30210	3/4	1	210	25	30219	1-5/16	1-9/16	219	25	30228	2-1/4	2-1/2	228	15
30211	3/16	1-1/16	211	25	30220	1-3/8	1-5/8	220	25	30229	2-3/8	2-5/8	229	15
30212	7/8	1-1/8	212	25	30221	1-7/16	1-11/16	221	25	30230	2-1/2	2-3/4	230	15
30213	15/16	1-3/16	213	25	30222	1-1/2	1-3/4	222	25	30231	2-5/8	2-7/8	231	15
30214	1	1-1/4	214	25	30223	1-5/8	1-7/8	223	25	30232	2-3/4	3	232	15
30215	1-1/16	1-5/16	215	25	30224	1-3/4	2	224	25	30233	2-7/8	3-1/8	233	15
30216	1-1/8	1-3/8	216	25	30225	1-7/8	2-1/8	225	25	30234	3	3-1/4	234	15
30217	1-3/16	1-7/16	217	25	30226	2	2-1/4	226	15	—	—	—	—	—
30218	1-1/4	1-1/2	218	25	30227	2-1/8	2-3/8	227	15	—	—	—	—	—

3/16 THICK

IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty	IBS No.	I.D.	O.D.	Ind No.	Qty
30325	1-1/2	1-7/8	325	10	30329	2	2-3/8	329	10	30333	2-1/2	2-7/8	333	10
30326	1-5/8	2	326	10	30330	2-1/8	2-1/2	330	10	30334	2-5/8	3	334	10
30327	1-3/4	2-1/8	327	10	30331	2-1/4	2-5/8	331	10	—	—	—	—	—
30328	1-7/8	2-1/4	328	10	30332	2-3/8	2-5/8	332	10	—	—	—	—	—

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IBS, INCORPORATED

O-Rings K09



Viton O-Rings Assortment

IBS No. 735R • 30 Items - 360 Pieces

Packaged in a locking steel drawer for easy storage & organization

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM • 800-878-1906		Viton O-Rings					
							Assortment No. 735R
30006 #006 1/16 WL 1/8 ID VITON O-RING	30010 #010 1/16 WL 1/4 ID VITON O-RING	30111 #111 3/32 WL 7/16 ID VITON O-RING	30115 #115 3/32 WL 11/16 ID VITON O-RING	30212 #212 1/8 WL 7/8 ID VITON O-RING	30216 #216 1/8 WL 1-1/8 ID VITON O-RING	30220 #220 1/8 WL 1-3/8 ID VITON O-RING	30326 #326 3/16 WL 1-5/8 ID VITON O-RING
30007 #007 1/16 WL 5/32 ID VITON O-RING	30011 #011 1/16 WL 5/16 ID VITON O-RING	30112 #112 3/32 WL 1/2 ID VITON O-RING	30116 #116 3/32 WL 3/4 ID VITON O-RING	30213 #213 1/8 WL 15/16 ID VITON O-RING	30217 #217 1/8 WL 1-3/16 ID VITON O-RING	30221 #221 1/8 WL 1-7/16 ID VITON O-RING	30327 #327 3/16 WL 1-3/4 ID VITON O-RING
30008 #008 1/16 WL 3/16 ID VITON O-RING	30012 #012 1/16 WL 3/8 ID VITON O-RING	30113 #113 3/32 WL 9/16 ID VITON O-RING	30210 #210 1/8 WL 3/4 ID VITON O-RING	30214 #214 1/8 WL 1" ID VITON O-RING	30218 #218 1/8 WL 1-1/4 ID VITON O-RING	30222 #222 1/8 WL 1-1/2 ID VITON O-RING	
30009 #009 1/16 WL 7/32 ID VITON O-RING	30110 #110 3/32 WL 3/8 ID VITON O-RING	30114 #114 3/32 WL 5/8 ID VITON O-RING	30211 #211 1/8 WL 13/16 ID VITON O-RING	30215 #215 1/8 WL 1-1/16 ID VITON O-RING	30219 #219 1/8 WL 1-5/16 ID VITON O-RING	30325 #325 3/16 WL 1-1/2 ID VITON O-RING	

Viton O-Rings

IBS No. 30615 • 30 Items • 180 Pcs



- Two compartment plastic carrying case with molded handle.
- Removable locking pegs for storing O-rings and to prevent them from falling off if the case gets tipped.
- Built in gauges for sizing O-rings.
- Sizes and quantities include:
 - 10 each** in ID's of 006, 007, 008, 009, 010, 011, 012, 110, 111, 112, 113, 114
 - 5 each** in ID's of 115, 116, 210, 212, 213, & 214.
 - 2 each** in ID's of 216, 217, 218, 219, 220, 221, 222, 325, 326, 327.

VITON O-RING KIT

IBS No.	Description	Qty
30615	Viton O-Ring Kit	1

Viton O-Ring Splice Kit

IBS No. 15537 • 12 Items • 12 Pcs

Each kit contains O-Ring cord, splicing jig, razor, glue and detailed instructions for making O-Rings to your specifications.

Material: Viton (Fluorocarbon)

Kit includes: one 7 foot length of each of the following: 1/16" (.070), 3/32" (.103), 1/8" (.139), 3/16" (.210), 1/4" (.275).



METRIC O-RING SPLICE KIT

IBS No.	Description	Qty
15537	Viton O-Ring Splice Kit	1

RINGS & PINS



IBS, INCORPORATED

O-Rings K09

Nitrile Air Conditioning O-Rings

FOR USE WITH R12 & R13 REFRIGERANT



IBS No.	I.D.	O.D	Thickness	OEM No.	Qty
A-17604	.290"	.432	.071"	Ford: 391396	25
A-18646	.375"	.500	.063"	—	25
A-17605	.400"	.546	.073"	Ford: 391397	25
A-17606	.509"	.655	.073"	Ford: 391304	25
A-17607	.617"	.769	.076"	Ford: 391305	15
A-18647	.688"	.813	.063"	—	25
A-18134	4.5mm	7.3mm	1.4mm	Nissan: 92472-N8200	25
A-18135	6mm	9.6mm	1.8mm	Nissan: 92470-N8200	25
A-18136	6.5mm	9.5mm	1.5mm	Toyota: 90099-14044	25
A-18137	6.6mm	10.2mm	1.8mm	Acura: 80873-ST7-000	25
A-18138	7.7mm	11.3mm	1.8mm	Nissan: 92474-N8200	25
A-18140	10.7mm	15.5mm	2.4mm	Acura: 80872-ST7-000 Nissan: 92475-W1000	25
A-18139	10.8mm	14.4mm	1.8mm	Nissan: 92471-N8200	25
A-18141	13.3mm	18.1mm	2.4mm	Acura: 80871-ST7-000	25
A-18143	13.4mm	17.2mm	1.9mm	Toyota: 90099-14045	15
A-18142	14mm	17.6mm	1.8mm	Nissan: 92473-N8200	25
A-18144	14.8mm	19.6mm	2.4mm	Nissan: 92475-W2100	15
A-19235	13/16"	1-1/16"	1/8"	—	10

Nitrile Air Conditioning O-Ring Assortment

IBS No. 804R • 18 Items - 180 Pieces

Packaged in a locking steel drawer for easy storage & organization



IBS, Inc.

SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR
INDUSTRIALDOLT.COM ☎ ☎ ☎ 800-678-1906

A/C O-Rings

Nitrile for use with R134A & R12 Refrigerant

Assortment No. 804R

A-18134 4.5MM X 7.3MM X 1.4MM NITRILE A/C O-RING 	A-18135 6MM X 9.6MM X 1.8MM NITRILE A/C O-RING 	A-18136 6.5MM X 9.5MM 1.5MM NITRILE A/C O-RING 	A-18137 6.6MM X 10.2MM X 1.8MM NITRILE A/C O-RING 	A-17604 .290 X .432 X .071 NITRILE A/C O-RING 
A-18138 7.7MM X 11.3MM X 1.8MM NITRILE A/C O-RING 	A-18646 .375 X .500 X .063 NITRILE A/C O-RING 	A-17605 .400 X .546 X .073 NITRILE A/C O-RING 	A-18140 10.7MM X 15.5MM X 2.4MM NITRILE A/C O-RING 	A-18139 10.8MM X 14.4MM X 1.8MM NITRILE A/C O-RING 
A-17606 .509 X .655 X .073 NITRILE A/C O-RING 	A-18141 13.3MM X 18.1MM X 2.4MM NITRILE A/C O-RING 	A-18143 13.4MM X 17.2MM X 1.9MM NITRILE A/C O-RING 	A-18142 14MM X 17.6MM X 1.8MM NITRILE A/C O-RING 	A-18144 14.8MM X 19.6MM X 2.4MM NITRILE A/C O-RING 
A-17607 .617 X .769 X .076 NITRILE A/C O-RING 	A-18647 .688 X .813 X .063 NITRILE A/C O-RING 	A-19235 13/16 X 1-1/16 X 1/8 NITRILE A/C O-RING 	 	

RINGS & PINS

IBS, INCORPORATED

Square Key Stock K10 & Dowel Pins K12



Square Key Stock 12" LONG

- Oversized .000 to +.002.
- Zinc plated.



IBS No.	Width	Length	Pkg Qty
15620	3/32	12	1
15621	1/8	12	1
15622	5/32	12	1
15623	3/16	12	1
15624	7/32	12	1
15625	1/4	12	1
15626	9/32	12	1
15627	5/16	12	1
15628	3/8	12	1
15629	7/16	12	1
15630	1/2	12	1
15631	9/16	12	1
15632	5/8	12	1
15634	3/4	12	1
15636	7/8	12	1
15637	1	12	1

Key Stock Assortment (Z02)

IBS No. 118R • 11 Items - 21 Pieces
Arranged in a 12 Compartment
Mountable Rack

- 3 Each of 1/8", 3/16", 1/4"
- 2 Each of 5/16", 3/8", 7/16", 1/2"
- 1 Each of 5/8", 3/4", 7/8", 1"



Dowel Pins

PRECISION GROUND • ALLOY STEEL



IBS No.	Diameter	Length	Pkg Qty
15640	1/8	3/4	25
15642	1/8	1	25
15652	3/16	3/4	25
15654	3/16	1	25
15656	3/16	1-1/2	25
15658	3/16	2	25
15662	1/4	1/2	25
15664	1/4	3/4	25
15666	1/4	1	25
15668	1/4	1-1/2	25
15670	1/4	2	25
15678	5/16	1	25
15686	3/8	3/4	15
15688	3/8	1	15
15690	3/8	1-1/2	15
15692	3/8	2	15
15698	1/2	2-1/2	10
15699	1/2	3	10

RINGS & PINS



IBS, INCORPORATED

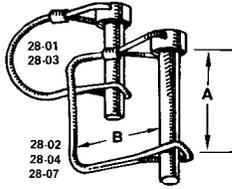
Miscellaneous Pins K11

Snapper Pins

QUICK CONNECT AND DISCONNECT



- Retainer Wire made from Tempered M-B Spring Wire.
- Shank made from 1010 Carbon Steel.
- Entire unit is zinc plated.

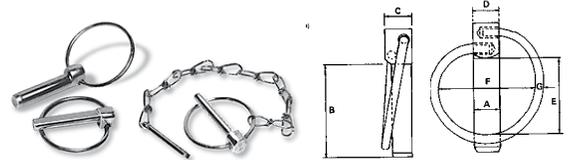


IBS No.	Pin Diam.	Usable Length (A)	Clearance B	Pkg Qty
28-01	1/4	1-3/4	1-1/2	5
28-07	1/4	2-1/2	1-1/2	5
28-02	5/16	2-1/2	1-5/8	5
28-03	3/8	1-3/8	1-1/2	5
28-04	3/8	2-1/4	1-1/2	5

Lynch Pins

FORGED TO PROVIDE MAXIMUM STRENGTH

- Zinc Plated and Dichromate Dipped for corrosion resistance.
- Self-locking ring designed for security and easy removal.



IBS No.	Description	A	B	C	D	E	F	G	Pkg Qty
63-01	Standard Pin	3/16	1-9/16	33/64	23/64	1-19/64	1-13/32	9/64	5
63-02	Standard Pin	1/4	1-9/16	33/64	23/64	1-19/64	1-13/32	9/64	5
A-11736	Standard Pin	1/4	1-3/4	1/2	1/4	1-5/16	1-9/16	9/64	5
63-03	Standard Pin	5/16	1-9/16	33/64	13/32	1-19/64	1-15/32	9/64	5
63-04	Standard Pin	7/16	1-9/16	9/16	29/64	1-23/64	1-17/32	9/64	5
63-05	Standard Pin HD Ring	7/16	1-3/4	9/16	29/64	1-23/64	1-43/64	.018	5
63-11	Standard Pin Chain & Cotter	7/16	1-9/16	9/16	29/64	1-23/64	1-17-32	9/64	5

Snapper & Lynch Pins Assortment (Z02)

IBS No. 394R • 11 Items • 33 Pieces

Packaged in a locking steel drawer for easy storage & organization

Snapper & Lynch Pins

Assortment No. 394R

<p>28-01 1/4 X 1-3/4 SNAPPER PIN</p>	<p>63-01 3/16 X 1-9/16 LYNCH PIN</p>	<p>63-04 7/16 X 1-9/16 LYNCH PIN</p>
<p>28-02 5/16 X 2-1/2 SNAPPER PIN</p>	<p>63-02 1/4 X 1-9/16 LYNCH PIN</p>	<p>63-05 7/16 X 1-3/4 LYNCH PIN</p>
<p>28-03 3/8 X 1-3/8 SNAPPER PIN</p>	<p>A-11736 1/4 X 1-3/4 LYNCH PIN</p>	<p>63-11 7/16 x 1-9/16 LYNCH PIN</p>
<p>28-04 3/8 X 2-1/4 SNAPPER PIN</p>	<p>63-03 5/16 X 1-9/16 LYNCH PIN</p>	

RINGS & PINS



Socket Products

A

Assortments

- Button Head Socket Capscrews 1/4-20 to 1/2-13 L-5**
- Button Head Socket Capscrews 4-40 to 10-32 L-5**
- Flat Head Socket Capscrews 1/4-20 to 1/2-13 L-4**
- Flat Head Socket Capscrews 4-40 to 10-32 L-4**
- Metric 12.9**
 - Flat Hd Socket Capscrews L-10
 - Socket Head Capscrews L-9
- Metric, Stainless**
 - Socket Set Screws L-10
- SAE Socket Set Screws L-7**
- Socket Head Capscrew L-3**
- Socket Head Capscrews 4-40 to 10-32 L-3**
- Socket Set Screw**
 - Metric L-10
- USS Socket Set Screws L-7**

C

Capscrews

- Button Head Socket**
 - National Coarse L-5
- Flat Head Socket**
 - National Coarse L-4
- Metric**
 - Socket L-9, L-10
 - Stainless Steel L-11
- Socket Head**
 - National Coarse L-2

National Fine L-2

S

- Set Screws**
 - Socket L-6**
 - Metric L-10
 - Nat'l coarse L-6
 - Square Head L-6**
- Set Screws**
 - Metric**
 - Stainless L-11
- Socket Keys**
 - Hex L-11**
- Stainless Steel**
 - Metric L-11**
- Stripper Bolts L-8**

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Socket Products

**Manufactured From High Grade Alloy Steel
(AISI-4037 or AISI-4140)**

The type of alloy steel used is that which is best suited to meet the physical and mechanical properties as required by the specification ANSI B-18.3 1982.

SOCKET HEAD CAP SCREWS TENSILE & YIELD STRENGTH IN PSI

Diameter	Minimum Tensile Strength	Minimum Yield Strength
#0 - #10	195,000	175,000
1/4" - 7/16"	190,000	170,000
1/2"	185,000	165,000
5/8"	180,000	155,000
3/4" - 7/8"	175,000	150,000
1"	170,000	145,000
1-1/4" - 1-1/2"	160,000	135,000



IBS, INCORPORATED

Socket Products L01

SOCKET SCREWS



Socket Head Capscrews

Class 3 Thread Fit • National Coarse

Length (in.)	4-40	6-32	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	1-8	Length (in.)
1/4	14440	14450	14560										1/4
3/8	14441	14451	14561	14570	14580								3/8
1/2	14442	14452	14562	14571	14581	14596	14612						1/2
5/8	14443	14453	14563	14572	14582	14597							5/8
3/4	14444	14454	14564	14573	14583	14598	14614		14641				3/4
1		14455	14565	14574	14584	14599	14615	14630	14642				1
1-1/4			14566	14576	14585	14600	14616	14631	14643				1-1/4
1-1/2			14567	14577	14586	14601	14617	14632	14644	14658	14670		1-1/2
1-3/4					14587	14602	14618		14645	14659	14671		1-3/4
2				14579	14588	14603	14619	14634	14646	14660	14672	14432	2
2-1/2					14590	14605	14621	14636	14648*	14662	14674	14433	2-1/2
3					14592	14607	14623	14638	14650*	14664	14676	14434	3
3-1/2							14624		14651*	14665	14678	14435	3-1/2
4							14625	14639	14652*	14666	14679	14436	4
5												14438	5
6												14439	6
Pkg Qty	25	25 *10	25 *10	25	25	25	25	25 *10	25 *10	10	10	10	Pkg Qty



Socket Head Capscrews

Class 3 Thread Fit • National Fine

Length (in.)	10-32	1/4-28	5/16-24	3/8-24	1/2-20	5/8-18	Length (in.)
3/8	14680						3/8
1/2	14681	14690	14700				1/2
5/8	14682	14691	14701				5/8
3/4	14683	14692	14702	14712			3/4
1	14684	14693	14703	14713	14725		1
1-1/4	14685	14694	14704	14714	14726	14734	1-1/4
1-1/2	14686	14695	14705	14715	14727	14735	1-1/2
1-3/4						14736	1-3/4
2	14688			14717	14729	14737	2
2-1/2					14730	14738	2-1/2
3					14731		3
Pkg Qty	25	25	25	25	25	25	Pkg Qty

IBS, INCORPORATED

Assortments Z02



Socket Head Capscrews

IBS No. 167R

24 Items • 925 Pieces

 IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM • © © 800-678-1906</small>						Hex Socket Head Cap Screws					
Assortment No. 167R											
14450 6-32 X 1/4 SOCKET HD C/S ALLOY 	14454 6-32 X 3/4 SOCKET HD C/S ALLOY 	14562 8-32 X 1/2 SOCKET HD C/S ALLOY 	14681 10-32 X 1/2 SOCKET HD C/S 	14571 10-24 X 1/2 SOCKET HD C/S 	14685 10-32 X 1-1/4 SOCKET HD C/S 						
14451 6-32 X 3/8 SOCKET HD C/S ALLOY 	14455 6-32 X 1 SOCKET HD C/S ALLOY 	14563 8-32 X 5/8 SOCKET HD C/S ALLOY 	14682 10-32 X 5/8 SOCKET HD C/S 	14572 10-24 X 5/8 SOCKET HD C/S 	14686 10-32 X 1-1/2 SOCKET HD C/S 						
14452 6-32 X 1/2 SOCKET HD C/S ALLOY 	14560 8-32 X 1/4 SOCKET HD C/S ALLOY 	14564 8-32 X 3/4 SOCKET HD C/S ALLOY 	14683 10-32 X 3/4 SOCKET HD C/S 	14573 10-24 X 3/4 SOCKET HD C/S 	14576 10-24 X 1-1/4 SOCKET HD C/S 						
14453 6-32 X 5/8 SOCKET HD C/S ALLOY 	14561 8-32 X 3/8 SOCKET HD C/S ALLOY 	14565 8-32 X 1 SOCKET HD C/S ALLOY 	14684 10-32 X 1 SOCKET HD C/S ALLOY 	14574 10-24 X 1 SOCKET HD C/S ALLOY 	14577 10-24 X 1-1/2 SOCKET HD C/S 						

Socket Head Capscrews

4-40 to 10-32

IBS No. 371R

23 Items • 1100 Pieces

 IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM • © © 800-678-1906</small>						Socket Head Cap Screws 4-40 to 10-32					
Assortment No. 371R											
14440 4-40 X 1/4 SOCKET HD C/S ALLOY 	14441 4-40 X 3/8 SOCKET HD C/S ALLOY 	14442 4-40 X 1/2 SOCKET HD C/S ALLOY 	14443 4-40 X 5/8 SOCKET HD C/S ALLOY 	14444 4-40 X 3/4 SOCKET HD C/S ALLOY 	14450 6-32 X 1/4 SOCKET HD C/S ALLOY 						
14451 6-32 X 3/8 SOCKET HD C/S ALLOY 	14452 6-32 X 1/2 SOCKET HD C/S ALLOY 	14453 6-32 X 5/8 SOCKET HD C/S ALLOY 	14454 6-32 X 3/4 SOCKET HD C/S ALLOY 	14561 8-32 X 3/8 SOCKET HD C/S ALLOY 	14562 8-32 X 1/2 SOCKET HD C/S ALLOY 						
14563 8-32 X 5/8 SOCKET HD C/S ALLOY 	14564 8-32 X 3/4 SOCKET HD C/S ALLOY 	14565 8-32 X 1 SOCKET HD C/S ALLOY 	14570 10-24 X 3/8 SOCKET HD C/S 	14571 10-24 X 1/2 SOCKET HD C/S 	14573 10-24 X 3/4 SOCKET HD C/S 						
14574 10-24 X 1 SOCKET HD C/S ALLOY 	14680 10-32 X 3/8 SOCKET HD C/S 	14681 10-32 X 1/2 SOCKET HD C/S 	14683 10-32 X 3/4 SOCKET HD C/S 	14684 10-32 X 1 SOCKET HD C/S ALLOY 							

Socket Head Capscrews

1/4-20 to 1/2-13

IBS No. 372R

19 Items • 401 Pieces

 IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM • © © 800-678-1906</small>						Socket Head Cap Screws 1/4-20 to 1/2-13					
Assortment No. 372R											
14581 1/4-20 X 1/2 SOCKET HD C/S 	14583 1/4-20 X 3/4 SOCKET HD C/S 	14584 1/4-20 X 1 SOCKET HD C/S ALLOY 	14585 1/4-20 X 1-1/4 SOCKET HD C/S 	14586 1/4-20 X 1-1/2 SOCKET HD C/S 							
14596 5/16-18 X 1/2 SOCKET HD C/S 	14598 5/16-18 X 3/4 SOCKET HD C/S 	14599 5/16-18 X 1 SOCKET HD C/S 	14600 5/16-18 X 1-1/4 SOCKET HD C/S 	14601 5/16-18 X 1-1/2 SOCKET HD C/S 							
14614 3/8-16 X 3/4 SOCKET HD C/S 	14615 3/8-16 X 1 SOCKET HD C/S ALLOY 	14616 3/8-16 X 1-1/4 SOCKET HD C/S 	14617 3/8-16 X 1-1/2 SOCKET HD C/S 	14619 3/8-16 X 2 SOCKET HD C/S ALLOY 							
14642 1/2-13 X 1 SOCKET HD C/S ALLOY 	14643 1/2-13 X 1-1/4 SOCKET HD C/S 	14644 1/2-13 X 1-1/2 SOCKET HD C/S 	14646 1/2-13 X 2 SOCKET HD C/S ALLOY 								

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IBS, INCORPORATED

Socket Products L01

SOCKET SCREWS



Flat Head Socket Cap Screws

CLASS 3 THREAD FIT • NATIONAL COARSE

Length	4-40	6-32	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	Length
1/4	147390	147399										1/4
3/8	147391	147400	147410	147420								3/8
1/2	147392	147401	147411	147421	14750	14760	14770					1/2
5/8	147393	147402	147412	147422								5/8
3/4	147394	147403	147413	147423	14752	14762	14772		14786			3/4
1			147414	147424	14753	14763	14773		14787			1
1-1/4				147425	14754	14764	14774	14781	14788	14797		1-1/4
1-1/2				147426	14755	14765	14775	14780	14789	14798	14804	1-1/2
1-3/4							14776		14790		14805	1-3/4
2							14777	14784	14791	14800	14806	2
2-1/2									14793*	14801	14807	2-1/2
3									14794*	14802	14809	3
Qty	25	25	25	25	25	25	25	25	25/*10	25	25	Qty



Flat Head Socket Cap Screws

CLASS 3 THREAD FIT • NATIONAL FINE

Length	10-32	1/4-28	5/16-24	3/8-24	1/2-20	Length
3/8	14815					3/8
1/2	14816	14825	14832			1/2
5/8	14817					5/8
3/4	14818	14826	14833	14837		3/4
1	14819	14827	14834	14838	14843	1
1-1/4	14820	14828	14835	14839	14844	1-1/4
1-1/2	14821	14829	14836	14840	14845	1-1/2
1-3/4					14846	1-3/4
2					14847	2
Qty	25	25	25	25	25	Qty

Flat Head Socket Capscrews 4-40 to 10-32 (Z02)

IBS No. 373R • 24 Items • 1051 Pieces

Flat Head Socket Capscrews 1/4-20 to 1/2-13 (Z02)

IBS No. 374R • 19 Items • 356 Pieces

IBS, Inc. Flat Head Socket Capscrews 4-40 - 10-32

Assortment No. 373R

147390 4-40 X 1/4 FLAT SOCKET C/S	147391 4-40 X 3/8 FLAT SOCKET C/S	147392 4-40 X 1/2 FLAT SOCKET C/S	147393 4-40 X 5/8 FLAT SOCKET C/S	147394 4-40 X 3/4 FLAT SOCKET C/S	147399 6-32 X 1/4 FLAT SOCKET HD C/S
147400 6-32 X 1/8 FLAT SOCKET C/S	147401 6-32 X 1/2 FLAT SOCKET C/S	147402 6-32 X 5/8 FLAT SOCKET C/S	147403 6-32 X 3/4 FLAT SOCKET C/S	147410 8-32 X 3/8 FLAT SOCKET C/S	147411 8-32 X 1/2 FLAT SOCKET C/S
147412 8-32 X 5/8 FLAT SOCKET C/S	147413 8-32 X 3/4 FLAT SOCKET C/S	147414 8-32 X 1 FLAT SOCKET C/S ALLOY	147420 10-24 X 3/8 FLAT SOCKET C/S	147421 10-24 X 1/2 FLAT SOCKET C/S	147423 10-24 X 3/4 FLAT SOCKET HD
147424 10-24 X 1 FLAT SOCKET HD C/S	14815 10-32 X 3/8 FLAT SOCKET C/S	14816 10-32 X 1/2 FLAT SOCKET C/S	14818 10-32 X 3/4 FLAT SOCKET C/S	14819 10-32 X 1 FLAT SOCKET C/S	

IBS, Inc. Flat Head Socket Capscrews 1/4-20 - 1/2-13

Assortment No. 374R

14750 1/4-20 X 1/2 FLAT SOCKET C/S	14752 1/4-20 X 3/4 FLAT SOCKET C/S	14753 1/4-20 X 1 FLAT SOCKET C/S	14754 1/4-20 X 1-1/4 FLAT SOCKET C/S	14755 1/4-20 X 1-1/2 FLAT SOCKET C/S
14760 5/16-18 X 1/2 FLAT SOCKET C/S	14762 5/16-18 X 3/4 FLAT SOCKET C/S	14763 5/16-18 X 1 FLAT SOCKET C/S	14764 5/16-18 X 1-1/4 FLAT SOCKET C/S	14765 5/16-18 X 1-1/2 FLAT SOCKET C/S
14772 3/8-16 X 3/4 FLAT SOCKET C/S	14773 3/8-16 X 1 FLAT SOCKET C/S	14774 3/8-16 X 1-1/4 FLAT SOCKET C/S	14775 3/8-16 X 1-1/2 FLAT SOCKET C/S	14777 3/8-16 X 2 FLAT SOCKET C/S
14787 1/2-13 X 1 FLAT SOCKET C/S	14788 1/2-13 X 1-1/4 FLAT SOCKET C/S	14789 1/2-13 X 1-1/2 FLAT SOCKET C/S	14791 1/2-13 X 2 FLAT SOCKET C/S	

IBS, INCORPORATED

Socket Products L01



Button Head Socket Cap Screws

CLASS 3 THREAD FIT • NATIONAL COARSE & FINE



Length (in.)	4-40	6-32	8-32	10-24	10-32	1/4-20	5/16-18	3/8-16	1/2-13	5/8-11	Length (in.)
1/4	148911	148915	148920	148925	148930						1/4
3/8	148912	148916	148921	148926	148931	14915	14920				3/8
1/2	148913	148917	14902	14907	14911	14916	14921	14926			1/2
5/8		148918	14903	14908	148932	14917	14922	14927			5/8
3/4			14904	14909	14912	14918	14923	14928			3/4
1				14910	14913	14919	14924	14929	14932		1
1-1/4								14930	14933	14937	1-1/4
1-1/2									14934	14938	1-1/2
1-3/4										14939	1-3/4
2									14935	14940	2
Pkg Qty	25	25	25	25	25	25	25	25	10	10	Pkg Qty

Button Head Socket Capscrews 4-40 to 10-32 (Z02)
IBS No. 376R
25 Items • 1051 Pieces

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © © © 800-678-1506						Button Head Socket Cap Screws 4-40 to 10-32 Assortment No. 376R					
148911 4-40 X 1/4 BUTTON SOC C/S Hex Key: 1/16"	148912 4-40 X 3/8 BUTTON SOC C/S Hex Key: 1/16"	148913 4-40 X 3/8 BUTTON SOC C/S Hex Key: 1/16"	148915 6-32 X 3/8 BUTTON SOC C/S Hex Key: 1/12"	148916 6-32 X 3/8 BUTTON SOC C/S Hex Key: 5/64"	148917 6-32 X 1/2 BUTTON SOC C/S Hex Key: 5/64"						
148918 6-32 X 5/8 BUTTON SOC C/S Hex Key: 5/64"	148920 8-32 X 1/4 BUTTON SOC C/S Hex Key: 3/32"	148921 8-32 X 3/8 BUTTON SOC C/S Hex Key: 3/32"	14902 8-32 X 1/2 BUTTON SOC C/S Hex Key: 3/32"	14903 8-32 X 5/8 BUTTON SOC C/S Hex Key: 3/32"	14904 8-32 X 3/4 BUTTON SOC C/S Hex Key: 3/32"						
148925 10-24 X 1/4 BUTTON SOC C/S Hex Key: 1/8"	148926 10-24 X 3/8 BUTTON SOC C/S Hex Key: 1/8"	14907 10-24 X 1/2 BUTTON SOC C/S Hex Key: 1/8"	14908 10-24 X 5/8 BUTTON SOC C/S Hex Key: 1/8"	14909 10-24 X 3/4 BUTTON SOC C/S Hex Key: 1/8"	14910 10-24 X 1 BUTTON SOC C/S Hex Key: 3/32"						
148930 10-32 X 1/4 BUTTON SOC C/S Hex Key: 1/8"	148931 10-32 X 1/4 BUTTON SOC C/S Hex Key: 1/8"	14911 10-32 X 1/2 BUTTON SOC C/S Hex Key: 1/8"	148932 10-32 X 5/8 BUTTON SOC C/S Hex Key: 1/8"	14912 10-32 X 3/4 BUTTON SOC C/S Hex Key: 1/8"	14913 10-32 X 1 BUTTON SOC C/S Hex Key: 1/8"						

Button Head Socket Capscrews 1/4-20 to 1/2-13
IBS No. 377R
20 Items • 377 Pieces

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © © © 800-678-1506					Button Head Socket Capscrews 1/4-20 to 1/2-13 Assortment No. 377R				
14915 1/4-20 X 3/8 BUTTON SOCKET C/S Hex Key 5/32"	14916 1/4-20 X 1/2 BUTTON SOCKET C/S Hex Key 5/32"	14917 1/4-20 X 5/8 BUTTON SOCKET C/S Hex Key 5/32"	14918 1/4-20 X 3/4 BUTTON SOCKET C/S Hex Key 5/32"	14919 1/4-20 X 1 BUTTON SOCKET C/S Hex Key 5/32"					
14920 5/16-18 X 3/8 BUTTON SOCKET C/S Hex Key 3/16"	14921 5/16-18 X 1/2 BUTTON SOCKET C/S Hex Key 3/16"	14922 5/16 X 5/8 BUTTON SOCKET C/S Hex Key 3/16"	14923 5/16-18 X 3/4 BUTTON SOCKET C/S Hex Key 3/16"	14924 5/16-18 X 1 BUTTON SOCKET C/S Hex Key 3/16"					
14926 3/8-16 X 1/2 BUTTON SOCKET C/S Hex Key 7/32"	14927 3/8-16 X 5/8 BUTTON SOCKET C/S Hex Key 7/32"	14928 3/8-16 X 3/4 BUTTON SOCKET C/S Hex Key 7/32"	14929 3/8-16 X 1 BUTTON SOCKET C/S Hex Key 7/32"	14930 3/8-16 X 1-1/4 BUTTON SOCKET C/S Hex Key 7/32"					
14932 1/2-13 X 1 BUTTON SOCKET C/S Hex Key 5/16"	14933 1/2-13 X 1-1/4 BUTTON SOCKET C/S Hex Key 5/16"	14934 1/2-13 X 1-1/2 BUTTON SOCKET C/S Hex Key 5/16"	14935 1/2-13 X 2 BUTTON SOCKET C/S Hex Key 5/16"						

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IBS, INCORPORATED

Socket Products L01

Square Head Set Screws — Cup Point



Length (in.)	1/4-20	5/16-18	3/8-16	7/16-14	1/2-13	5/8-11	3/4-10	Length (in.)
3/4	14051	14056A	14064					3/4
1	14052	14057	14065	14070				1
1-1/2	14053	14059	14067	14071	14077	14087	14095	1-1/2
2		14061	14069	14072	14078	14088	14096	2
2-1/2					14079	14089	14097	2-1/2
3					14080	14090	14098	3
4					14081	14092	14099	4
Pkg Qty	25	25	25	25	25	10	10	Pkg Qty

Socket Set Screws — Knurled Point

Our Socket Set Screws are now featuring a knurled point for better gripping and staying power. Only the 5/8-11 and 1/2-20 set screws will remain stocked in cup point.

NATIONAL COARSE

Length (in.)	6-32	8-32	10-24	10-32	1/4-20	5/16-18	3/8-16	7/16-14	1/2-13	Length (in.)
3/16	14167	14177	14187	14198						3/16
1/4	14168	14178	14188	14199	14212	14226*	14310			1/4
5/16	14169	14179			14213	14227	14311*			5/16
3/8	14170	14180	14190	14201	14214	14228	14312	14325*		3/8
7/16						14229*				7/16
1/2	14171	14182	14191	14203	14216	14300	14314	14326*	14335	1/2
5/8						14301	14315		14336	5/8
3/4					14218	14302	14316	14328*	14337	3/4
1					14220	14304	14318		14338	1
1-1/4										1-1/4
Pkg Qty	25	25	25	25	25	25	25	25	25	Pkg Qty

NATIONAL FINE

Length (in.)	1/4-28	5/16-24	3/8-24	1/2-20	Length (in.)
1/4	14361	14370			1/4
5/16	14362	14371			5/16
3/8	14363	14372	14382		3/8
1/2	14365	14374	14384	14398	1/2
5/8			14385	14399	5/8
3/4	14366	14376	14386	14400	3/4
1			14387	14401	1
Pkg Qty	25	25	25	25	Pkg Qty



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IBS, INCORPORATED

Assortments Z02



USS Socket Set Screws - NC National Coarse

IBS No. 190R • 32 Items • 490 Pieces

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM 800-678-1906		Socket Set Screws Knurled Point Thread					
Assortment No. 190R							
14168 6-32 X 1/4 SOC SET KNURLED PT 	14169 6-32 X 5/16 SOC SET KNURLED PT 	14170 6-32 X 3/8 SOC SET KNURLED PT 	14178 8-32 X 1/4 SOC SET KNURLED PT 	14179 8-32 X 5/16 SOC SET KNURLED PT 	14180 8-32 X 3/8 SOC SET KNURLED PT 	14182 8-32 X 1/2 SOC SET KNURLED PT 	14187 10-24 X 3/16 SOC SET KNURLED 
14188 10-24 X 1/4 SOC SET KNURLED PT 	14190 10-24 X 3/8 SOC SET KNURLED PT 	14191 10-24 X 1/2 SOC SET KNURLED PT 	14212 1/4-20 X 1/4 SOC SET KNURLED 	14213 1/4-20 X 5/16 SOC SET 	14214 1/4-20 X 3/8 SOC SET KNURLED 	14216 1/4-20 X 1/2 SOC SET KNURLED 	14218 1/4-20 X 3/4 SOC SET KNURLED 
14228 5/16-18 X 3/8 SOC SET 	14300 5/16-18 X 1/2 SOC SET 	14302 5/16-18 X 3/4 SOC SET 	14314 3/8-16 X 1/2 SOC SET KNURLED 	14315 3/8-16 X 5/8 SOC SET KNURLED 	14316 3/8-16 X 3/4 SOC SET KNURLED 	14318 3/8-16 X 1 SOC SET KNURLED PT 	14335 1/2-13 X 1/2 SOC SET KNURLED 
14336 1/2-13 X 5/8 SOC SET KNURLED 	14337 1/2-13 X 3/4 SOC SET KNURLED 	14338 1/2-13 X 1 SOC SET KNURLED PT 					

SAE Socket Set Screws - NF National Fine

IBS No. 191R • 20 ITEMS • 615 PIECES

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM 800-678-1906		SAE Alloy Socket Set Screws Knurled Point		
Assortment No. 191R				
14198 10-32 X 3/16 SOC SET KNURLED 	14361 1/4-28 X 1/4 SOC SET KNURLED 	14366 1/4-28 X 3/4 SOC SET KNURLED 	14384 3/8-24 X 1/2 SOC SET KNURLED 	14398 1/2-20 X 1/2 SOC SET CUP KNURLED 
14199 10-32 X 1/4 SOC SET KNURLED PT 	14362 1/4-28 X 5/16 SOC SET KNURLED 	14372 5/16-24 X 3/8 SOC SET KNURLED 	14385 3/8-24 X 5/8 SOC SET KNURLED 	14399 1/2-20 X 5/8 SOC SET CUP KNURLED 
14201 10-32 X 3/8 SOC SET KNURLED 	14363 1/4-28 X 3/8 SOC SET KNURLED 	14374 5/16-24 X 1/2 SOC SET KNURLED 	14386 3/8-24 X 3/4 SOC SET KNURLED 	14400 1/2-20 X 3/4 SOC SET CUP KNURLED 
14203 10-32 X 1/2 SOC SET KNURLED 	14365 1/4-28 X 1/2 SOC SET KNURLED 	14376 5/16-24 X 3/4 SOC SET KNURLED 	14387 3/8-24 X 1 SOC SET KNURLED PT 	14401 1/2-20 X 1 SOC SET CUP POINT 

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IBS, INCORPORATED

Socket Products L01

Shoulder Bolts

(A.K.A. STRIPPER BOLTS)



Thread Pitch x Thread Length	10-24 x 3/8	1/4-20 x 7/16	5/16-18 x 1/2	3/8-16 x 5/8	1/2-13 x 5/8
Shoulder Length	1/4 Shoulder Diameter	5/16 Shoulder Diameter	3/8 Shoulder Diameter	1/2 Shoulder Diameter	5/8 Shoulder Diameter
3/8	14944				
1/2	14945				
3/4	14946	14969	149717	14973	
1	14947	14970	149718	14974	
1-1/4	14948	14971	149719	149741	14982
1-1/2	14949	149711	14972	14975	14983
2		149712	149723	149752	14984
2-1/2			149725	149754	14986
3					14987
Pkg Qty	10	10	10	10	10

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IBS, INCORPORATED

Metric Socket Products H17



Metric Socket Head Cap Screws — Class 12.9



Length (mm)	M3	M4	M5	M6	M8	M10	M12	M14	M16	M20	M24	Length (mm)
10		815	82200	8242								10
12	810	816	822	824A	828	833						12
16	812	818	823	824B	82800	834	83600					16
20	814	820	823A	824C	829	835	83601					20
25		821	824	824D	829A	835A	836	839				25
30		82105	82400	825	830	835B	836A	83901				30
35		82106	82401	826	830A	835C	83602	840	84110			35
40		82107	82402	827	831	835D	836B	841	84111	845		40
45		82108	82403	82700	83100	83500	83603	84100	84112	846		45
50		82109	82404	827B	832	83501	837A	84101	842	847	860	50
60				82702	83201	83503	838	84103	84201	849	862	60
70				82703	83202	83504	83800	84104	84202	850	863	70
75									843			75
80						83505	83801	84105	84300	851	864	80
90						83506	83802	84106	84301	852	865	90
100						83507	83803	84107	84302	853	866	100
110									84303	854	867	110
120									84304	855	868	120
130									84305	856	869	130
140									84306	857	86900	140
150									84307	858	86901	150
Pkg Qty	100	100	50	50	25	25	10	10	10	5	5	Pkg Qty

SOCKET SCREWS

Metric 12.9 Socket Head Cap Screws (Z02)

IBS No. 266R • 24 ITEMS • 435 PIECES

Packaged in a Locking Steel Drawer for Easy Storage & Organization

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALSOLTS.COM © © © 800-678-1958		Metric 12.9 Socket Head Capscrews				Assortment No. 266R
816 M4 X 12 SOCKET HD C/S ALLOY	818 M4 X 16 SOCKET HD C/S ALLOY	820 M4 X 20 SOCKET HD C/S ALLOY	821 M4 X 25 SOCKET HD C/S ALLOY	822 M5 X 12 SOCKET HD C/S ALLOY	823 M5 X 16 SOCKET HD C/S ALLOY	
823A M5 X 20 SOCKET HD C/S ALLOY	824 M5 X 25 SOCKET HD C/S ALLOY	824A M6 X 12 SOCKET HD C/S ALLOY	824B M6 X 16 SOCKET HD C/S ALLOY	824C M6 X 20 SOCKET HD C/S ALLOY	824D M6 X 25 SOCKET HD C/S ALLOY	
825 M6 X 30 SOCKET HD C/S ALLOY	827 M6 X 40 SOCKET HD C/S ALLOY	829 M8 X 20 SOCKET HD C/S ALLOY	829A M8 X 25 SOCKET HD C/S ALLOY	830 M8 X 30 SOCKET HD C/S ALLOY	830A M8 X 35 SOCKET HD C/S ALLOY	
831 M8 X 40 SOCKET HD C/S ALLOY	835 M10 X 20 SOCKET HD C/S ALLOY	835A M10 X 25 SOCKET HD C/S ALLOY	835B M10 X 30 SOCKET HD C/S ALLOY	835C M10 X 35 SOCKET HD C/S ALLOY	835D M10 X 40 SOCKET HD C/S ALLOY	



IBS, INCORPORATED

Metric Socket Products H17

Metric Flat Socket Cap Screws — Class 12.9

Metric 12.9 Flat Socket Cap Screws Assortment (Z02)

IBS No. 267R • 24 ITEMS • 475 PIECES



Length (mm.)	M4	M5	M6	M8	M10	Length (mm)
12	84345	84360	84370			12
16	84346	84361	84371			16
20	84347	84362	84372	84381	84391	20
25	84348	84363	84373	84382	84393	25
30			84374	84383	84394	30
35				84384	84395	35
40			84375	84385	84393	40
Qty	25	25	25	25	25	Qty

IBS Inc. INDUSTRIALBOLT.COM • P.O. BOX 570-1506						Metric 12.9 Flat Socket Head Cap Screws
						Assortment No. 267R
84345 M4 X 12 FLAT SOCKET C/S ALLOY	84346 M4 X 16 FLAT SOCKET C/S ALLOY	84347 M4 X 20 FLAT SOCKET C/S ALLOY	84348 M4 X 25 FLAT SOCKET C/S ALLOY	84360 M5 X 12 FLAT SOCKET C/S ALLOY	84361 M5 X 16 FLAT SOCKET C/S ALLOY	
84362 M5 X 20 FLAT SOCKET C/S ALLOY	84363 M5 X 25 FLAT SOCKET C/S ALLOY	84370 M6 X 12 FLAT SOCKET C/S ALLOY	84371 M6 X 16 FLAT SOCKET C/S ALLOY	84372 M6 X 20 FLAT SOCKET C/S ALLOY	84373 M6 X 25 FLAT SOCKET C/S ALLOY	
84374 M6 X 30 FLAT SOCKET C/S ALLOY	84375 M6 X 40 FLAT SOCKET C/S ALLOY	84381 M8 X 20 FLAT SOCKET C/S ALLOY	84382 M8 X 25 FLAT SOCKET C/S ALLOY	84383 M8 X 30 FLAT SOCKET C/S 12.9	84384 M8 X 35 FLAT SOCKET C/S 12.9	
84385 M8 X 40 FLAT SOCKET C/S ALLOY	84391 M10 X 20 FLAT SOCKET C/S ALLOY	84393 M10 X 25 FLAT SOCKET C/S ALLOY	84394 M10 X 30 FLAT SOCKET C/S ALLOY	84395 M10 X 35 FLAT SOCKET C/S ALLOY	84396 M10 X 40 FLAT SOCKET C/S 12.9	

Metric Socket Set Screws Cup Point — Class 12.9

Metric Socket Set Screws Stainless Steel Assortment (Z02)

IBS No. 405R • 24 Items • 206 Pieces



Length (mm)	M6	M8	M10	M12	Length (mm)
6	785				6
8	786	792			8
10	787	793	797		10
12	788	794	798	804	12
16	789	795	799	805	16
20	790	796	800	806	20
25			802	807	25
30				807A	30
35			803	808	35
40				809	40
Qty	25	25	25	25	Qty

IBS Inc. INDUSTRIALBOLT.COM • P.O. BOX 570-1506						Stainless Steel Metric Socket Set Screws
						Assortment No. 405R
96900 M4 X 6 SOC SET SCREW SS	96905 M5 X 6 SOC SET SCREW SS	96910 M6 X 8 SOC SET SCREW SS	96915 M8 X 10 SOC SET SCREW SS	96920 M10 X 12 SOC SET SCREW SS	96925 M12 X 16 SOC SET SCREW SS	
96901 M4 X 8 SOC SET SCREW SS	96906 M5 X 8 SOC SET SCREW SS	96911 M6 X 10 SOC SET SCREW SS	96916 M8 X 12 SOC SET SCREW SS	96921 M10 X 16 SOC SET SCREW SS	96926 M12 X 20 SOC SET SCREW SS	
96902 M4 X 10 SOC SET SCREW SS	96907 M5 X 10 SOC SET SCREW SS	96912 M6 X 12 SOC SET SCREW SS	96917 M8 X 16 SOC SET SCREW SS	96922 M10 X 20 SOC SET SCREW SS	96927 M12 X 25 SOC SET SCREW SS	
96903 M4 X 12 SOC SET SCREW SS	96908 M5 X 12 SOC SET SCREW SS	96913 M6 X 16 SOC SET SCREW SS	96918 M8 X 20 SOC SET SCREW SS	96923 M10 X 25 SOC SET SCREW SS	96928 M12 X 30 SOC SET SCREW SS	

SOCKET SCREWS

Metric Stainless Steel Socket Head Capscrews



Length (mm)	M4	M5	M6	M8	M10	M12	Length (mm)
10	96850	96855	96860	96870			10
16	96851	96856	96861	96871			16
20	96852	96857	96862	96872	96880	96890	20
25	96853	96858	96863	96873	96881	96891	25
30			96864	96874	96882	96892	30
35				96875	96883	96893	35
40				96876	96884	96894	40
45				96877	96885	96895	45
Pkg Qty	25	25	25	25	15	10	Pkg Qty

Metric Stainless Steel Socket Set Screws



Length (mm)	M4	M5	M6	M8	M10	M12	Length (mm)
6	96900	96905					6
8	96901	96906	96910				8
10	96902	96907	96911	96915			10
12	96903	96908	96912	96916	96920		12
16			96913	96917	96921	96925	16
20				96918	96922	96926	20
25					96923	96927	25
30						96928	30
Pkg Qty	25	25	25	25	15	10	Pkg Qty

Hex Socket Keys (L01)
Sold Individually



IBS No.	Size	IBS No.	1/4 Size	IBS No.	Size
14950	1/16	14955	9/64	14960	5/16
14951	5/64	14956	5/32	14961	3/8
14952	3/32	14957	3/16	14962	7/16
14953	7/64	14958	7/32	14963	1/2

SOCKET SCREWS



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Threaded Rod

A

Assortments

- Threaded Rod
 - Grade 8 Threaded Rod Assortment M-4
 - METRIC 10.9 M-3
 - USS B-7 M-3
 - USS MILD STEEL M-3

R

Round Bar

- Mild Steel M-2

T

Threaded Rod

- B-7
 - National Coarse M-2
 - National Fine M-2
- Grade 8
 - National Coarse
 - Plain M-3, M-4
 - National Fine
 - Plain M-3
- Grade 10.9
 - National Coarse
 - Plain M-3
- Tools
 - Deburring Tools (T03) M-4
- Zinc Plated
 - Round Bar, Mild Steel M-2

Tools

- Threaded Rod
 - Deburring Tools (T03) M-4

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IBS, INCORPORATED

Threaded Rod M01 to M07

Zinc Plated Threaded Rod

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Mild Steel (M01)

National Coarse

IBS No.	Size	Length
14850	6-32	3 ft.
14851	8-32	3 ft.
14852	10-24	3 ft.
14854	1/4-20	3 ft.
14855	5/16-18	3 ft.
14856	3/8-16	3 ft.
14857	7/16-14	3 ft.
14858	1/2-13	3 ft.
14859	9/16-12	3 ft.
14860	5/8-11	3 ft.
14861	3/4-10	3 ft.
14862	7/8-9	3 ft.
14863	1" - 8	3 ft.

Mild Steel (M02)

National Fine

IBS No.	Size	Length
14864	10-32	3 ft.
14865	1/4-28	3 ft.
14866	5/16-24	3 ft.
14867	3/8-24	3 ft.
14868	7/16-20	3 ft.
14869	1/2-20	3 ft.
14870	9/16-18	3 ft.
14871	5/8-18	3 ft.
14872	3/4-16	3 ft.
14873	7/9-14	3 ft.
14874	1" - 14	3 ft.

Mild Steel Round Bar (M06)

IBS No.	Size	Length
45000	1/8	3 ft.
45002	3/16	3 ft.
45003	1/4	3 ft.
45004	5/16	3 ft.
45005	3/8	3 ft.
45006	7/16	3 ft.
45007	1/2	3 ft.
45008	9/16	3 ft.
45009	5/8	3 ft.
45010	3/4	3 ft.
45011	7/8	3 ft.
45012	1"	3 ft.



Mild Steel All Thread Rod

- Cut from Grade 2 stock.
- Non-heat treated.
- Zinc plated for corrosion resistance.

Round Bar Stock

- Made from low carbon steel.
- Cold drawn for toughness.
- Zinc plated for corrosion resistance.
- Excellent machinability.
- Meets ASTM-A-108

B-7 Threaded Rod

B-7 (M03)

National Coarse

IBS No.	Size	Length
14880	1/4-20	3 ft.
14881	5/16-18	3 ft.
14882	3/8-16	3 ft.
14883	7/16-14	3 ft.
14884	1/2-13	3 ft.
14885	9/16-12	3 ft.
14886	5/8-11	3 ft.
14887	3/4-10	3 ft.
14888	7/8-9	3 ft.
14889	1" - 8	3 ft.
14890	1-1/8" - 7	3 ft.
14891	1-1/4" - 7	3 ft.
14891A	1-1/4" - 8	3 ft.
14892	1-3/8-8	3 ft.
14893	1-1/2" - 6	3 ft.
14894	1-5/8-6	3 ft.

B-7 (M04)

National Fine

IBS No.	Size	Length
15000	1/4-28	3 ft.
15001	5/16-24	3 ft.
15002	3/8-24	3 ft.
15003	7/16-20	3 ft.
15004	1/2-20	3 ft.
15005	9/16-18	3 ft.
15006	5/8-18	3 ft.
15007	3/4-16	3 ft.
15008	7/8-14	3 ft.
15009	1" - 14	3 ft.



B-7 Threaded Rod is composed of Chromium and Molybdenum. It has a minimum tempering temperature of 1100°F.

Technical Data

Min. Tensile Strength:125,000 psi.	Min. Area Reduction:	B-7 60%
Yield Strength: 105,000 psi.	Min. Tempering Temp.	B-7 1100°F
Min. Elongation: B-7 16%		

Threaded Rod M01 to M07

NC & NF Plain Threaded Rod

Grade 8 Threaded Rod (M07)

National Coarse, Plain

IBS No.	Size	Length
45020	1/4-20	3 ft.
45021	5/16-18	3 ft.
45022	3/8-16	3 ft.
45023	7/16-14	3 ft.
45024	1/2-13	3 ft.
45025	9/16-12	3 ft.
45026	5/8-11	3 ft.
45027	3/4-10	3 ft.
45028	7/8-9	3 ft.
45029	1-8	3 ft.
45031	1-1/8-7	3 ft.
45032	1-1/4-7	3 ft.
45033	1-1/2-6	3 ft.



Grade 8 Threaded Rod (M07)

National Fine, Plain

IBS No.	Size	Length
45034	1/4-28	3 ft.
45035	5/16-24	3 ft.
45036	3/8-24	3 ft.
45037	7/16-20	3 ft.
45038	1/2-20	3 ft.
45039	9/16-18	3 ft.
45040	5/8-18	3 ft.
45041	3/4-16	3 ft.
45042	7/8-14	3 ft.
45043	1-14	3 ft.



Grade 10.9 Threaded Rod (H22)

National Coarse, Plain

IBS No.	Size	Length
45050	M6-1.0	3 ft.
45051	M8-1.25	3 ft.
45052	M10-1.5	3 ft.
45053	M12-1.75	3 ft.
45054	M14-2.0	3 ft.
45055	M16-2.0	3 ft.
45056	M20-2.5	3 ft.
45058	M24-3.0	3 ft.
45059	M30-3.5	3 ft.



Threaded Rod Assortments (Z08)

All Threaded Rod Comes in Three (3) Ft or 1 Meter Lengths
Threaded Rod Rack Included

USS MILD STEEL

IBS No. 175R

11 Items • 31 Pcs

IBS No.	Size	Qty
14850	6-32	2
14851	8-32	2
14852	10-24	2
14854	1/4-20	5
14855	5/16-18	4
14856	3/8-16	5
14857	7/16-14	2
14858	1/2-13	4
14859	9/16-12	1
14860	5-8-11	2
14861	3/4-10	2
AJ367	RACK	1

USS B-7

IBS No. 176R

8 Items • 18 Pcs

IBS No.	Size	Qty
14880	1/4-20	3
14881	5/16-18	3
14882	3/8-16	3
14883	7/16-14	2
14884	1/2-13	3
14885	9/16-12	1
14886	5/8-11	2
14887	3/4-10	1
AJ367	RACK	1

METRIC 10.9

IBS No. 808R

6 Items • 12 Pcs

IBS No.	Size	Qty
45050	M6-1.0	2
45051	M8-1.25	2
45052	M10-1.5	2
45053	M12-1.75	2
45055	M16-2.0	2
45056	M20-2.5	2
AJ367	RACK	1



T H R E A D E D R O D



IBS, INCORPORATED

Threaded Rod M01 to M06

Grade 8 Threaded Rod Assortment (Z08)

IBS No. 108R • 6 Items • 16 Pcs.

Grade 8 Threaded Rod National Coarse, Plain

IBS No.	Size	Qty
45020	1/4-20	3 ft.
45021	5/16-18	3 ft.
45022	3/8-16	3 ft.
45024	1/2-13	3 ft.
45026	5/8-11	3 ft.
45027	3/4-10	3 ft.

**All Threaded Rod
Comes in Three (3) Ft
or 1 Meter Lengths
Threaded Rod Rack
Included**



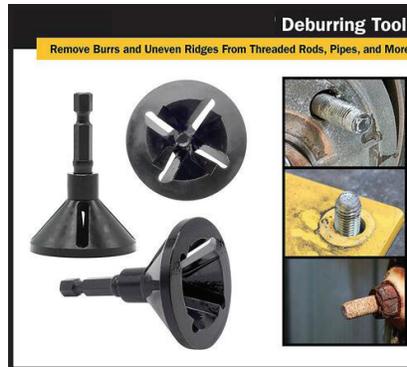
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External Deburring Tools (T03)



- Quickly repairs damaged threads from 7/64" to 7/8".
- Hardened HRC 60 Steel blades remove burrs and uneven ridges from threaded rods, pipes and more.
- Works on hardened and mild steels, Grade 8 fasteners, stainless steel, brass copper, aluminum, plastics, wood, etc.
- 1/4" hex shank attaches to your drill quickly.
- Most effective at low speeds — recommended speed should not exceed 500 RPM in a clockwise direction only.

IBS No.	Description	Shank	Qty
51951	Small Deburring Tool 7/64" to 7/16"	1/4"	1
51950	Medium Deburring Tool 5/16" to 7/8"	1/4"	1





Rivets & Inserts

A

Accessories

- Heavy Duty Nutsert Tool
Mandrels & Nosepieces W-16
- Rivet Nut Gun
Mandrels & Nosepieces W-19

Assortments

- Nutserts
 - Aluminum Nutserts W-18
 - Knurled Nutserts W-18
- Rivets, Pop
 - Aluminum W-6
 - Aluminum / Steel W-6
 - Multi-Grip Rivets W-12
 - Multi-Grip & Tri-Fold Rivets W-12
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- Thread Inserts
- Thread Repair
 - Fill-In Segments W-25
 - Self-Tapping Threaded Inserts with Cabinets W-20
 - W-25

B

Back-Up Washers

- Aluminum Round W-9

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Information

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- Helical Thread Installation W-21
- Low Profile Blind Rivets W-2
- Rivet Code Explanation W-2
- Rivet Nut Systems & Installation W-13
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N

Nutsert Tool

- Heavy Duty W-16

R

Riveters

- Big Daddy Manual Rivet Tool W-10
- Heavy Duty Rivet Tool W-10
- Rivet Nut Gun W-19
- Swivel Head Professional Rivet Tool W-9

Rivet Nuts

- Flanged W-14
- “Nutsert” W-16
- Systems & Installation W-13

“Thin Skin” W-15

Rivets, Buttonhead W-4

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- Alum. Rivet & Stl Mandrel W-5
- Multi-Grip W-11
- S.S. Rivet & Stl Mandrel W-9
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T

Thread Inserts

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 - Fine W-22
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 - Installation W-21
 - Kits, Coarse W-22
 - Kits, Fine W-22
 - Kits, Metric W-22
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 - Knurled W-17
 - Steel & Aluminum W-16
- Thread Repair
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Tools

- Hand
 - Big Daddy Manual Rivet Tool W-10
 - Heavy Duty Rivet Tool W-10
 - Rivet Nut Gun Mandrels & Nosepieces W-19
- Heavy Duty Nutsert Tool W-16
 - Mandrels & Nosepieces W-16
- Rivet Nut Gun W-19
 - Mandrels & Nosepieces W-19
- Swivel Head Professional Rivet Tool W-9



IBS, INCORPORATED

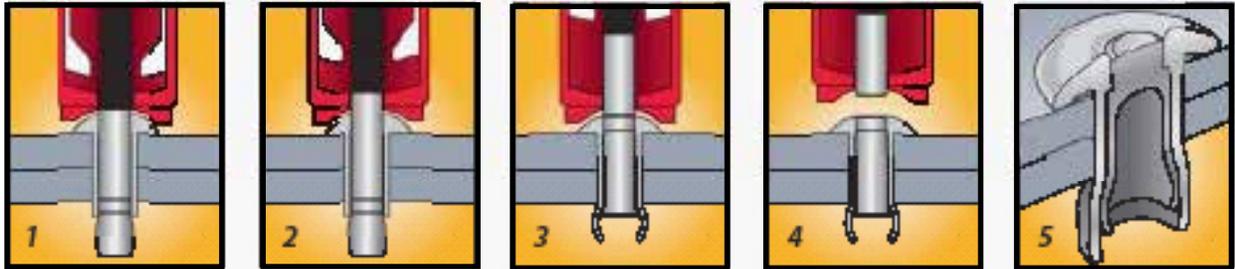
Rivets W01

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Low Profile Blind Rivets

- **Strong, positive assembly, neat appearance.**
- **Quick and easy installation for low in-place cost.**
- **Vibration and tamper resistant.**
- **Will not mar painted work surface.**
- **Eliminates thread strip out.**
- **Quickly set by one person from one side of the assembly.**
- **Fasten metal to metal, wood and plastics to metal, all materials to fiberglass, and most other materials.**
- **Available in steel, stainless steel, and aluminum.**
- **Available in buttonhead and large flange designs.**
- **Large flange rivets are especially useful when fastening soft or brittle top panels where greater load bearing surface is needed.**

Rivet Installation



1 After drilling hole to proper diameter, rivet is placed into hole and rivet setting tool is placed over mandrel.

2 Actuating tool starts mandrel into rivet body, pulling work material together and expanding body on the blind side.

3 A solid circle lock is created between the body and mandrel creating a weather resistant assembly that virtually eliminates pin push out

4 After the mandrel is broken, the mandrel is flush with the rivet body removing the need for grinding.

5 The expansion of the body tightly fills the hole creating a weather resistant joint, and the flush break eliminates the need for grinding.

Rivet Code Explanation

Example: ABL6-6A

A—First Letter Rivet Material (A-Aluminum, S-Steel, SS-Stainless Steel)

B—Second Letter Style of Head (B-Buttonhead)

L—Third Letter (if any) Large Flange Head

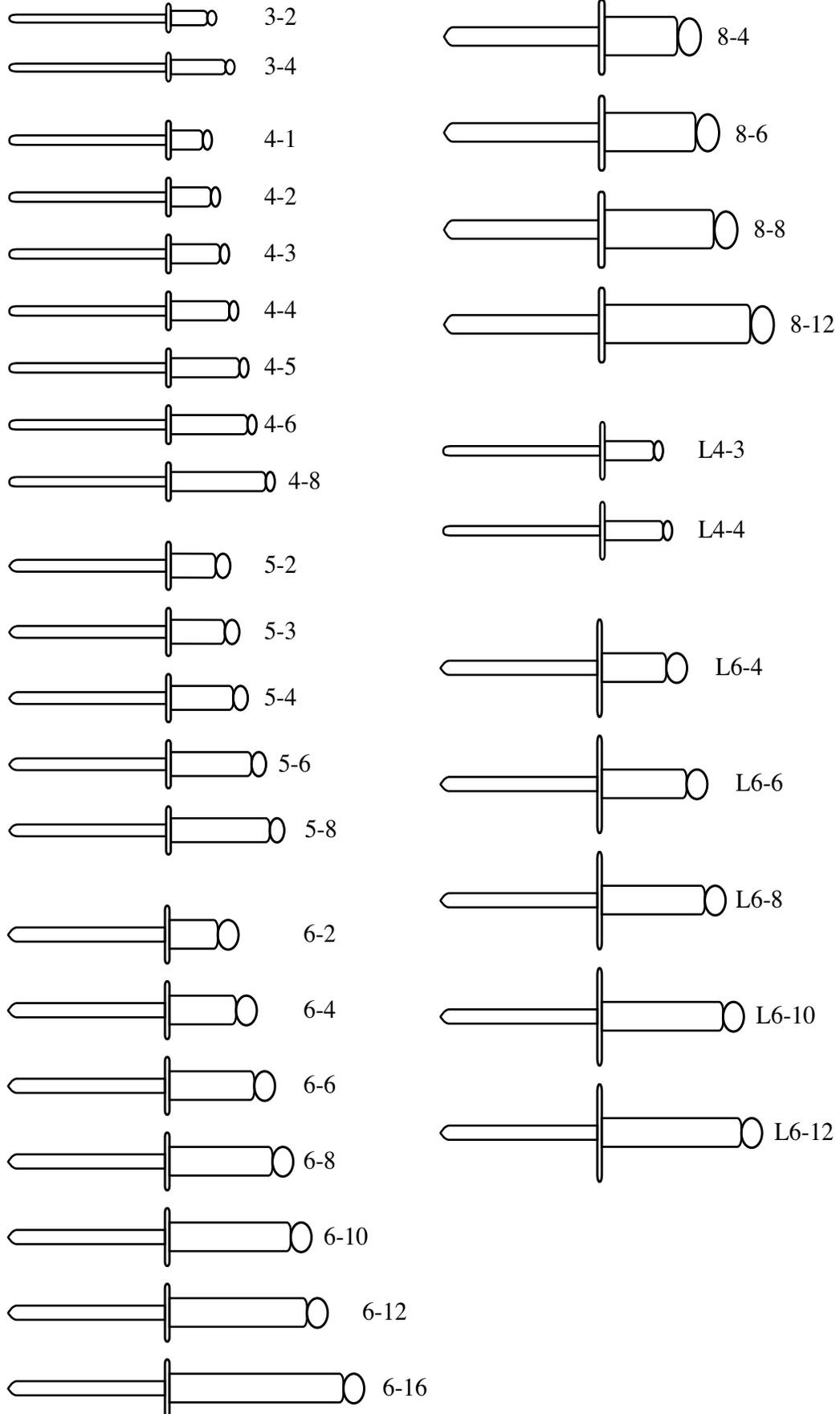
6—First Number Diameter in 32nd's

6—Second Number Maximum Grip Length in 16th's

A—Final Letter..... Mandrel Material (A-Aluminum, S-Stainless Steel). No letter indicates steel.

IBS, INCORPORATED

Rivets W01



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IBS, INCORPORATED

Rivets W01

Buttonhead Rivets Aluminum Rivet & Mandrel



RIVETS & INSERTS

IBS No.	Rivet	Drill No.	Head Dia. Inch (mm)	Head Height Inch (mm)	Rivet Length		Grip Range		Ultimate Strength lbs.		Pkg Qty
					inch	mm	inch	mm	Shear	Tens	
AB3-2A	3/32" (2.4)	#41	.188 (4.78)	.032 (.81)	.250	6.4	.032 - .125	0.8 - 3.2	70 (310)	80 (360)	100
AB3-4A					.375	9.5	.126 - .250	3.3 - 6.4			100
AB4-1A	1/8" (4.0)	#30	.250 (6.35)	.040 (1.02)	.212	5.4	.032 - .062	0.8 - 1.6	120 (530)	150 (670)	100
AB4-2A					.275	7.0	.063 - .125	1.7 - 3.2			100
AB4-3A					.337	8.6	.126 - .187	3.3 - 4.8			100
AB4-4A					.400	10.2	.188 - .250	4.9 - 6.4			100
AB4-5A					.462	11.7	.251 - .312	6.5 - 7.9			100
AB4-6A					.525	13.4	.313 - .375	8.0 - 9.5			100
AB4-8A					.650	16.5	.376 - .500	9.6 - 12.7			100
AB5-2A					5/32" (4.0)	#20	.312 (9.53)	.055 (1.40)			.300
AB5-3A	.362	9.2	.126 - .187	3.3 - 4.8					100		
AB5-4A	.425	10.8	.188 - .250	4.9 - 6.4					100		
AB5-6A	.550	14.0	.251 - .375	6.5 - 9.5					100		
AB5-8A	.675	17.2	.376 - .500	9.6 - 12.7					100		
AB6-2A	3/16" (4.8)	#11	.375 (9.53)	.055 (1.40)	.325	8.3	.062 - .125	1.6 - 3.2	260 (1160)	320 (1420)	100
AB6-4A					.450	11.5	.126 - .187	3.3 - 6.4			100
AB6-6A					.575	14.6	.251 - .375	6.5 - 9.5			100
AB6-8A					.700	17.8	.376 - .500	9.6 - 12.7			100
AB6-10A					.825	21.0	.501 - .625	12.8 - 15.9			100
AB6-12A					.950	24.2	.626 - .750	16.0 - 19.1			100
AB6-16A					1.20	30.5	.876 - 1.00	19.2 - 25.4			100
AB8-4A	1/4" (6.4)	"F"	.500 (12.7)	.074 (1.88)	.500	12.7	.126 - .250	1.6 - 6.4	580 (2580)	880 (3910)	100
AB8-6A					.625	15.9	.251 - .375	6.5 - 9.5			100
AB8-8A					.750	19.1	.376 - .500	9.6 - 12.7			100
AB8-12A					1.00	25.4	.501 - .750	12.8 - 19.1			100
Large Flange											
ABL4-3A	1/8" (3.2)	#30	.375 (9.53)	.045 (2.08)	.337	8.6	.126 - .187	3.3 - 4.8	120 (530)	150 (670)	100
ABL4-4A					.400	10.2	.188 - .250	4.9 - 6.4			100
ABL6-4A	3/16" (4.8)	#11	.625 (15.9)	.082 (2.08)	.450	11.5	.126 - .250	1.6 - 6.4	260 (1160)	320 (1420)	100
ABL6-6A					.575	14.6	.251 - .375	6.5 - 9.5			100
ABL6-8A					.700	17.8	.376 - .500	9.6 - 12.7			100
ABL6-10A					.825	21.0	.501 - .625	12.8 - 15.9			100
ABL6-12A					.950	24.2	.626 - .750	16.0 - 19.1			100

IBS, INCORPORATED

Rivets W01



Buttonhead Rivets

Aluminum Rivet & Steel Mandrel



IBS No.	Rivet	Drill No.	Head Dia. Inch (mm)	Head Height Inch (mm)	Rivet Length		Grip Range		Ultimate Strength lbs.		Pkg Qty
					inch	mm	inch	mm	Shear	Tens	
AB3-2	3/32"	#41	.188 (4.78)	.032 (.81)	.250	6.4	.032 - .125	0.8 - 3.2	70 (310)	80 (360)	100
AB3-4	(2.4)				.375	9.5	.126 - .250	3.3 - 6.4			100
AB4-2	1/8" (3.2)	#30	.250 (6.35)	1.02	.275	7.0	.063 - .125	1.7 - 3.2	120 (530)	150 (670)	100
AB4-3					.337	8.6	.126 - .187	3.3 - 4.8			100
AB4-4					.400	10.2	.188 - .250	4.9 - 6.4			100
AB4-5					.462	11.7	.251 - .312	6.5 - 7.9			100
AB4-6					.525	13.4	.313 - .375	8.0 - 9.5			100
AB4-8					.650	16.5	.376 - .500	9.6 - 12.7			100
AB5-2	5/32" (4.0)	#20	.312 (9.53)	.055 (1.40)	.300	7.6	.062 - 1.25	1.6 - 3.2	190 (850)	230 (1020)	100
AB5-3					.362	9.2	.126 - .187	3.3 - 4.8			100
AB5-4					.425	10.8	.188 - .250	4.9 - 6.4			100
AB5-6					.550	14.0	.251 - .375	6.5 - 9.5			100
AB5-8					.675	17.2	.376 - .500	9.6 - 12.7			100
AB6-2	3/16" (4.8)	#11	.375 (9.53)	.055 (1.40)	.325	8.3	.020 - .125	1.6 - 3.2	260 (1160)	320 (1420)	100
AB6-4					.450	11.5	.126 - .187	3.3 - 6.4			100
AB6-6					.575	14.6	.251 - .375	6.5 - 9.5			100
AB6-8					.700	17.8	.376 - .500	9.6 - 12.7			100
AB6-10					.825	21.0	.501 - .625	12.8 - 15.9			100
AB6-12					.950	24.2	.626 - .750	16.0 - 19.1			100
AB8-4	1/4" (6.4)	"F"	.500 (12.7)	.074 (1.88)	.500	12.7	.062 - .250	1.6 - 6.4	580 (2580)	880 (3910)	100
AB8-6					.625	15.9	.251 - .375	6.5 - 9.5			100
AB8-8					.750	19.1	.376 - .500	9.6 - 12.7			100
AB8-12					1.00	25.4	.501 - .750	12.8 - 19.1			100
Large Flange											
ABL4-3	1/8" (3.2)	#30	.375 (9.53)	.045 (2.08)	.337	8.6	.126 - .187	3.3 - 4.8	120 (530)	150 (670)	100
ABL4-4	(3.2)				.400	10.2	.188 - .250	4.9 - 6.4			100
ABL6-4	3/16" (4.8)	#11	.625 (15.9)	.082 (2.08)	.450	11.5	.062 - .250	1.6 - 6.4	260 (1160)	320 (1420)	100
ABL6-6					.575	14.6	.251 - .375	6.5 - 9.5			100
ABL6-8					.700	17.8	.376 - .500	9.6 - 12.7			100
ABL6-10					.825	21.0	.501 - .625	12.8 - 15.9			100
ABL6-12					.950	24.2	.626 - .750	16.0 - 19.1			100

RIVETS & INSERTS



IBS, INCORPORATED

Assortments Z02

Aluminum Rivet Assortment

IBS No. 156R • 16 Items • 1050 Pieces

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © © © 800-678-1906		Rivet Code Explanation			Aluminum Blind Rivets
<small> Example: ABL6-6A A - First Letter Rivet Material (A: Aluminum, S: Steel, or Stainless Steel) B - Second Letter Style of Head (B: Standard) L - Third Letter (if any) Large Flange Head H - First Number Diameter in Sixteenths B - Second Number Maximum Grip Length in 1/16's A - Final Letter Material Material (A: Aluminum, S: Stainless Steel, St: Steel) indicates steel. </small>					Assortment No. 156R
AB3-2A 3/32 .032-.125 ALUM/ALUM RIVET 	AB3-4A 3/32 .126-.250 ALUM/ALUM RIVET 	AB4-2A 1/8 .063-.125 ALUM/ALUM RIVET 	AB4-3A 1/8 .126-.187 ALUM/ALUM RIVET 	AB4-4A 1/8 .188-.250 ALUM/ALUM RIVET 	
			AB5-3A 5/32 .126-.187 ALUM/ALUM RIVET 	AB5-4A 5/32 .188-.250 ALUM/ALUM RIVET 	
AB5-6A 5/32 .251-.375 ALUM/ALUM RIVET 	AB5-8A 5/32 .376-.500 ALUM/ALUM RIVET 	AB6-4A 3/16 .126-.250 ALUM/ALUM RIVET 	AB6-6A 3/16 .251-.375 ALUM/ALUM RIVET 	AB6-8A 3/16 .376-.500 ALUM/ALUM RIVET 	
AB6-10A 3/16 .501-.625 ALUM/ALUM RIVET 		ABL6-6A 3/16 .251-.375 LRG FLGE 	ABL6-8A 3/16 .376-.500 LRG FLGE 	ABL6-10A 3/16 .501-.625 LRG FLNGE 	

Aluminum / Steel Rivet Assortment

IBS No. 157R • 16 Items • 1050 Pieces

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © © © 800-678-1906		Rivet Code Explanation			Aluminum / Steel Blind Rivets
<small> Example: ABL6-6A A - First Letter Rivet Material (A: Aluminum, S: Steel, or Stainless Steel) B - Second Letter Style of Head (B: Standard) L - Third Letter (if any) Large Flange Head H - First Number Diameter in Sixteenths B - Second Number Maximum Grip Length in 1/16's A - Final Letter Material Material (A: Aluminum, S: Stainless Steel, St: Steel) indicates steel. </small>					Assortment No. 157R
AB3-2 3/32 .032-.125 ALUM/STEEL 	AB3-4 3/32 .126-.250 ALUM/STEEL 	AB4-2 1/8 .063-.125 ALUM/STEEL RIVET 	AB4-3 1/8 .126-.187 ALUM/STEEL RIVET 	AB4-4 1/8 .188-.250 ALUM/STEEL RIVET 	
			AB5-3 5/32 .126-.187 ALUM/STEEL 	AB5-4 5/32 .188-.250 ALUM/STEEL 	
AB5-6 5/32 .251-.375 ALUM/STEEL 	AB5-8 5/32 .376-.500 ALUM/STEEL 	AB6-4 3/16 .126-.250 ALUM/STEEL 	AB6-6 3/16 .251-.375 ALUM/STEEL 	AB6-8 3/16 .376-.500 ALUM/STEEL 	
AB6-10 3/16 .501-.625 AI 		ABL6-6 3/16 .251-.375 LRG FLGE 	ABL6-8 3/16 .376-.500 LRG FLGE 	ABL6-10 3/16 .501-.625 LRG FLGE 	

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IBS, INCORPORATED

Rivets W01



Buttonhead Rivets Steel Rivet & Mandrel



IBS No.	Rivet Diam. Inch (mm)	Drill No.	Head Diam. Inch (mm)	Head Height Inch (mm)	Rivet Length		Grip Range		Ultimate Strength lbs.		Pkg Qty
					inch	mm	inch	mm	Shear	Tens	
SB3-4	3/32" (2.4)	#41	.188 (4.78)	.032 (.81)	.375	9.5	.126 - .250	3.3 - 6.4	130 (580)	170 (760)	100
SB4-2	1/8" (3.2)	#30	.250 (6.35)	1.02	.275	7.0	.063 - .125	1.7 - 3.2	260 (1160)	310 (1380)	100
SB4-3					.337	8.6	.126 - .187	3.3 - 4.8			100
SB4-4					.400	10.2	.188 - .250	4.9 - 6.4			100
SB4-5					.462	11.7	.251 - .312	6.5 - 7.9			100
SB4-6					.525	13.4	.313 - .375	8.0 - 9.5			100
SB4-8					.650	16.5	.376 - .500	9.6 - 12.7			100
SB5-2	5/32" (4.0)	#20	.312 (7.92)	.055 (1.40)	.300	7.6	.020 - 1.25	1.6 - 3.2	370 (1650)	470 (2090)	100
SB5-4					.425	10.8	.188 - .250	4.9 - 6.4			100
SB5-6					.550	14.0	.251 - .375	6.5 - 9.5			100
SB5-8					.675	17.2	.376 - .500	9.6 - 12.7			100
SB6-2	3/16" (4.8)	#11	.375 (9.53)	.055 (1.40)	.325	8.3	.020 - .125	1.6 - 3.2	540 (2400)	680 (3020)	100
SB6-4					.450	11.5	.126 - .187	3.3 - 6.4			100
SB6-6					.575	14.6	.251 - .375	6.5 - 9.5			100
SB6-8					.700	17.8	.376 - .500	9.6 - 12.7			100
SB6-10					.825	21.0	.501 - .625	12.8 - 15.9			100
SB6-12					.950	24.2	.626 - .750	16.0 - 19.1			100
SB8-4	1/4" (6.4)	"F"	.500 (12.7)	.074 (1.88)	.500	12.7	.062 - .250	1.6 - 6.4	1150 (2580)	1500 (6670)	100
SB8-6					.625	15.9	.251 - .375	6.5 - 9.5			100
SB8-8					.750	19.1	.376 - .500	9.6 - 12.7			100
SB8-12					1.00	25.4	.501 - .750	12.8 - 19.1			100
Large Flange											
SBL4-4	1/8 (3.2)	#30	.375 (9.53)	.045 (1.14)	.400	10.2	.188 - .250	4.9 - 6.4	260 (1160)	310 (1380)	100
SBL6-4	3/16 (4.8)	#11	.625 (15.9)	.082 (2.08)	.450	11.5	.062 - .250	1.6 - 6.4	540 (2400)	680 (1380)	100
SBL6-6					.575	14.6	.251 - .375	6.5 - 9.5			100
SBL6-8					.700	17.8	.376 - .500	9.6 - 12.7			100
SBL6-10					.825	21.0	.501 - .625	12.8 - 15.9			100
SBL6-12					.950	24.2	.626 - .750	16.0 - 19.1			100

RIVETS & INSERTS

Rivet Code Explanation

Example: ABL6-6A

- A**—First LetterRivet Material (A-Aluminum, S-Steel, SS-Stainless Steel)
- B**—Second LetterStyle of Head (B-Buttonhead)
- L**—Third Letter (if any)Large Flange Head
- 6**—First NumberDiameter in 32nd's
- 6**—Second NumberMaximum Grip Length in 16th's
- A**—Final Letter.....Mandrel Material (A-Aluminum, S-Stainless Steel). No letter = steel.



IBS, INCORPORATED

Assortments Z02

Steel Rivet Assortment

IBS No. 174R • 15 Items • 975 Pieces

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM © 2013 800-678-1906		Rivet Code Explanation			Steel Blind Rivets		
		Example: ABL6-0A A—First Letter Rivet Material (A-Aluminum, S-Steel, SS-Stainless Steel) B—Second Letter Size of Head (B-Standard) L—Third Letter of Head Large Flange Head H—First Number Diameter in 32nds 6—Second Number Maximum Grip Length in 32nds A—Final Letter Material Material (A-Aluminum, S-Stainless Steel, No letter indicates steel)			Assortment No. 174R		
SB3-4 3/32 .126-.250 STEEL RIVET 		SB4-2 1/8 .063-.125 STEEL RIVET 	SB4-3 1/8 .126-.187 STEEL RIVET 	SB4-4 1/8 .188-.250 STEEL RIVET 			
			SB5-2 5/32 .062-.125 STEEL RIVET 	SB5-4 5/32 .188-.250 STEEL RIVET 			
SB5-6 5/32 .251-.375 STEEL RIVET 	SB5-8 5/32 .376-.500 STEEL RIVET 	SB6-4 3/16 .126-.250 STEEL RIVET 	SB6-6 3/16 .251-.375 STEEL RIVET 	SB6-8 3/16 .376-.500 STEEL RIVET 			
SB6-10 3/16 .501-.625 STEEL RIVET 		SBL6-6 3/16 .251-.375 LRG FLGE STEEL 	SBL6-8 3/16 .376-.500 LRG FLGE STEEL 	SBL6-10 3/16 .501-.625 LRG FLGE STEEL 			

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Buttonhead Rivets

STAINLESS STEEL RIVET & STAINLESS MANDREL



IBS No.	Rivet Dia. Inch (mm)	Drill No.	Head Dia. Inch (mm)	Head Height Inch (mm)	Rivet Length		Grip Range		Ultimate Strength Lbs (N)		Pkg Qty		
					Inch	MM	Inch	MM	Shear	Tens			
SSB4-4S	1/8"	#30	.250	.040	.400	10.2	.188-.250	4.9 -6.4	420	530	100		
SSB4-6S	(3.2)		(63.5)	1.02	.525	13.4	.313-.375	8.0 - 9.5	(1870)	(2360)	100		
SSB5-4S	5/32"	#20	.312	.045	.425	10.8	.188-.250	4.9 - 6.4	650	820	100		
SSB5-6S	(4.0)		(7.92)	(1.14)	.550	14.0	.251-.375	6.5 - 9.5	(2890)	(3650)	100		
SSB6-2S	3/16"	#11	.375	.055	.325	8.3	.062-.125	1.6 - 3.2	950	1200	100		
SSB6-4S					.450	11.5	.125-.250	3.3 - 6.4			(4230)	(5340)	100
SSB6-6S					.575	14.6	.251-.375	6.5 - 9.5			100		
SSB6-8S					.700	17.8	.376-.500	9.6 - 12.7			100		

Back-Up Washers

ALUMINUM ROUND

Back-Up Washers are .056" thick for use when fastening soft materials or to compensate for oversize holes where access to both sides of the work is possible.

IBS No.	Hole Size	Diameter	Pkg Qty
AS-8	1/8"	3/8"	100
AS-9	5/32"	7/16"	100
AS-10	3/16"	1/2"	100



Swivel Head Professional Rivet Tool (T03)

IBS No. HP-5



- Rivet head swivels 360° for riveting at any angle.
- Hardened steel construction
- Extended nosepiece for hard to reach locations.
- Comfortable non-slip handle grips.
- Not recommended for nylon rivets.
- Includes nosepieces: 3/32, 1/8, 5/32 & 3/16.

Rivet Diameter	3/32	1/8	5/32	3/16
Aluminum	YES	YES	YES	YES
Steel	YES	YES	YES	NO
Copper	NO	YES	NO	NO
Stainless Steel	NO	YES	NO	NO



IBS, INCORPORATED

Tools T03

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Heavy Duty Rivet Tool IBS No. HP-2

The HP-2 is the number one selling hand rivet tool in the industry. Known and trusted for durability, quality and performance, the HP-2 is often copied but never duplicated. Its square shoulder fulcrum pin of cold-formed heat-treated steel prevents pin rotation that can elongate the engaging holes and cause premature tool failure in imitation tools. Other quality features include: precision die-cast, high-strength aluminum alloy body; drop-forged carbon steel upper handle; and thick, cushion molded vinyl grips for comfort. The HP-2 sets up to 3/16" steel rivets and comes with four mounted nosepieces (3/32", 1/8", 5/32" and 3/16") and a service wrench.



- Square shoulder fulcrum pin of cold-formed heat-treated steel prevents pin rotation that can elongate the engaging holes, a leading cause of premature tool failure in imitations – fewer failures means less rework time, faster installations – equals time and money savings!
- Precision die-cast, high-strength aluminum alloy body makes this tool super durable while keeping it light-weight – means longer life and comfortable to use.
- Drop-forged steel upper handle gives this tool added strength for extended service life.
- Thick cushion-molded vinyl grips for comfort means better productivity and less likely for fatigue and injury.
- Sets steel and aluminum rivets from 3/32" to 3/16", and stainless steel up to 5/32"

Big Daddy Manual Rivet Tool IBS No. 49520

The Big Daddy is a versatile and powerful hand riveter, taking the hard work out of setting large diameter blind rivets.



- Extra-long handles provide excellent leverage and permit working a foot beyond natural reach.
- Patented bearing design, self-adjusting two-piece jaws and single-unit body construction with a steel insert to provide stronger threads for the nosepieces included.
- Double gear reduction system easily sets from 1/8" to 1/4" diameter rivets in all alloys.
- One piece collet case eliminates the need to adjust the tool when changing rivet diameters.
- 5/32", 3/16" and 1/4" nosepieces, which are stored in the body.
Weighs 3.75 lbs.



Multi-Grip Blind Rivets

Aluminum Rivet • Steel Zinc Yellow Mandrel

Multi-Grip Rivets provide an effective and economical alternative to other, more costly methods of fastening, because one size handles the grip range capacity of up to 3 standard open end rivets. Multi-Grip rivets can be used in any application requiring open end rivets, while reducing inventory requirements. Use multi-grip rivets as a standard open-end rivet — no special tool is needed.

- Resists pull through on both thin and thick material.
- Greater holding power on areas with high vibration.
- Great for holes that are too large or have become elongated.



Large Flange Dome Head			
IBS No	Dia.	Grip Range	Pkg
170406	1/8	1/32 - 3/16	100
170408	1/8	1/8 - 5/16	100
170508	5/32	3/64 - 1/4	100
170608	3/16	1/4 - 1/2	100
170612	3/16	1/2 - 25/32	100

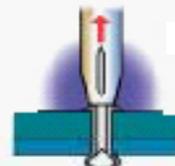
Regular Dome Head			
IBS No.	Dia.	Grip Range	Pkg
171406	1/8	1/32 - 3/16	100
171408	1/8	1/8 - 5/16	100
171508	5/32	3/64 - 1/4	100
171608	3/16	1/16 - 1/4	100
171612	3/16	3/16 - 7/16	100

Install

Insert rivet mandrel in the rivet setting tool



Using tool as a guide, insert rivet into prepared hole



Or insert rivet into prepared hole and then engage the mandrel with rivet setting tool. Squeeze trigger or handles to set rivet. Mandrel ejects after rivet is set.

Features, Benefits & Applications



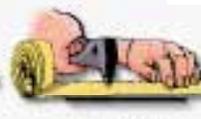
One length handles both



Hollow extrusions & tubes



High Grip Strength
No Surface Distortion



Hard and Soft Materials



Vibration & Tamper Resistant



High Strength



No Marred Surfaces



Low Profile Heads



IBS, INCORPORATED

Rivets W01

Tri-Fold Rivets

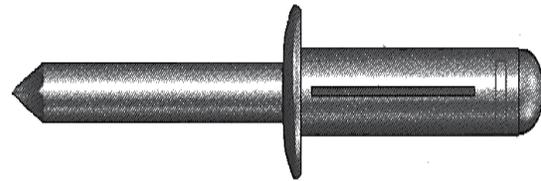
Aluminum Body/ Aluminum Mandrel

Tri-fold Rivets form three large folded wings which create excellent clamp-up and large blind side bearing surface.



- **Multi-Grip** - Adjusts to wide variation in application thickness.
- **Large Blindside Footprint** - Eliminates need for backup washer.
- **Distributed Clamping** - Helps prevent cracking of brittle materials.
- **Corrosion Resistant** - All aluminum construction.
- **High Pullout Resistance** - When used in thin or ductile materials.
- **Reduced Hole Sensitivity** - Works in oversized, misaligned or irregularly shaped holes.
- **Positive Mandrel Retention** - Rattle free fastener.

D- Body Diameter (Maximum)
 B- Head Height (Nominal)
 A- Head Diameter (Nominal)
 L- Rivet Body Length (Nominal)



Head Style	Rivet Dia.	IBS No	Grip Range	Hole Size	Drill No.	Dimensions					Typ. Strength LBS	
						D	B*	A	L*	F*	Shear	Tensile
Dome	5/32	17254	.040 - .250	.162 - .167	#20	.161	.055	.312	.770	3880	200	225
		17256	.040 - .375						.832	.942		
	3/16	17264	.062 - .250	.209 - .221	#4	.205	.075	.385	.750	.875	350	450
		17266	.187 - .375						.875	1.0		
		17268	.312 - .500					1.0	1.125			

Package Quantity = 50

Multi-Grip & Tri-Fold Rivets Assortment (Z02)

IBS No. 369R • 12 Items • 800 Pieces

Packaged in a locking steel drawer for storage & organization

Multi-Grip Rivets Assortment (Z02)

IBS No. 368R • 10 Items • 1,000 Pieces

Packaged in a locking steel drawer for storage & organization

IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALRIVET.COM © © © 800-678-1808			Multi-Grip & Tri-Fold Rivets		
Assortment No. 369R					
170406 1/8 LARGE FLG SHORT MULTIGRIP	170408 1/8 LARGE FLG LONG MULTIGRIP	170508 5/32 LARGE FLG MULTIGRIP			
170608 3/16 LARGE FLG SHORT MULTIGRIP	170612 3/16 LARGE FLG LONG MULTIGRIP	171406 1/8 DOME HD SHORT MULTIGRIP			
171408 1/8 DOME HD LONG MULTIGRIP	171608 3/16 DOME HD SHORT MULTIGRIP	171612 3/16 DOME HD LONG MULTIGRIP			
17256 5/32 TRI-FOLD RIVET .040-.375	17264 3/16 TRI-FOLD RIVET .062-.250	17266 3/16 TRI-FOLD RIVET .187-.375			

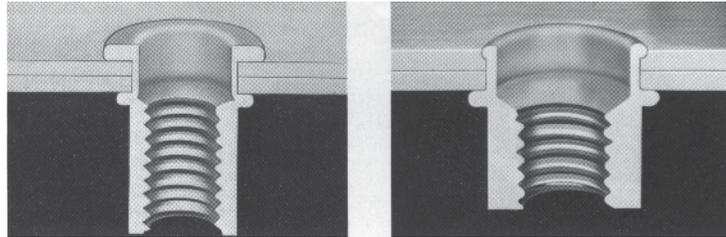
IBS, Inc. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALRIVET.COM © © © 800-678-1808			Multi-Grip Rivets		
Assortment No. 368R					
170406 1/8 LARGE FLG SHORT MULTIGRIP	170408 1/8 LARGE FLG LONG MULTIGRIP	170508 5/32 LARGE FLG MULTIGRIP			
170608 3/16 LARGE FLG SHORT MULTIGRIP	170612 3/16 LARGE FLG LONG MULTIGRIP				
171406 1/8 DOME HD SHORT MULTIGRIP	171408 1/8 DOME HD LONG MULTIGRIP	171908 5/32 DOME HD MULTIGRIP			
171608 3/16 DOME HD SHORT MULTIGRIP	171612 3/16 DOME HD LONG MULTIGRIP				

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Rivet Nut Systems & Installation

Flanged Rivet Nuts and “Thin Skin” Rivet Nuts enjoy a wide range of applications. They are especially useful where threaded holes are needed, but both sides of the material cannot be reached.



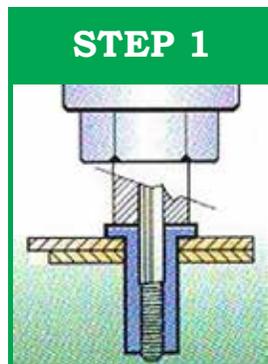
Flanged Rivet Nut

“Thin Skin” Rivet Nut

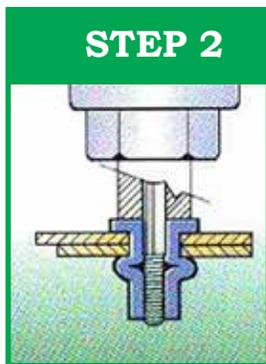
Flanged rivet nuts and “Thin Skin” rivet nuts can assure captive load bearing in materials too thin to independently provide efficient thread strength. They can easily be installed by one person from one side of the assembly using either air or hand powered tools.

Flanged Rivet Nuts, because of their large diameter head, can be used in soft materials which inherently offer little or no thread strength. “Thin Skin” Rivet Nuts allow for a nearly flush installation along with an excellent fit to mating materials.

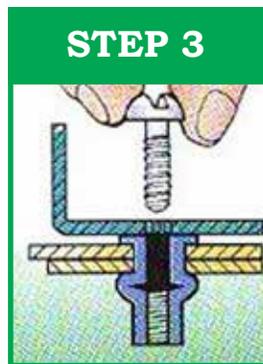
Easy Installation



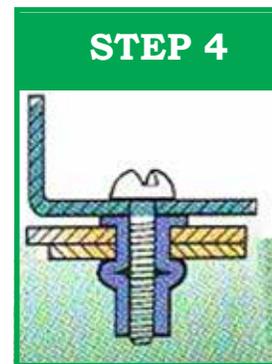
Drill hole to correct diameter; thread fastener onto tool mandrel and insert into hole.



Actuate tool to properly set fastener into material.



Complete your fastening operation with a bolt or screw with the proper thread.



The positive riveting action of both the Flanged and Thin Skin Rivet Nuts provide consistent firm fastening. Push out and shake loose are virtually eliminated

Product Strength - Flanged Rivet Nuts

Thread Size	Typical Sheer Strength		Typical Tensile Strength	
	Aluminum	Steel	Aluminum	Steel
6-32	215	365	225	525
8-32	280	525	285	575
10-24	300	650	415	815
10-32	300	650	415	815
1/4-20	525	700	650	1250
5/16-18	640	900	905	1400
3/8-16	1000	1370	1300	1500

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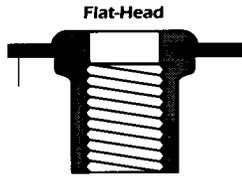
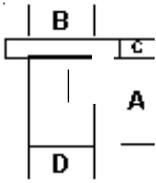


IBS, INCORPORATED

Thread Inserts W02

Flanged Rivet Nuts

ZINC PLATED STEEL OR ALUMINUM CLASS 2B THREADS



Flanged or Flathead Rivet Nuts can be used in a wide range of applications and are designed to provide a very efficient and cost-effective method of placing permanent threads in thin materials. Installed from one side, these rivet nuts are perfect for use in metal, fiberglass and rigid plastic previously too thin for tapped threads. Rivet nuts provide a neat appearance and once in place, the internal threads are ready for a screw or bolt.

Lightweight tooling assures easy installation and reduces costs compared to other methods. Provides permanent, captive threads that do not allow loosening under vibration and will not rotate when attached.

Rivet Nuts with **large diameter heads** can be used in soft materials which offer little, if any thread strength.

The **flathead design** provides the most bearing surface for higher torque applications. The larger flange extends above the material and provides a built in spacer.

Thread Size	IBS No.		Drill No. Hole Size	B	C	A	Grip Range	Pkg Qty
	Steel	Alum		Head Dia.	Head Height	Body Length		
6-32	49110	49210	#12 .189 / .193	.325	.032	.438	.010 / .075	25
8-32	49120	49220	#2 .2221 / .226	.357	.032	.438	.010 / .075	25
10-24	49130	49230	1/4" .250 / .254	.406	.038	.531	.010 / .080	25
10-32	49140	49240	1/4" .250 / .254	.406	.038	.531	.010 / .080	25
1/4-20	49150	49250	"Q" .332 / .338	.475	.058	.625	.020 / .080	25
		49252				.687	.080 / .140	25
5/16-18	49171	49271	"Z" .413 / .423	.665	.058	.750	.030 / .125	25
	49174					.875		25
3/8-16	49181	49281	1/2" .490 / .500	.781	.088	.844	.030 / .115	25

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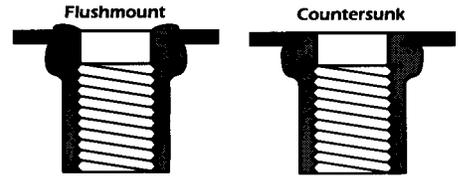
Thread Inserts W02



"Thin Skin" Rivet Nuts

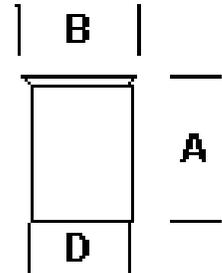
STEEL ZINC PLATED OR ALUMINUM CLASS 2B THREADS

"Thin Skin" Rivet Nuts feature a small flange which allows for two distinct finishes:



Flushmount - obtained by drilling a standard hole and offers a low profile to the surface of the application;

Countersunk - obtained by drilling a counter sunk hole and allows the rivet nut to be set below the surface. During installation of the "Thin Skin" Rivet Nuts the threaded body draws upward against the blind side of the application material, while the flange clamps onto the surface and lock the fastener into place. They are available in aluminum and low carbon steel in sizes from 6-32 to 3/8-16.



"Thin Skin" rivet nuts can be used in a wide range of applications to place permanent threads in thin materials. They are ideal for use in metal, fiberglass, and rigid plastics. These rivet nuts provide a nearly flush appearance and provide permanent, captive threads that do not allow loosening under vibration and will not rotate when attached to the mating material.

NOTE: HOLE SIZE IS CRITICAL FOR PROPER INSTALLATION.

Thread Size	IBS No.	Material	Drill No. Hole Size	B	C	Grip Range	Pkg Qty
				Head Diam.	Body Length		
6-32	49415	Steel	1/4"	.287	.41	.020 / .080	25
6-32	17500	Aluminum	.250/.254				
8-32	49425	Steel	1/4"	.287	.41	.020 / .080	25
8-32	17501	Aluminum	.250/.254				
10-24	49435	Steel	9/32"	.32	.465	.020 / .130	25
10-24	17502	Aluminum	.281/.285				
10-32	49445	Steel	9/32"	.32	.465	.020 / .130	25
10-32	17503	Aluminum	.281/.285				
1/4-20	49455	Steel	3/8"	.415	.61	.030 / .165	25
1/4-20	17504	Aluminum	.375/.379				
5/16-18	49475	Steel	1/2"	.54	.720	.030 / .165	25
5/16-18	17505	Aluminum	.500/.504				
3/8-16	17506	Aluminum	1/2"	.658	.535	.020 / .125	25

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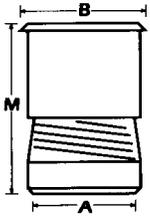


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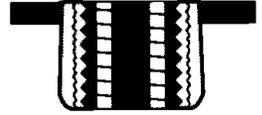
Thread Inserts W02

“Nutsert” Type Thread Inserts

Completed Application



“Nutserts” are a versatile threaded fastener that can be used in a variety of applications. Use in any thickness of metal or rigid material of at least 3/32" (.0937). Eliminate the need for tapping, welding, and brazing. "Nutserts" design consists of an upper sleeve and a base which has both internal and external threads.



During installation, the base is drawn upwards inside the upper sleeve forcing a 360° contact between the sleeve and application material. No special preparation is needed; a drilled or punched hole is all that is required. Because of its unique setting ability, "nutserts" can be used in almost any thickness of material. Installation is made quite easy with a variety of tools and kits.

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Thread Size	IBS No.		Material Thickness .0937 - .1562		Material Thickness .1562 - Infinity		A	B	Pkg Qty
	Steel	Alum	Hole	Drill	Hole	Drill			
1/4-20	17510	17516	.391	25/64	.391	25/64	.510	.408	25
5/16-18	17511	17517	.500	1/2	.516	33/64	.615	.537	25
3/8-16	17512	17518	.562	9/16	.578	37/64	.740	.600	25

Heavy Duty Nutsert Tool IBS No. 49550

Ideal for installing larger size steel inserts. This heavy-duty tool installs 1/4-20 through 3/8-16, and 5mm through 10mm threaded inserts in aluminum or steel. Quick changing mandrels, easily adjustable stroke. 1/4-20 mandrel and nosepiece included.



Heavy Duty Nutsert Tool (49550)
Mandrels & Nosepieces

IBS No.	Description
49551	1/4-20 Mandrel & Nosepiece
49552	5/16-18 Mandrel & Nosepiece
49553	3/8-16 Mandrel & Nosepiece



Knurled Nutserts

STEEL ZINC PLATED • CLASS 2B THREADS

These new blind threaded inserts with a large head are ideal for applications where large or irregular holes are a problem. Installed from one side, these knurled nutserts work in sheet metal, structural foam, fiberglass, and some plastics. They provide a neat appearance, and once in place the internal threads are ready for a screw or bolt. Additional features of the Knurled Nutsert include:

- Increased torque or strength over conventional style nutserts.
- 360° knurled expansion after setting
- Vibration resistant
- Large flanged head increases push-out strength

After installation, Knurled Nutserts provide permanent, captive threads that do not allow loosening under vibration and will not rotate when attached to the mating material. Nutserts with large diameter heads can be used in soft materials which inherently offer little, if any thread strength. The flat-head design provides the most bearing surface for higher torque applications. The large flange extends above the material in which it is installed and provides a built-in spacer.



IBS No.	Thread Size	Grip Range	Hole Size	Drill Size	Min. Flange	Max. Length	Pkg Qty
49509	6-32	.080 - .130	.264	17/64	.390	.470	25
49501	8-32	.080 - .130	.264	17/64	.390	.470	25
49502	10-24	.020 - .130	.295	19/64	.415	.475	25
49503	10-32	.020 - .130	.295	19/64	.415	.475	25
49504*	1/4-20	.027 - .165	.390	25/64	.500	.580	25
49505*	5/16-18	.027 - .150	.530	17/32	.690	.685	25
49506*	3/8-16	.027 - .150	.530	17/32	.690	.685	25
NS-47360	M4 X .07	.5 - 2.0 mm	6.75+.15 mm	6.75 mm	9.91 mm	10.67 mm	25
NS-47385	M5 X 0.8	.5 - 3.3 mm	7.6+.15 mm	7.6 mm	10.54 mm	12.07 mm	25
NS-47386	M6 X 1.0	.7 - 4.2 mm	10.0+.15 mm	10.0 mm	12.7 mm	14.73 mm	25
NS-47388	M8 X 1.25	.7 - 3.8 mm	13.5+.15 mm	13.5 mm	17.4 mm	17.53 mm	10
NS-47390	M10 X 1.5	.7 - 3.8 mm	13.5+.15 mm	13.5 mm	17.4 mm	17.53 mm	10

* Recommend using Heavy Duty Nutsert Tool (IBS No. 49550) for installation



IBS, INCORPORATED

Assortments Z08

Knurled Nutsert Assortment

IBS No. 431P • 13 items • 127 pcs
IBS No. 431P-NT • 13 items • 126 pcs • NO TOOL

 IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM ☎ ☎ ☎ 800-678-1906</small>			Knurled Nutserts with Tool		
Assortment No. 431P					
49514 3/8-16 MANDREL & NOSEPIECE 	49503 10-32 KNURLED GRIP SERT 	49506 3/8-16 KNURLED GRIP SERT 			
49513 5/16-18 MANDREL & NOSEPIECE 	NOTE: This size should be installed with Heavy Duty Nutsert Tool P/N 49550 	NOTE: This size should be installed with Heavy Duty Nutsert Tool P/N 49550 			
49512 1/4-20 MANDREL & NOSEPIECE 	49502 10-24 KNURLED GRIP SERT 	49505 5/16-18 KNURLED GRIP SERT 			
49511 10-32 MANDREL & NOSEPIECE 	NOTE: This size should be installed with Heavy Duty Nutsert Tool P/N 49550 	NOTE: This size should be installed with Heavy Duty Nutsert Tool P/N 49550 			
49510 10-24 MANDREL & NOSEPIECE 	49501 8-32 KNURLED GRIP SERT 	49504 1/4-20 KNURLED GRIP SERT 			
49508 8-32 MANDREL & NOSEPIECE 	NOTE: This size should be installed with Heavy Duty Nutsert Tool P/N 49550 	NOTE: This size should be installed with Heavy Duty Nutsert Tool P/N 49550 			

Aluminum Nutsert Assortment

IBS No. 432P • 15 items • 153 pcs

 IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM ☎ ☎ ☎ 800-678-1906</small>			Aluminum Nutserts		
Assortment No. 432P					
49514 3/8-16 MANDREL & NOSEPIECE 	17503 10-32 ALUM RIVET NUT Drill Hole Size 9/32" 	17506 3/8-16 ALUM RIVET NUT Drill Hole Size 1/2" 			
49513 5/16-18 MANDREL & NOSEPIECE 	17502 10-24 ALUM RIVET NUT Drill Hole Size 9/32" 	17505 5/16-18 ALUM RIVET NUT Drill Hole Size 1/2" 			
49512 1/4-20 MANDREL & NOSEPIECE 	17501 8-32 ALUM RIVET NUT Drill Hole Size 1/4" 	17504 1/4-20 ALUM RIVET NUT Drill Hole Size 3/8" 			
49511 10-32 MANDREL & NOSEPIECE 	17500 6-32 ALUM RIVET NUT Drill Hole Size 1/4" 				
49510 10-24 MANDREL & NOSEPIECE 	49507 6-32 MANDREL & NOSEPIECE 				
49508 8-32 MANDREL & NOSEPIECE 					

RIVETS & INSERTS



Rivet Nut Gun IBS No. 49500

This thin sheet setting tool has been designed to enable threaded nut inserts to be threaded easily by hand. Invaluable to maintenance engineers for on the spot repairs.

- Designed for the quick manual insertion of permanent load bearing threads in materials from 0.20" to 0.128."
- Simple set up and easy uniform stroke allows a nutsert to be set in thin sheet materials without causing surface damage.
- A comprehensive range of mandrels and nosepieces are available.

Ideal for:

- One side application • Moisture resistant
- Cost effective
- Strong
- Rapid
- Vibration resistant
- Portable

RIVET NUT GUN MANDRELS & NOSEPIECES

IBS No.	Description
49500	Rivet Nut Gun Tool Only No Mandrels or Nosepieces
49507	6-32 Mandrel & Nosepiece
49508	8-32 Mandrel & Nosepiece
49510	10-24 Mandrel & Nosepiece
49511	10-32 Mandrel & Nosepiece
49512	1/4-20 Mandrel & Nosepiece
49513	5/16-18 Mandrel & Nosepiece
49514	3/8-16 Mandrel & Nosepiece
NS-49520*	4mm Mandrel & Nosepiece
NS-49521*	5mm Mandrel & Nosepiece
NS-49522*	6mm Mandrel & Nosepiece
NS-49523*	8mm Mandrel & Nosepiece
NS-49524*	10mm Mandrel & Nosepiece

* Order as non-stock item



IBS, INCORPORATED

Thread Inserts W02

Self-Tapping Threaded Inserts

FOR USE IN ALUMINUM, ALUMINUM ALLOY, MAGNESIUM AND MILD STEEL

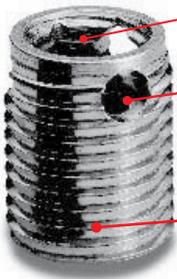


Our self-tapping thread inserts features both internal and external threads and cutting bores.

These inserts have a thick wall and the cutting force is distributed over three cutting edges, making them ideal for materials with difficult cutting properties: aluminum, aluminum alloy, magnesium and mild steel.

FEATURES & BENEFITS:

- Taps and installs in **one easy step**, saving time, money and labor.
- Provides **maximum pull-out strength** and **wear resistant threads** in aluminum, aluminum alloy, magnesium and mild steel.
- **Three lateral cutting bores** make for an easy self-tapping installation, providing a connection that is highly resistant to vibration.



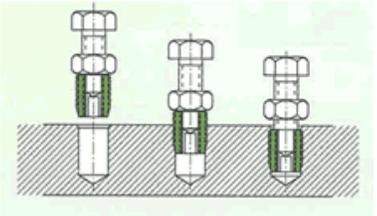
Internal threads are wear-resistant standard class 2B

Circular cutting bores self-tap and lock into the base material. Resists extreme vibration with no loss in performance.

Superior pull-out resistance in softer metals and plastics from the external v-form thread.

INSTALLATION INSTRUCTIONS: (Using a hex head cap screw & nut)

1. Drill to recommended hole size.
2. Thread hex nut onto capscrew. Screw insert onto capscrew with holes away from nut. Tighten the nut snugly to the top of the insert.
3. Using the appropriate wrench or socket, carefully align insert perpendicular to the hole and turn clockwise until flush with the surface. To remove capscrew, hold nut and loosen capscrew.



IBS No.	Size	Length	Drill # & Hole Size	Hole Depth	Pkg Qty	IBS No.	Size	Length	Drill # & Hole Size	Hole Depth	Pkg Qty
65935	1/4-20	.472	V (.366)	.591	20	65945	M6-1.0	.472	V (.377)	.591	20
65936	5/16-18	.551	29/64 (.453)	.669	20	65946	M8-1.25	.551	29/64 (.453)	.669	20
65937	3/8-16	.709	17/32 (.531)	.866	10	65947	M10-1.5	.709	17/32 (.531)	.866	10
65939	1/2-13	.945	11/16 (.68)	1.102	10	65948	M12-1.75	.866	39/64 (.609)	1.023	10

RIVETS & INSERTS

Self-Tapping Threaded Inserts Assortment (Z02)

IBS No. 696R • 8 Items
• 60 Pieces
Packaged in a locking steel drawer for storage & organization



IBS, Inc.
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR
INDUSTRIALBOLT.COM © © © 800-678-1506

Self-Tapping Threaded Inserts

Assortment No. 696R

<p>65935 1/4-20 SELF-TAPPING THREAD INSERT (USE DRILL: V)</p>	<p>65936 5/16-18 SELF-TAPPING THREAD INSERT (USE DRILL: 29/64)</p>	<p>65937 3/8-16 SELF TAPPING THREAD INSERT (USE DRILL: 17/32)</p>	<p>65939 1/2-13 SELF TAPPING THREAD INSERT (USE DRILL: 11/16)</p>
<p>65945 M6-1.0 SELF-TAPPING THREAD INSERT (USE DRILL: V)</p>	<p>65946 M8-1.25 SELF-TAPPING THREAD INSERT (USE DRILL: 29/64)</p>	<p>65947 M10-1.5 SELF TAPPING THREAD INSERT (USE DRILL: 17/32)</p>	<p>65948 M12-1.75 SELF TAPPING THREAD INSERT (USE DRILL: 39/64)</p>



Helical Thread Inserts



Thread inserts are used to replace stripped out or damaged threads in most metals including aluminum. They are made from high quality stainless steel wire, with diamond-shaped cross section, wound to the shape of a spring thread. The insert, which is larger in diameter than the tapped hole, is allowed to spring back, permanently anchoring it into place. Because it is bigger, the insert has greater area to hold in and is stronger than the original threads. The inserts compensatory action shares the load over the entire bolt and hole, thus reducing stud feature, and increasing holding or pull out strength. The Industrial Bolt insert system consists of stainless steel helically wound precision inserts, high quality HSS taps and metal installation tools. Inserts are available in both individual and kit form.

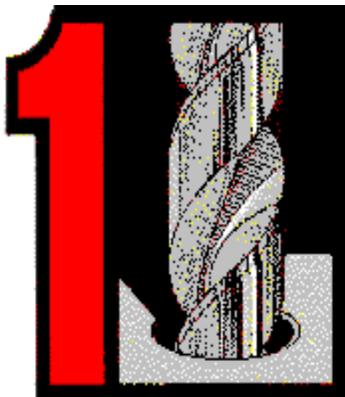
- Creates superior threads with greater holding power
- Quick and easy to use
- Suitable for new applications requiring strong threads
- Simplifies change-over from metric to U.S. threads
- Provides stronger and more efficient threads than other inserts.



**SAFER ON HEAVY DUTY APPLICATIONS
LESS DOWN TIME DUE TO REPLACEMENT**

**KITS INCLUDE TAP,
INSTALLATION TOOL,
& INSERTS**

Helical Thread Installation



STEP 1: DRILL
Drill out old threads,
including any broken
bolts or studs.



STEP 2: TAP
Tap hole for insert with tap
provided in the kit.



STEP 3: INSTALL
Install the helical thread
insert and the job is done!



IBS, INCORPORATED

Thread Inserts W02

Helical Thread Inserts

COARSE THREAD

Size	IBS No.		Rec. Drill Size	Inserts Per Pkg
	Kits	Inserts		
6-32	16000	16020	#25	12
8-32	16001	16021	11/64	12
10-24	16002	16022	13/64	12
12-24	16003	16023	15/64	12
1/4-20	16004	16024	17/64	12
5/16-18	16005	16025	21/64	10
3/8-16	16006	16026	25/64	10
7/16-14	16007	16027	29/64	6
1/2-13	16008	16028	17/32	6
9/16-12	16009	16029	19/32	6
5/8-11	16010	16030	21/32	6
3/4-10	16011	16031	25/32	4

FINE THREAD

Size	IBS No.		Rec. Drill Size	Inserts Per Pkg
	Kits	Inserts		
10-32	16012	16032	13/64	12
1/4-28	16013	16033	17/64	12
5/16-24	16014	16034	21/64	10
3/8-24	16015	16035	25/64	10
7/16-20	16016	16036	29/64	6
1/2-20	16017	16037	33/64	6
9/16-18	16017A	16041	37/64	6
5/8-18	16018	16038	41/64	6
3/4-16	16019	16039	49/64	4

ALL KITS & INSERTS SOLD AS PACKAGES ONLY!

FOR EXAMPLE:

1 KIT (16000) = 1 PKG

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**INCLUDES (12) INSERTS,
(1) INSTALLATION TOOL,
& (1) TAP**

**1 PKG (16032) = 12 INSERTS
ORDER QTY = 1**

HELICAL THREAD INSERTS

Size	IBS No.		Rec. Drill Size	Inserts Per Pkg
	Kits	Inserts		
M6 X 1.0	16042	16051	1/4"	12
M8 X 1.25	16043	16052	21/64"	10
M10 X 1.5	16044	16053	13/32"	10
M12 X 1.75	16045	16054	31/64"	6
M14 X 1.25*	16049	16050		12**

* For Spark Plugs

** Includes 6 each 3/8 & 3/4

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Thread Repair Inserts Installation & Removal



1. Drill out old threads with a standard drill. Countersink with a standard (82° - 100°) countersink.



2. Tap new threads with a standard tap. See charts for proper size and depth.



3. Screw in the insert until slightly below the surface.



4. Drive keys down with several hammer taps on the proper installation tool.

NOTE: Drill is oversized, see charts for proper dimensions.

IBS THREAD REPAIR INSERTS CAN BE REMOVED WITHOUT DAMAGE TO THE PARENT MATERIAL



1. Drill out material between keys and internal thread with standard drill to specified depth (refer to chart for proper dimensions).
2. Bend the keys inward and break off.
3. Remove the old insert using an E-Z Out or similar tool
4. Install the replacement insert into the original tapped hole.

TECHNICAL NOTES:

Material: Carbon Steel Inserts - C1215 or equivalent

Finish: Carbon Steel Insert - Parkerized

Tolerances: ± 0.10 inch or $+ .25$ mm unless specified otherwise

Dimensions: All dimensions are listed in inches.



IBS, INCORPORATED

Thread Inserts W02

Thread Repair Inserts

Heavy Wall



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IBS No.		INSERT			INSTALLATION				REMOVAL	
Carbon Steel	Internal Thread Class 2A	External Thread Mod. Class 2A	Length	Installation Tool Part No.	Tap Drill Size	C'Sink Dia. +.010 - .000	Thread Tap		Drill	
							Size Class 2B	Min. Depth	Size	Depth
65900	8-32	5/16-18	.31	65999	I 16143	.32	5/16-18 17637	.37	7/32	1/8
65901	10-24	3/8-16	.31	65999	Q 16151	.38	3/8-16 17639	.37	9/32	1/8
66101	10-32									
65902	1/4-20	7/16-14	.37	65999	X 16158	.44	7/16-14 17641	.48	11/32	3/16
66102	1/4-28									
65903	5/16-18	1/2-13	.43	65999	29/64 17425	.51	1/2-13 17643	.50	13/32	3/16
66103	5/16-24									
65904	3/8-16	9/16-12	.50	65999	33/64 16833	.57	9/16-12 17645	.56	15/32	3/16
66104	3/8-24									
65905	7/16-14	5/8-11	.62	65999	37/64 16837	.63	5/8-11 17647	.68	17/32	3/16
66105	7/16-20									
65906	1/2-13	3/4-16	.62	65999	45/64 16845	.76	3/4-16 17650	.68	21/32	3/16
66106	1/2-20									
65907	9/16-12	3/4-16	.81	65999	45/64 16845	.76	3/4-16 17650	.94	21/32	3/16
65908	5/8-11	7/8-14	.87	65999	53/64 16853	.88	7/8-14 17652	1.00	25/32	5/16
66108	5/8-18									
65909	3/4-10	1-1/8-12	1.12	65999	1-1/16 16865	1.14	1-1/8-12 NS	1.31	31/32	5/16
66109	3/4-16									



Insert Tool

IBS No. 65999

Use for tapping down locking keys

IBS, INCORPORATED

Thread Inserts W02



Thread Repair Inserts Thin Wall

IBS No.	INSERT			INSTALLATION				REMOVAL			
	Carbon Steel	Internal Thread Class 2A	External Thread Mod. Class 2A	Length	Installation Tool Part No.	Tap Drill Size	C'Sink Dia. +.010 - .000	Thread Tap		Drill	
								Size Class 2B	Min. Depth	Size	Depth
65921	10-24	5/16-18	.31	65999	I 16143	.32	5/16-18 17637	.37	7/32	1/8	
66121	10-32										
65922	1/4-20	3/8-16	.37	65999	Q 16151	.38	3/8-16 17639	.43	9/32	3/16	
66122	1/4-28										
65923	5/16-18	7/16-14	.43	65999	X 16158	.44	7/16-14 17641	.50	11/32	3/16	
66123	5/16-24										
65924	3/8-16	1/2-13	.50	65999	29/64 17425	.51	1/2-13 17643	.56	13/32	3/16	
66124	3/8-24										
65925	7/16-14	9/16-12	.56	65999	33/64 16833	.57	9/16-12 17645	.62	15/32	3/16	
66125	7/16-20										
65926	1/2-13	5/8-11	.62	65999	37/64 16837	.63	5/8-11 17647	.68	17/32	3/16	
66126	1/2-20										

Thread Repair Insert Assortments (Z02)

Assortments with Cabinets

- 212R • USS Heavy Wall**
- 214R • USS Thin Wall**
- 213R • SAE Heavy Wall**
- 215R • USS Thin Wall**

IBS, Inc. <small>INDUSTRIAL SUPPLY COMPANY</small>		Thread Repair Insert Assortments					
<small>1/4-1/2 NC USS Heavy Wall (212R - Row #4 only) 1/4-1/2 NF SAE Heavy Wall (213R Row #2 only) 1/4-1/2 NC USS Thin Wall (214R Row #3 only) 1/4-1/2 NF SAE Thin Wall (215R Row #1 only)</small>							
66122 1/4-28 THIN WALL THD INSERT	66123 5/16-24 THIN WALL THD INSERT	66124 3/8-24 THIN WALL THD INSERT	66125 7/16-20 THIN WALL THD INSERT	66126 1/2-20 THIN WALL THD INSERT			
Use With P/N 16151 "Q" Drill P/N 17639 3/8-16 Tap	Use With P/N 16158 "X" Drill P/N 17641 7/16-14 Tap	Use With P/N 17425 29/64 Drill P/N 17643 1/2-13 Tap	Use With P/N 16833 33/64 Drill P/N 17645 9/16-12 Tap	Use With P/N 16837 37/64 Drill P/N 17647 5/8-11 Tap	Use With P/N 16845 45/64 Drill P/N 17650 3/4-16 Tap	Use With P/N 16837 37/64 Drill P/N 17647 5/8-11 Tap	
66102 1/4-28 HVY WALL THD INSERT	66103 5/16-24 HVY WALL THD INSERT	66104 3/8-24 HVY WALL THD INSERT	66105 7/16-20 HVY WALL THD INSERT	66106 1/2-20 HVY WALL THD INSERT	66108 5/8-18 HVY WALL THD INSERT		
Use With P/N 16158 "X" Drill P/N 17641 7/16-14 Tap	Use With P/N 17425 29/64 Drill P/N 17643 1/2-13 Tap	Use With P/N 16833 33/64 Drill P/N 17645 9/16-12 Tap	Use With P/N 16837 37/64 Drill P/N 17647 5/8-11 Tap	Use With P/N 16845 45/64 Drill P/N 17650 3/4-16 Tap	Use With P/N 16853 53/64 Drill P/N 17652 7/8-14 Tap		
65922 1/4-20 THIN WALL THD INSERTS	65923 5/16-18 THIN WALL THD INSERTS	65924 3/8-16 THIN WALL THD INSERTS	65925 7/16-14 THIN WALL THD INSERTS	65926 1/2-13 THIN WALL THD INSERTS	65999 INSERT TOOL FOR THD INSERTS		
Use With P/N 16151 "Q" Drill P/N 17639 3/8-16 Tap	Use With P/N 16158 "X" Drill P/N 17641 7/16-14 Tap	Use With P/N 17425 29/64 Drill P/N 17643 1/2-13 Tap	Use With P/N 16833 33/64 Drill P/N 17645 9/16-12 Tap	Use With P/N 16837 37/64 Drill P/N 17647 5/8-11 Tap			
65902 1/4-20 HVY WALL THD INSERT	65903 5/16-18 HVY WALL THD INSERT	65904 3/8-16 HVY WALL THD INSERT	65905 7/16-14 HVY WALL THD INSERT	65906 1/2-13 HVY WALL THD INSERT			
Use With P/N 16158 "X" Drill P/N 17641 7/16-14 Tap	Use With P/N 17425 29/64 Drill P/N 17643 1/2-13 Tap	Use With P/N 16833 33/64 Drill P/N 17645 9/16-12 Tap	Use With P/N 16845 45/64 Drill P/N 17647 5/8-11 Tap	Use With P/N 16845 45/64 Drill P/N 17650 3/4-16 Tap			

Thread Repair Insert Assortments

Fill-In Assortment Segments

- 221R • USS Heavy Wall**
- 223R • USS Thin Wall**
- 222R • SAE Heavy Wall**
- 224R • USS Thin Wall**

R I V E T S & I N S E R T S



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Screw & Bolt Anchors

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General Information

The information on the following pages is designed to be used as a reference in selecting anchors and fasteners. It is intended to provide the user with practical information for the most common applications. It is not possible to include information on all applications and data for all construction materials. It is the responsibility of the user to verify the accuracy of the text and the data contained in this handbook as it pertains to each unique application.

Selection and Specification of Anchors

Until the beginning of this century, an anchor was a piece of wood or a plug of lead carved to size and wedged into a hole, into which a nail or screw was driven. These early anchors were then followed by lead and fiber anchors with hollow cores which were mass produced in a variety of sizes to match hole sizes and screw sizes.

A multitude of anchor types have been developed in subsequent years leading to today's proliferation of choices. But while this variety of choices does provide a better match up of anchors to specific needs, it also makes the selection process that much more difficult.

For that reason, before selecting the type, size and number of anchors to be used for any given application, all of the following factors should be taken into consideration.

Base Material

The strength of the masonry material is a key factor in selecting an anchor. Maximum anchor performance requires that the material in which the anchor is installed can also sustain the load to which the anchor will be subjected. Anchors installed in stone and dense concrete can withstand far greater "pullout loads" than the same anchor installed in lightweight concrete, block or brick. Medium-heavy to heavy loads cannot be safely installed in soft materials such as stucco, grout, plaster or plasterboard. Materials should be fully cured prior to anchor installation.

The length, width, and thickness of the base material should be considered. Normally, the width should be at least twice the recommended edge distance. The depth of anchor embedment should not exceed 80% of the base material thickness.

Material Composition of Anchors

IBS offers a selection of anchors to meet the requirements of most applications. When reviewing the basic considerations for selection of an anchor, the material from which the anchor is manufactured should be considered. The IBS anchor selection guide lists the basic material from which each anchor is manufactured.

Anchors selected should be manufactured from a material which is suitable for their intended use. For example, anchors manufactured from a material with a melting point of less than 1000° F are not normally recommended for overhead applications. Examples of these materials would include zinc (Zamac), lead, plastic and adhesives. A steel anchor usually meets the requirements of most fire codes. IBS offers several Factory Mutual Approved anchors for use in fire resistant construction.

Consideration should also be given to the strength of the anchor material in relation to the applied loads, including bending. The bolts used in conjunction with an anchor should be capable of sustaining the applied loads.

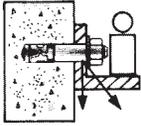
Information on this and the following pages obtained from Rawl Catalog #0013 ©1989 The Rawlplug Company, Inc.



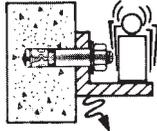
Loading Conditions

The holding power required should be calculated to include not only the load factor, but also the way the load is transmitted to the anchor.

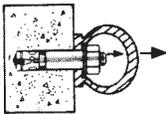
The conditions of use should be reviewed. Will the installed anchors be used to support a static load, or will they be subjected to vibration and/or shock loads?



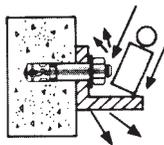
STATIC or Dead Load ... constant and unchanging.



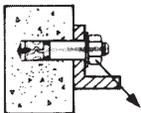
DYNAMIC or Vibration Load ... intermittent and of varying intensity.



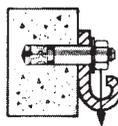
TENSION Load ... direct axial load applied to installed anchor.



IMPACT or Shock Load ... periodic load of substantial intensity.



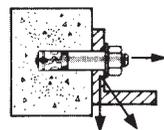
COMBINED Load...a load applied to the anchor at any angle between 0 and 90°.



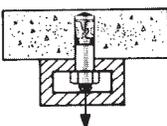
SHEAR Load ... a load applied at a right angle to the installed anchor.



FLOOR ... may be tension, shear or combined load.



WALL ... usually either combined or shear load.



CEILING ... usually direct axial (tension) load.

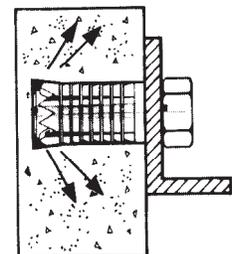
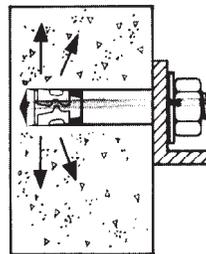
Anchor Functioning

Anchor functioning is based on one of the following categories: friction, compression, clamping, undercutting, and adhesion. In some cases a combination of functions is used. Friction fasteners develop their load capacity by creating a friction force between the fastener and the base material. Fasteners of this type may be driven into the base material without predrilling and are suitable for light duty static loads.

Clamping describes the category of anchors which is used to fasten to hollow base materials. Tension loads are sustained by spreading the load over a large bearing surface in the hollow walls while shear is resisted by the friction developed between the fixture and the base material. Most anchors function by developing a compression force against the wall of the drilled hole which resists the applied loads. This compression force is generated by a sleeve, ring, or wedge assembly which is actuated by a tapered cone, tapered plug, a nail or a screw depending upon the type. Undercut anchors expand into the base material at the bottom of the drilled hole. As they undercut the base material, a large load bearing surface is formed which can transfer greater loads to the base material. Adhesion involves bonding the anchor rod to the base material. This type of anchor can generally sustain the highest loads.

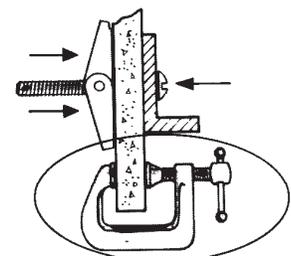
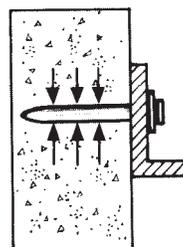
EXPANSION against the wall of the drilled hole.

UNDERCUTTING the masonry material at the base of the drilled hole.



FRICITION between the fastener and the masonry material.

CLAMPING the item to be fastened to the masonry material.





Safety Factors

Because of varying conditions of field installations a 4:1 safety factor (25% of the ultimate value) is the minimum accepted industry standard for static loads. Critical applications (vibratory loads, overhead installations, etc.) may require a safety factor of as much as 10:1, or more.

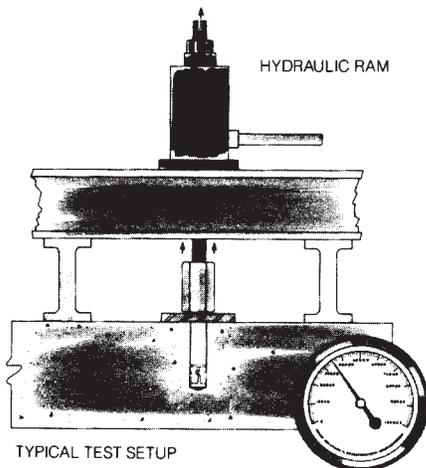
Anchor Installation Torque

Recommended installation procedures are detailed on the product catalog pages which follow. The effect of fixture coatings, lubrication of the anchor components due to the use of sealants, etc., strength of the base material, and other factors which affect the torque/tension relationship should be considered. The installation torque value used should be adjusted to suit the particular application.

As an anchor is expanded by applying a specified torque, a tension force is induced in the anchor. This tensioning force will govern the load vs. deflection characteristics of the anchor. As load is applied, the induced tension force is relieved. When vibratory loads are applied to an anchor, it is standard practice to induce a tension force in the anchor which is equal to 1.5 to 2.0 times the working load.

Load Capacity Tests

To assist in the selection and specification of anchors, load test data is provided for those products most frequently used in structural fastening and other critical applications. Such data are derived from tests performed in accordance with ANSI/ASTM standard E488. Illustrated above is a typical test setup for direct axial loading of an embedded anchor as governed by the ASTM standard. Detailed information is found in the product descriptions.

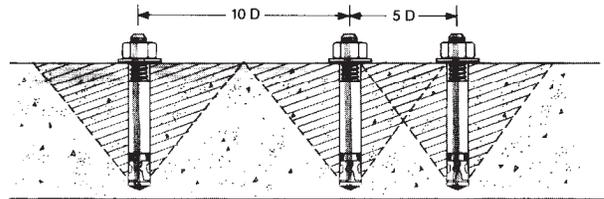


TYPICAL TEST SETUP

Spacing Recommendations

The load on an anchor is transmitted to the base material in which it is installed. Loading of anchors in closely spaced clusters of two or more can result in interaction of forces on the base material and lead to a reduction in anchor performance. The expansion anchor industry has established a minimum standard of 10 anchor diameters for spacing and 5 anchor diameters for edge distance to provide 100% anchor efficiency. Spacing may be reduced to 5 diameters with a 50% proportionate reduction in load.

The installation conditions are often determined by the manufacturer of the fixture or equipment to be fastened. The equipment or fixture often contains a specific number of mounting holes of a given screw or bolt size at a fixed spacing.



Installation Costs

A factor far less tangible than those previously discussed is the total installation cost. This includes the cost of the anchor, the drills, the drilling equipment, and the labor involved. Some anchors take longer to install than others; some require greater skill; some require deeper holes to obtain the same load capacity; some require layout or hole spotting while others do not. Ultimately, the selection and specification of an anchor requires a review of the application requirements such as the loading, base material, installation conditions, and other factors to assure maximum performance of the products. When properly selected, Industrial Bolt anchors can provide the best, most cost effective solution for most applications.

Corrosion Guide

The corrosive environment in which an anchor will be installed should be evaluated. The basic forms of corrosion can be described as chemical, electrochemical and galvanic. In addition, the pH factor of the environment should also be considered. To assure adequate protection, a detailed knowledge of corrosion is required to analyze the specific application.

ANCHORS



ANCHOR TYPE	BASE MATERIAL							WORKING LOAD					ANCHOR MATERIAL		
	CONCRETE	STONE	STONE	BLOCK	WALLBOARD	PLYWOOD		< 25 LBS	< 50 LBS	< 400 LBS	< 400 TO 4000 LBS	4000+ LBS	STEEL	LEAD	PLASTIC
PLASTIC								LIGHT DUTY	MEDIUM	MEDIUM HEAVY	HEAVY				
 BANTAM PLUG	X	X	X	X	X				X						X
 SUPER PLASTIC	X	X	X	X	X	X			X	X					X
 NYLON NAIL-IN	X			X					X				X		X
TOGGLE															
 HOLLOW WALL ANCHOR					X	X			X	X			X		
 HEAVY DUTY TOGGLE			X	X	X	X			X	X			X		
 TOGGLE BOLTS				X	X	X			X	X			X		
 POLY TOGGLE				X	X	X			X	X					X
ONE-STEP															
 EZ ANCHORS, MUNGO JET PLUGS					X			X	X				X		X
 EZ TOGGLE				X	X				X				X		
 RAPIDRIVE ANCHOR SCREWS	X	X	X	X	X	X			X	X			X		
DRILL & DRIVE															
 ZAMAC NAIL-IN ANCHOR	X	X	X	X									X		
 MASONRY SCREWS	X								X	X			X		
SHIELD TYPE															
 LAG SHIELD	X								X	X			X		
 BOLT / CAULKING ANCHOR	X			X					X	X			X		
DROP & DRIVE															
 STUD / BOLT ANCHOR	X									X			X		



Plastic Anchors



Bantam Plug

This is a plastic anchor for **light duty fastening** applications in concrete, block, brick and wallboard. Use with sheet metal or wood screws and has a flange allowing it to be used with hollow base materials keeping it from sliding through the material. The anchor has three fins to prevent the anchor from turning during installation. **This anchor should not be used for overhead applications!**



Super Plastic Anchor

Designed **for use in both hollow and solid materials:** concrete, block, brick, stone and drywall. Use with sheet metal or lag screws. Has notched wings to prevent rotation in hole during and after installation. The unique design provides more gripping power than ordinary plastic anchors.



Nylon Nail-In Anchor

Used in concrete, block, brick, stone and wallboard. The body of the anchor is the same as that for the hole, which eliminates hole spotting. They withstand vibration and shock and have excellent thermal and insulating properties. **This anchor is not recommended for overhead applications.**

Toggle Anchors



Hollow Wall Screw

Also called a **Molly Anchor**, the **Hollow Wall Screw** is **for use in plaster, drywall, concrete block or hollow tile.** The anchor is a two-part assembly consisting to a machine screw and a multi-leg expansion sleeve. As the screw is tightened, the multi-legs expand and are drawn up tight against the substrate, this providing a firm grip.



Heavy Duty Toggle

This is a toggle-type anchor with several additional features and advantages and are **ideal for use in walls, ceilings, or floors of materials such as gypsum board, drywall with a steel stud, concrete block, tile over drywall, etc.** The Heavy Duty Toggle can be installed through smaller holes than that of standard toggle bolts and also has a higher load capacity. The unique plastic cap and channel allow the anchor to be pre-installed without a bolt allowing installation by just one person. This feature also allows the anchor to be re-used since the wing will not fall into the wall when the screw is removed like standard toggle bolts.



Toggle Bolt — Designed **for use in block, drywall and other hollow base materials.** This is a two-part assembly consisting of a machine screw and spring wing toggle. Available in Mushroom, Flat and Round Head styles but can be used with any style machine screw with the appropriate thread-diameter and pitch. The spring loaded wing configuration is designed to sit flat against the underside of the wall, providing even distribution of load and maximum pull-through strength.



Poly-Toggle — The Poly-Toggle is a unique and easy-to-install plastic toggle-type anchor **for use with sheet metal screws in wallboard, solid masonry, hollow doors or any hollow wall applications** from 1/8 to 1-1/2 thick. Since the anchor is made of plastic it is completely rust-proof when used with stainless steel or brass screws in any corrosive environment.



One-Step Anchors

Mungo Jet Plugs & E-Z Anchors — A self-drilling anchor designed **for use in wallboard for light to medium duty loads**. Mungo Jet Plugs and E-Z Anchors are available in both Zinc and Nylon in two different sizes. Their unique thread design features thin, knife-like oversized threads that achieve unusually high holding power without sacrificing speed. Use with #6 and #8 screws.



E-Z Toggle — Another self-drilling anchor but with the added strength of a toggle built right in. The E-Z Toggle is **made to be used in wallboard**. Once it has been set into the wallboard, simply drive the sheet metal screw included. The sheet metal screw grabs the toggle and pulls it tight against the substrate providing a strong, sturdy anchor for light to medium duty loads.



Rapidrive Anchor Screws — An all steel, one piece threaded fastener which is **used to fasten various fixtures directly to drywall**. Rapidrive fasteners are fast. Unlike conventional screw anchors, which require a secondary step of threading a sheet metal screw into an anchor, the Rapidrive fastener is installed directly through the fixture into the drywall.



Drill & Drive Anchors

Masonry Screws

The masonry screw is a screw anchor that actually cuts its own threads into concrete. This anchor meets the needs for **most light to medium duty applications in concrete, block and brick**. Available in Hex and Flat head styles and is removable and reusable.



Zamac Nail-In Anchor

Designed **for use in concrete, block and brick** the Zamac Nail-In Anchor is another screw-type anchor. Its major difference is its availability in larger sizes and its unique thread design that gives it a "better bite" in concrete.



Shield Type Anchors

Bolt / Calking Anchor

A small anchor for **use with machine screws or bolts in concrete, block, brick or stone**. This anchor is set using the setting tool forcing the expansion cone and expanding the lead body outward against the walls of the anchor hole.



Drop & Drive Anchors

Bolt Anchor

A one piece wedge style anchor **for use in concrete**. The diameter of the Bolt Anchor is also the same as that of the hole and fixture, which eliminates layout and hole spotting. The collar on the Bolt Anchor is expanded outward against the substrate when the anchor is tightened. It is used for heavy duty fastening applications where high pullout values are required.



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IBS, INCORPORATED

Anchors Y04

Screw Anchors

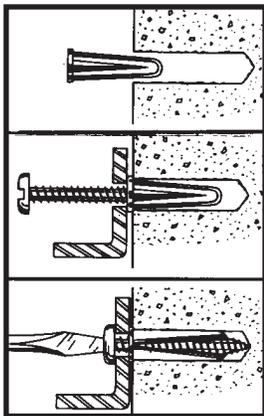
Bantam Plugs



Bantam Plugs are lightweight plastic anchors that can be used with either wood, sheet metal or lag screws. These economical anchors can be used for a number of different light duty applications for fastening fixtures such as mirrors and shelving brackets. Their load capacity will vary depending on the integrity of the base material into which they are installed. It is recommended that they be used for light duty static applications where holding power is not a critical factor. Collar flange allows for easy installation into hollow walls. They are made of corrosion resistant plastic and can be used in concrete, block, wallboard, tile or brick.

IBS No.	Color	Size	Drill Diam.	Min. Depth	Qty
55000	Blue	#6-8 X 3/4	3/16	3/4	100
55001	Red	#8-10 X 7/8	3/16	7/8	100
55002	Blue	#10-12 X 1	1/4	1	100
55003	Red	#14-16 X 1-1/2	5/16	1-1/2	50

Installation Procedure



Drill hole 1/4" deeper than the length of the anchor. Insert the anchor so it is flush with the wall surface.

Insert the wood or sheet metal screw through the fixture and into the anchor. Tighten the screw so that the anchor will expand and hold firmly.

For best results the screw should protrude 1/4" through the bottom of the anchor.

Screw length = Fixture thickness + Anchor length + 1/4"

Super Plastic Anchors



Super Plastic Anchors are multi-size lightweight plastic anchors for use with wood, sheet metal and lag screws. Designed for light duty applications, they feature a ribbed body and pop-out anchors which grip the material into which they are installed allowing them to provide more gripping power than ordinary plastic anchors.

IBS No.	Size	Length	Drill	Qty
55230	#4-6-8-10	1	3/16	100
55231	#8-10-12-14	1-1/4	3/16	100
55232	#12-14-16	1-1/2	1/4	100

RECOMMENDED SCREW SIZES

Phil Flat	Phil Pan	Size	Use with
7792	7700	6 X 1-1/2	55230
7824	7735	10 X 1-1/2	55231
7851	7765	14 X 1-1/2	55232

ANCHORS



Bolt Anchors Single Unit Caulking Anchors

Open End



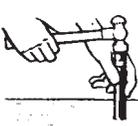
Open End Caulking Anchors are precision cast caulking type machine screw anchors and are used in concrete, brick, or stone. They can be used with either machine screws or bolts. They are made up of a lead sleeve and zinc alloy cone to protect against rust and corrosion. The zinc alloy cone is chamfered at the top for easy screw starting. The sharp collar prevents the cone from being drawn up through the sleeve when overloads are applied. Screw engagement should be a minimum of 2/3 of the anchor threads.

IBS No.	Size	Drill	Min. Depth	Safe Working Load (lbs)	Qty
55202	10-24	3/8	5/8	150	100
55206	3/8-16	3/4	1-1/4	450	50

Caulking Anchor Installation Procedure



Drill hole in masonry. Insert caulking anchor conical end first.



Use setting tool to expand lead sleeve into masonry.

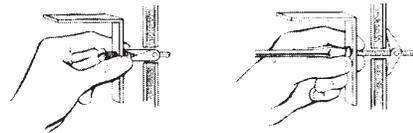


Install work by inserting and tightening a standard machine bolt or screw.

Hollow Wall Anchors Toggle Bolts



Toggle Bolts are commonly used in hollow walls, hung ceilings and horizontal surfaces where gravity-action toggles would be difficult to set. The winged head of a toggle bolt open automatically by means of a spring within the head. All toggle threads are National Standard Thread.



To Install: Drill hole completely through wall. Insert the bolt through the item to be fastened and thread the toggle wings onto the end of the bolt. Fold the wings completely back and push them through the hole until the wings spring open. Pull back to hold the wings against the inside wall and tighten with a screwdriver.

IBS No.			Size	Drill Dia.	Qty
Mush	Flat	Round			
55045	55073	55053	1/8 (6-32) X 2	3/8	50
55046	55074	55054	1/8 (6-32) X 3	3/8	50
55047	55075	55055	1/8 (6-32) X 4	3/8	50
		55056	3/16 (10-24) X 2	1/2	50
55049	55077	55057	3/16 (10-24) X 3	1/2	50
55050	55078	55058	3/16 (10-24) X 4	1/2	50
	55081	55061	1/4-20 X 3	5/8	50
	55082	55062	1/4-20 X 4	5/8	50
		55066	5/16-18 X 4	7/8	25
		55069	3/8-16 X 3	7/8	25
		55070	3/8-16 X 4	7/8	25
		55071	3/8-16 X 5	7/8	25

Toggle Wings Only For Toggle Bolts

IBS No.	Size	Drill	Qty
55085	1/8 (6-32)	3/8	100
55086	3/16 (10-24)	1/2	100
55087	1/4-20	5/8	100
55088	5/16-18	7/8	50
55089	3/8-16	7/8	50



Anchors Y04

Rapidrive Anchor Screws Light to Medium Duty Anchors



143150
Chrome, Pan Head



143152
Chrome, Oval Head



143151
White, Pan Head



143153
White, Oval Head

The Rapidrive Anchor Screw is an all steel, one-piece screw anchor, which features high profile threads for easy fastening into wallboard and other masonry base materials. The deep cutting, corkscrew-like threads provide for smooth entry and a powerful hold. For fastening into wallboard or wood, no pre-drilling is required—the anchor is inserted through the fixture and screwed in with an ordinary Phillips screwdriver. Fastening into concrete, hollow or grout-filled concrete masonry, brick and plaster requires a pre-drilled hole using a 3/16" ANSI bit. The best anchor for light to medium duty applications.

Features & Benefits:

- All steel construction is stronger and can be installed in a variety of base material
- High profile threads prevents spinning and stripping
- One piece installs directly through fixtures – no second step required
- Deep cutting corkscrew-like threads for smooth entry and powerful hold
- Heat-treated points penetrates metal & wood studs
- Two Head Styles and two color finishes for better aesthetic finish in different color fixtures.
- Can be removed and leaves a much smaller hole than other anchors
- Ideal for lightweight fixtures, drapery supports, electrical boxes, telephone and cable accessories, etc.

For Use in:

Normal Weight Concrete • Grout Filled Concrete • Hollow Concrete Masonry
Brick Masonry • Wallboard • Plywood • Plaster

Pan Hd	Oval Hd	Description	Head Size	Drive	Qty
143150	143152	3/16 X 1-1/4 Chrome	No. 8	#2	100
143151	143153	3/16 X 1-1/4 White Head	No. 8	#2	100

Ultimate & Allowable Load Capacities for Rapidrive Anchor Screws In Normal Weight Concrete

Anchor Diameter In. (mm)	Minimum Embedment Depth In. (mm)	Minimum Concrete Compressive Strength $f'_c \geq 4,000$ psi (27.6 MPa)			
		Ultimate Load		Allowable Load	
		Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
1/4 (6.4)	3/4 (6.4)	350 (1.6)	1,030 (4.6)	90 (0.4)	260 (1.2)
	1 (25.4)	700 (3.2)	1,070 (4.8)	175 (0.8)	270 (1.2)

Ultimate Load Capacities for Rapidrive Anchor Screws In Wallboard & Plywood ¹

Anchor Diameter in. (mm)	1/2 Wallboard		5/8 Wallboard		3/4 Wallboard	
	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
1/4 (6.4)	85 (0.4)	245 (1.1)	135 (0.6)	360 (1.6)	255 (1.1)	600 (2.7)

1. The values listed above are **ultimate** load capacities which should be reduced by a minimum safety factor of 4.0 or greater to determine the allowable working load.



Rapidrive Anchor Screws (cont'd)

Allowable Load Capacities for Rapidrive Anchor Screws In Wallboard & Plywood ¹

Anchor Diameter in. (mm)	1/2 Wallboard		5/8 Wallboard		3/4 Wallboard	
	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
1/4 (6.4)	20 (0.1)	60 (0.3)	35 (0.2)	90 (0.4)	65 (0.3)	150 (0.7)

1. The values listed above are calculated using an applied safety factor of 4.0.

Ultimate & Allowable Load Capacities for Rapidrive Anchor Screws In Grout-Filled, Hollow Masonry & Structural Brick Masonry ¹

Anchor Diam. In. (mm)	Minimum Embed Depth In. (mm)	Anchor Location	Grout Filled Concrete Masonry ASTM C 90		Hollow Concrete Masonry ASTM C 90		Brick Masonry	
			Tension lbs. (kN)	Shear lbs.(kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
1/4 (6.4)	3/4 (19.1)	Center of Masonry Unit	—	—	—	—	400 (1.8)	650 (1.8)
	3/4 (19.1)	T-Joint	—	—	—	—	350 (1.6)	600 (2.7)
	1 (25.4)	Center of Masonry Unit	285 (1.3)	825 (3.7)	305 (1.4)	825 (3.7)	600 (2.7)	900 (4.1)
	1 (25.4)	T-Joint	290 (1.3)	915 (4.1)	290 (1.3)	915 (4.1)	380 (1.7)	825 (3.7)

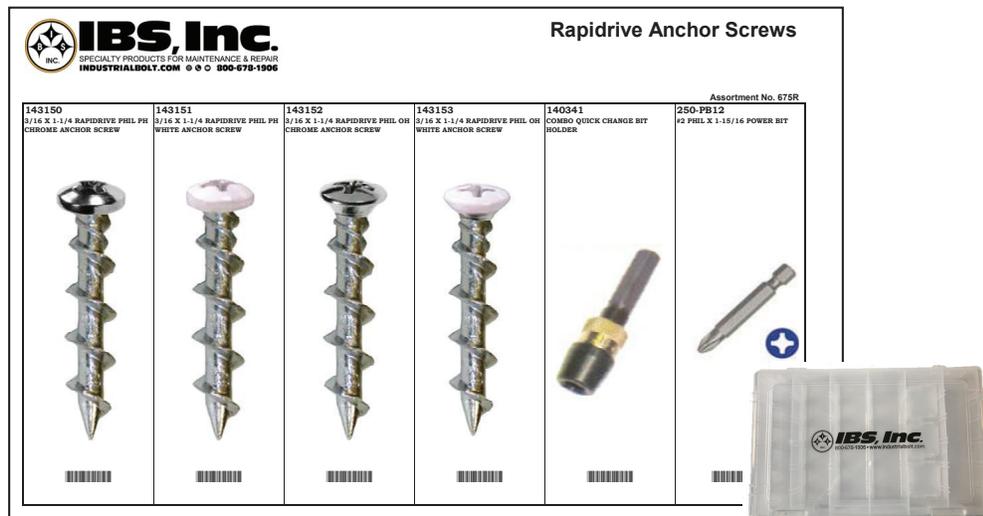
1. The values listed above are ultimate load capacities which should be reduced by a minimum safety factor of 5.0 or greater to determine the allowable working load.

Assortments Z02

Rapidrive Anchor Screws Assortment

IBS No. 675R • 6 Items • 205 pieces

Packaged in a locking plastic box for easy storage and organization



ANCHORS



IBS, INCORPORATED

Anchors Y04

E-Z Anchor

Self-Drilling, One-Piece Anchor for Light Duty Drywall Attachments



- No hole preparation necessary; pre-drills own small precise hole in gypsum wallboard for fast and easy installation.
- Replaces plugs and plastic toggles to reduce inventory and save money.
- Deep thread design provides strong engagement in 3/8, 1/2 and 5/8 gypsum wallboard for better performance and pullout strength.
- Installs quickly and easily with a #2 phillips screwdriver or power driver.
- Full range of anchors to cover all wall fastening applications.
- Available in corrosion resistant, non-conductive white nylon to resist and eliminate chance of electrical arcing.

APPLICATIONS

- Electrical Fixtures
- Thermostats
- HVAC Fixtures
- Plumbing Fixtures
- Bathroom Accessories
- Shelving & Supports
- Telecommunications Equipment
- Decorative Wall Hangings
- Plaques & Awards
- Closet Organizers
- Coat Racks
- Curtain Rods
- Signs
- Bulletin Boards
- Control systems
- Picture Frames
- Remote Control Boxes
- Office Material Holders
- Smoke Detectors
- Clocks
- Kitchen Accessories
- Doorbells
- Mirrors
- Chalk Boards
- Brackets

PERFORMANCE DATA

These performance values are averages obtained under laboratory conditions. Note that these values will change depending on age, moisture content, and surface treatment of the drywall (gypsum) material. Appropriate safety factors should be applied to these values for design purposes.



HOLDING WEIGHT

Gypsum Thickness

	3/8	1/2	5/8
E-Z Mini Anchor	30	40	50
E-Z Anchor	40	50	75
E-Z Toggle	70	85	150

ANCHORS

	IBS No.	Description	Material	Qty.	MAX Thickness	Use with IBS No.
Light Duty E-Z Mini Anchor®	55038		Zinc	100	3/4	7699 #6 x 1-1/4 SMS 7718 #8 x 1-1/4 SMS
Medium Duty E-Z Anchor®	55036 55037		Zinc White Nylon	100	3/4	7719 #8 x 1-1/2 SMS
Heavy Duty E-Z Toggle®	55240		Zinc	50	5/8	Includes 50 #8 x 2-1/8 SMS



E-Z Anchors

SELF-DRILLING, ONE-PIECE ANCHOR FOR LIGHT DUTY DRYWALL ATTACHMENTS

Installation Guidelines

E-Z Mini-Ancor & Medium Duty E-Z Ancor

1. Place #2 Phillips screwdriver into recess of E-Z Mini Ancor or E-Z Ancor.
2. Press into drywall while turning the anchor clockwise until it is sealed flush with the wall.
3. Place fixture in position over installed E-Z Mini Anchor or E-Z Anchor. Insert with screwdriver. Tighten fixture in place.

Heavy Duty E-Z Toggle

1. Place #2 screwdriver into recess of E-Z Toggle. Press into drywall while turning the anchor clockwise until it is sealed flush with wall and arrows on head are parallel to stud.
2. Place fixture in position over installed E-Z Toggle. Insert screw and push through E-Z Toggle to engage clamp.
3. Continue turning screw until tight. The clamp will move back against the drywall as the screw is turned.

Hollow Wall Anchors & Fasteners

IBS No. 205R • 16 ITEMS • 650 PIECES

IBS, Inc. <small>SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR INDUSTRIALBOLT.COM • 800-678-1906</small>		Hollow Wall Anchors & Fasteners <small>Assortment No. 205R</small>		
7698 6 X 1 PHIL PAN HD T/S ZP 		55230 4-6-8 X 1 WING SCREW PLASTIC 	55038 E-Z MINI ANCHOR ZINC E-Z Ancor Mini Light Duty Hangs up to 40 lbs. 	
7717 8 X 1 PHIL PAN HD T/S ZP 	7719 8 X 1-1/2 PHIL PAN HD T/S ZP 	55231 8-10-12X1-1/4 WING SCREW 	55037 EZ-ANCHOR WHITE NYLON E-Z Ancor Plasto Plus Medium Duty Hangs up to 50 lbs. 	
7733 10 X 1 PHIL PAN HD T/S ZP 	7735 10 X 1-1/2 PHIL PAN HD T/S ZP 	55231 8-10-12X1-1/4 WING SCREW 	55036 EZ-ANCHOR ZINC E-Z Ancor Zinc Medium Duty Hangs up to 50 lbs. 	55035 MUNGO JET PLUG EZ-ANCHOR
7763 14 X 1 PHIL PAN HD T/S ZP 	7765 14 X 1-1/2 PHIL PAN HD T/S ZP 	55232 12-14-16X1-1/2 WING SCREW 		55240 E-Z TOGGLE STANDARD E-Z Toggle Heavy Duty Hangs up to 85 lbs.

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IBS, INCORPORATED

Anchors Y04

Hollow Wall Anchors

Mungo Jet Plugs



Mungo Jet Plugs are one of the fastest and easiest hollow wall anchors that can be used in wallboard. They feature a unique **drill tip configuration** that uses **four offset blades** to insure fast and true cutting. **Two blades are cutting blades** while the other **two are used to stabilize** the anchor for speed and accuracy.

Their **unique thread design** features thin, **knife-like oversize threads** that achieve unusually high holding power in gypsum without sacrificing speed. **The tapered root** compacts the wall material around the anchor, further increasing holding power. The anchor is held in place by **anti-rotation ratchet teeth** under the collar. This allows removal of the screw without removing the anchor.

IBS No.	Description	Max. Thickness	Qty
55035	Mungo Jet Plug (Zinc)	Up to 1"	100

Special Features:

- **Supplied with** — #8 X 1-1/4 Phil Pan HD T/S
- **Self drilling plug** — eliminates pre-drilling.
- **Deep thread engagement** — offers excellent pullout values
- **Zinc Die Cast** — will not corrode.

Engineered for:

- HVAC Contractors
- Drywall, chipboard, & plasterboard
- Security System installers
- Interior Finishers
- Shelving Contractors

HOLDING WEIGHT		
Gypsum Thickness		
3/8	1/2	5/8
40 lbs	50 lbs	75 lbs

Screw Anchors



Hollow Wall Screw Anchors are designed for use in hollow materials, such as plaster, wallboard, concrete, block, hollow tile, paneling, etc. They are made of steel and do not require additional fasteners. Slotted round head screws come with each anchor. As the screw is tightened, the legs of the screw anchor expand and are drawn up tight in three planes against the wall of the hollow material, thus providing a secure firm grip. After setting the anchor the screw may be removed and replaced repeatedly without affecting the screw anchor.

Drill hole completely through hollow wall and insert the screw anchor. Tap head with back of screwdriver until gripper prongs are imbedded in wall. Maintain pressure with screwdriver (to prevent anchor from rotating in hole) while turning in screw until a definite resistance is felt. Remove screw, line up mounting hole of item to be fastened, re-insert screw and tighten.

IBS No.	Size	Drill Bit	Wall Thickness	Qty
55025	1/8 Extra Short	5/16	1/16 to 1/4	100
55027	1/8 Long	5/16	5/8 to 1	100
55030	3/16 Long	3/8	3/4 to 1-1/8	50
55033	1/4 Long	1/4	5/8 to 1-1/8	50
55040	1/8 Long	Drive	1/2 to 3/4	100

ANCHORS

Anchors Y04

Hollow Wall Anchors Heavy Duty Toggle Anchors

These heavy-duty hollow wall anchors are ideal for use in walls, ceilings, or floors of materials such as gypsum board, drywall with a steel stud, concrete block, tile over drywall, etc. The anchor is **pre-assembled** and ready for immediate use. The **ratcheting strap/locking cap assembly** positions the **one piece** zinc-plated steel anchoring channel flush against the rear of the wall. The straps on the outside of the wall are then easily and quickly snapped off by hand flush with the surface of the wall (**no extra tools required**). Holding is dependent only on a metal bolt to metal channel connection. Heavy Duty Toggle Anchors comply with all existing fire codes for critical applications.

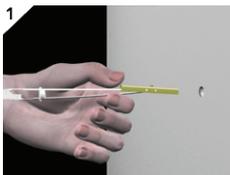


IBS No.	Bolt Thread	Drill Diam.	Grip Range	Qty
55095	10-24 (3/16-24)	1/2	3/8 - 3-5/8	25
55096	1/4-20	1/2	3/8 - 3-5/8	25
55097	3/8-16	3/4	3/8 - 2-1/2	25
55098	1/2-13	3/4	3/8 - 2-1/2	25

Features & Benefits

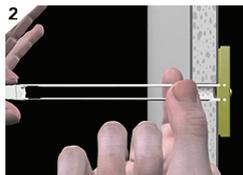
- **Strong - up to 2x the load** of an old-fashioned wing toggle
- **Solid metal channel resists vibration and shock**
 - bolt is centered in channel and positioned for precise installation
 - bolt threads never touch interior surface of hole and will not cut/saw through substrate
- **Saves installation time** — at least 6 minutes per anchor versus wing toggles
- **Can use a screw gun** — anchor does not spin
- **Saves money** — turn a 2 person job into a 1 person job
- **Uses a shorter bolt** — no need to carry a wing through the wall
- **New, patented strap design** with sturdier straps and smaller ratchet interval:
 - adjusts more precisely and **snaps off flush** to wall, ceiling, or floor
 - **does not break** prematurely pushes aside insulation
- **Smallest installation hole for each bolt size**
 - maintains integrity of wall, ceiling, or floor, which strengthens the anchoring
 - ends the need to patch an oversized hole: a 1/4" wing toggle requires a 3/4" diameter hole: 50% larger than the 1/2" diameter hole used by the Heavy Duty Toggle Anchor
- **Plating is 7x more corrosion resistant** than B633-85 Type III/SC 1 government spec high quality zinc plating (350 hours to red rust in salt spray vs. only 48 hours for government spec).
- **Pre-installs without the bolt** for easy fixture handling.
- **Reusable in the same hole** — allows for removal without losing the anchor.
- **Ergonomic design** — means that fingers grab straps easily with no slipping.

INSTALLATION INSTRUCTIONS

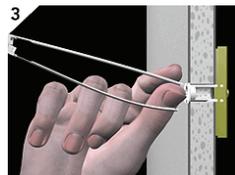


Drill appropriate size hole. Hold metal channel flat alongside plastic straps and slide channel through the hole.

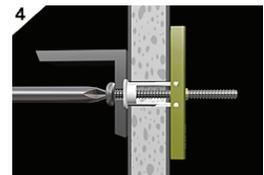
Minimum clearance behind wall: 1-7/8"



Hold ends of straps together between thumb and forefinger and pull toward you until channel rests behind wall. Ratchet cap along straps with other hand until flange of cap is flush with wall.



Place thumb between straps at wall. Push thumb side to side, snapping off straps level with flange of cap.



Place item over flange. Insert bolt and tighten until snug against item, then stop. Use machine screw or bolt to match thread in metal channel.



IBS, INCORPORATED

Anchors Y04

Heavy Duty Toggle Anchors



SPECIFICATIONS:

Description: Heavy Duty Toggle Anchors

Material: Zinc-plated, 1010 cold rolled steel metal channel, high impact polystyrene

Screw specification: UNC thread machine screw (bolt to match thread in metal channel)

Minimum screw length: thickness of wall or ceiling + thickness of item being fastened + 1/2"

Minimum clearance behind wall: 1-7/8"

Minimum drywall thickness: 3/8"

Maximum drywall thickness: 3-5/8" for 55095 & 55096
2-1/2" for 55097 & 55098

The plastic straps and cap washer are positioning and retention elements only. They do not otherwise function as anchoring elements. Holding is dependent only on a metal bolt to channel connection. The HEAVY DUTY TOGGLE ANCHOR complies with all existing fire codes for critical applications.



Applications

- Flat panel TV's
- TV mounts
- Hand Rails
- Partitions
- Lighting Fixtures
- Window Treatments
- Grab bars
- Cabinets
- Marine applications
- ADA Hardware
- Shelving
- Office Furniture
- Solar Panels
- Heavy Machinery
- Garage Doors
- Sinks
- Heavy Fans
- DSS antennas
- Reinstallations
- Roofs & Decking

For Use in

- Cinder Block
- Tile over drywall
- Greenboard
- Plywood
- Concrete Block
- Plasterboard
- Plaster
- Steel Plate
- Gypsum board
- Composite Panels
- Stucco
- Plastic
- Drywall
- Cement board
- Fiberglass
- Wood studs/beams

TENSILE (LBS)

IBS No.	UNC Thread	Drill Diam.	1/2 Drywall	5/8 Drywall	*1/2 with 25 GA stud	*5/8 with 25 GA stud	Concrete Block	1/2 Steel Plate
55095	10-24 (3/16-24)	1/2	238	356	412	462	802	918 ¹
55096	1/4-20	1/2	265	356	425	464	1080	1288 ²
55097	3/8-16	3/4	275	576	466	488	1745	1692
55098	1/2-13	3/4	275	576	468	513	**2038 ²	2605

* Failure measured as breakage drywall portion

** Failure of block

1 Stainless steel bolts used

2 Hardened bolts used

SHEAR (LBS)

IBS No.	UNC Thread	Drill Diam.	1/2 Drywall	5/8 Drywall
55095	10-24 (3/16-24)	1/2	247	298
55096	1/4-20	1/2	241	324
55097	3/8-16	3/4	292	406

Industry standards recommend 1/4 of ultimate test load.

Holding strength varies directly with the strength and condition of the substrate and the bolt size — and inversely with variations in hole diameter and the distance of the load from the wall.

All figures in pounds. Pull-out values based on independent laboratory tests done according to U.S. Government standards. They should be used as guides only and cannot be guaranteed. The age, condition, and capacity of the substrate must be considered.

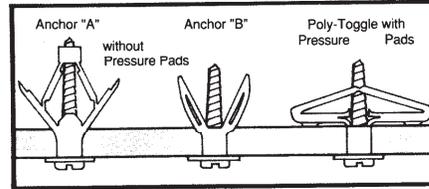
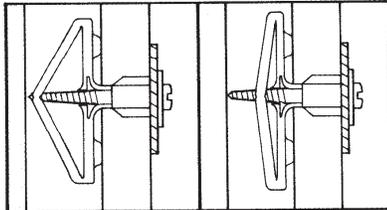
ANCHORS



Hollow Wall Anchors Poly-Toggle® Screw Anchors



Poly-Toggle® Screw Anchors are patented, fast, easy-to-use hollow wall anchors. They are made of polypropylene for use with sheet metal screws in wallboard, solid masonry or hollow doors. Special design in the screw path allows the poly-Toggle® screw anchor to accept screw length as short as 3/4" over the thickness of the work. This allows the Poly-Toggles® to be used where plywood is used for furring strips. They also feature two pressure pads which help the Poly-Toggle® shape into a rigid, stable structure truss that spreads and distributes the load away from the hole. The net effect is increased holding power even when the inside of the hole is rough and other anchors tend to get pulled into the wallboard and distorted, losing shape and pull-out resistance.



IBS No.	Size	Thick	Wallboard		Concrete Block		Drill Diam.	Qty
			Tension	Shear	Tension	Shear		
55093	Medium	5/8	1/2 - 5/8	150	280	230	5/16	100

Hollow Wall Anchors Assortment (Z02)

IBS No. 397R • 9 ITEMS • 180 PIECES

IBS, Inc.
SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR
INDUSTRIALBOLT.COM • 800-678-1906

**Hollow Wall Anchors
& Fasteners**

Assortment No. 397R

<p>55095 10-24 (3/16-24) HVY TOGGLE ANCHOR</p>	<p>55096 1/4-20 HVY DUTY TOGGLE ANCHOR</p>	<p>55093 1/2 TO 5/8 POLY TOGGLE</p> <p>55037 EZ-ANCHOR WHITE NYLON</p>	<p>143150 3/16 X 1-1/4 RAPIDRIVE PHIL PH CHROME ANCHOR SCREW</p>
<p>9585 10-24 X 3 PHIL ROUND HD M/S ZP</p>	<p>9608 1/4-20 X 4 PHIL ROUND HD M/S ZP</p>	<p>7719 8 X 1-1/2 PHIL PAN HD T/S ZP</p>	<p>143152 3/16 X 1-1/4 RAPIDRIVE PHIL OH CHROME ANCHOR SCREW</p>

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IBS, INCORPORATED

Anchors Y04

One-Step Anchors

Nylon Nail-In Anchors



Nylon Nail-In Anchors install quickly, easily and economically in concrete, block, brick or wallboard. They are made of nylon casing with steel nails and the head design is mushroom (truss) style. They withstand vibration and shock and have excellent thermal and insulating properties. They resist chemicals, fungus and rot and can be used in hollow or solid base applications.

IBS No.	Size	Drill	Qty
55008	1/4 X 3/4	1/4	100
55009	1/4 X 1	1/4	100
55010	1/4 X 1-1/2	1/4	100
55011	1/4 X 2	1/4	100

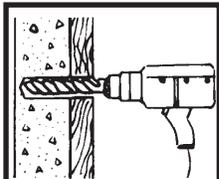
Zamac Nail-In Anchors



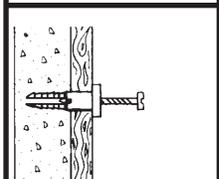
Zamac Nail-In Anchors have a body made of Zamac #7, a special zinc alloy developed for its resistance to corrosion. The expansion device is a steel nail which is driven through the body. The head design is mushroom (truss) style. The anchors are tamper proof and can be used in concrete, block, brick or stone.

IBS No.	Size	Drill	Qty
55015	3/16 X 7/8	3/16	100
55016	1/4 X 3/4	1/4	100
55017	1/4 X 1	1/4	100
55018	1/4 X 1-1/4	1/4	100
55019	1/4 X 1-1/2	1/4	100
55020	1/4 X 2	1/4	100

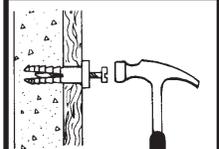
Nail-In Anchor Installation Procedure



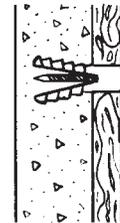
Drill hole same diameter as Nail-In Anchor (3/16" or 1/4") but slightly deeper than the anchor length.



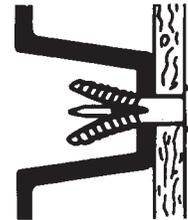
Insert Nail-In Anchor through item to be fastened and into drilled hole.



Drive expander pin flush with head of anchor. Nail-In anchor expands and is permanently anchored. If desired, the Nail-In anchor can be removed with a screwdriver and reused.



Solid Application
The entire length of the anchor body is compressed against the sidewalls of the hole.



Hollow Application
A secure fastening is obtained when legs of Nail-In anchor are expanded.

ANCHORS

Anchors Y04

One-Step Anchors Wedge Type Stud/Bolt Anchors



Wedge Type Stud/Bolt Anchors are one-piece anchor bolts made of standard low carbon steel for use in highly corrosive environments.

Typical applications include:

Heavy Construction: bridges, dams, power plants, highway guard railings

General Construction: fastening elevator equipment, electro/mechanical apparatus, railings, door and window framing;

Industrial Maintenance: fastening conveyors, machinery, storage racks, loading docks.

IBS No.	Size	Min. Depth	Thread Length	Qty
55101	1/4 X 2-1/4	1-1/8	7/8	100
55102	1/4 X 3-1/4	1-1/8	7/8	100
55106	3/8 X 2-3/4	1-3/4	1-1/8	50
55107	3/8 X 3	1-3/4	1-1/8	50
55109	3/8 X 3-3/4	1-3/4	1-1/8	50
55110	3/8 X 5	1-3/4	1-1/8	50
55111	1/2 X 2-3/4	2-1/4	1-1/4	50
55112	1/2 X 3-3/4	2-1/4	1-1/4	50
55113	1/2 X 4-1/2	2-1/4	1-1/4	50
55114	1/2 X 5-1/2	2-1/4	1-1/4	50
55116	5/8 X 3-1/2	2-7/8	1-5/8	25
55117	5/8 X 4-1/2	2-7/8	1-5/8	25
55118	5/8 X 5	2-7/8	1-5/8	25
55119	5/8 X 6	2-7/8	1-5/8	25
55122	3/4 X 4-1/4	3-3/8	1-3/4	10
55123	3/4 X 4-3/4	3-3/8	1-3/4	10
55124	3/4 X 5-1/2	3-3/8	1-3/4	10

PULLOUT LOAD TEST—TENSION LOAD (LBS)

Anchor Size	Embed Depth	Install Torque (ft-lbs)	2,000 psi	4,000 psi	6,000 psi
1/4	1-1/8	8	1,670	2,380	2195
1/4	1-1/2	8	2,120	2,585	2560
1/4	2	8	2,725	2,925	3050
3/8	1-5/8	28	3,566	4,125	4150
3/8	2	28	2,900	4,310	4400
3/8	3	28	4,800	4,800	5070
1/2	2-1/4	60	6,525	6,625	6625
1/2	3	60	7,135	8,050	8050
1/2	4	60	7,945	9,945	9945
5/8	2-3/4	90	7,330	8,365	8390
5/8	4	90	9,375	10,140	11565
5/8	5	90	11,010	11,555	14100
3/4	3-3/8	175	10,745	10,745	1525
3/4	5	175	14,855	15,695	1930
3/4	6	175	17,385	18,745	21755

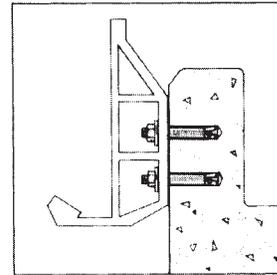
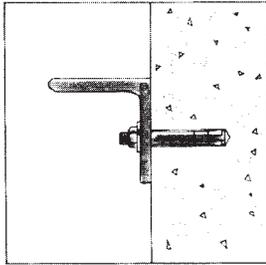
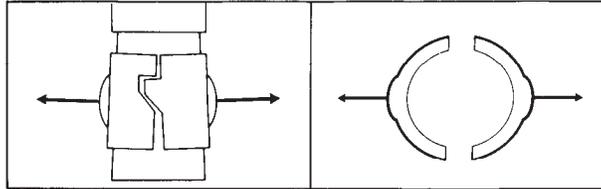
***NOTE:** Test data above represent average ultimate loads sustained in concrete having minimum compressive strengths as indicated.

ANCHORS



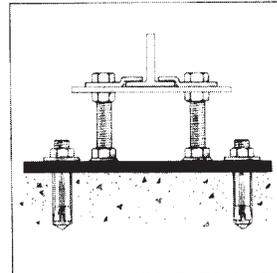
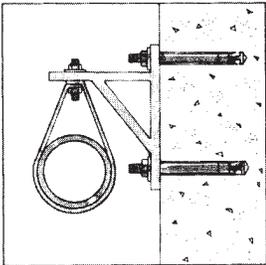
One-Step Anchors Wedge Type Stud/Bolt Anchors

Wedge Type Stud/Bolt Anchors feature dual-pressure expansion collars to distribute the load equally in the lateral planes of the concrete, thereby preventing bolt cocking and premature rupture of the concrete due to distortion or uneven distribution of the load.



The **Wedge Type Stud/Bolt Anchor** is ideal for fastening angle brackets, support angles for floors and formwork, and high-load shelving.

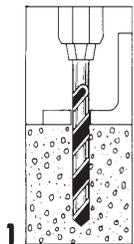
The **Wedge Type Stud/Bolt Anchors** are also used to securely attach highway and commercial sign supports to a wide variety of masonry materials.



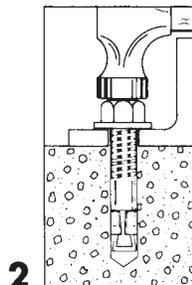
Wedge Type Stud/Bolt Anchors are also used to securely fasten supports for piping conduits and electrical junction boxes.

The **Wedge Type Stud/Bolt Anchor** is also ideal for the installation of equipment and elevator guide rails.

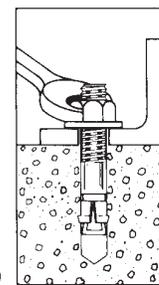
Wedge Type Stud/Bolt Anchor Installation Procedure



Drill hole in concrete (hole diameter same as thread diameter). Maximum depth of drilled hole could be any depth beyond minimum recommended.



Drive wedge anchor into drilled hole through fixture so that nut is flush with fixture.



Tighten nut until wrench resistance is felt (approximately 3 to 4 full turns of the nut after snugged up). Anchorage is now complete.

Anchors Y04

Masonry Fastening Systems

The original masonry anchor . . . cuts threads into concrete, brick and cement block. Stalgard® coating offers better corrosion protection than zinc or cadmium.



Thread

Patented twin-lead design literally taps threads into concrete. The high thread with notched cutting edges cuts easily into masonry. The low threads provide stability.

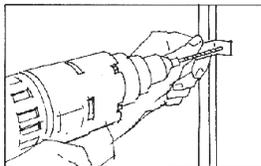
Shank

Tapered shank creates progressive tapping action that cuts threads into concrete. 3/16" or 1/4" diameters available.

Point

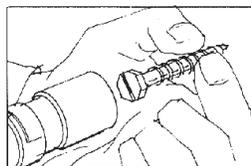
Nail point guides anchor into pre-drilled hole. Also allows drilling into wood. Anchor is also reversible for easy removal.

The System:



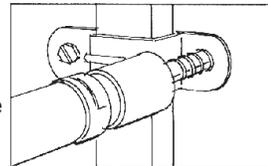
Drill

Just drill the hole



Drive

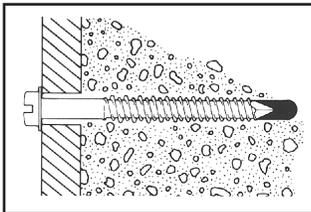
Then drive the anchor



Fastened

Replaces a wide variety of anchors, plugs and screws.

Selection / Specification:



Thickness of the fixture being anchored and the desired embedment in the masonry material determines the anchor length. A minimum of 1" and a maximum of 1-3/4" embedment is recommended. 1/4" diameter anchors are recommended in lightweight block applications where strip-out may be a problem.

Concrete & Masonry Fastening Systems

Slotted Hwh Concrete & Masonry Screws

IBS No.	Size	Qty	Use with Drill Bit	IBS No.	Size	Qty	Use with Drill Bit
55300	3/16 X 1-1/4	100	55335	55307	1/4 X 1-1/4	100	55337
55301	3/16 X 1-3/4	100	55335	55308	1/4 X 1-3/4	100	55337
				55309	1/4 X 2-1/4	100	55338
				55310	1/4 X 2-3/4	100	55338
				55311	1/4 X 3-1/4	100	55338

Drill Bits Ordered Separately

Phillips Flat Head Concrete & Masonry Screws

IBS No.	Size	Qty	Use with Drill Bit	IBS No.	Size	Qty	Use with Drill Bit
55314	3/16 X 1-1/4	100	55335	55322	1/4 X 1-3/4	100	55337
55315	3/16 X 1-3/4	100	55335	55323	1/4 X 2-1/4	100	55337
55316	3/16 X 2-1/4	100	55336	55324	1/4 X 2-3/4	100	55338
55317	3/16 X 2-3/4	100	55336	55325	1/4 X 3-1/4	100	55338
55318	3/16 X 3-1/4	100	55336				

Drill Bits Ordered Separately





IBS, INCORPORATED

Anchors Y04

Tool Kit for Concrete Screws

IBS No. 55330

Makes installation of concrete and masonry screws easy! Accessories are compatible with a standard, 3-jaw style chuck, and the sockets have been designed to prevent over-torquing and fastener failure. Packaged in a rugged plastic box ideal for storage of the installation tool kit and concrete masonry screws.

8 Pc Kit includes:

- Drill Bit Holder
- 5-3/4" sleeve
- 1/4" & 5/16" Hex Sockets
- #2 & #3 Phillips Bits
- Allen wrench



Masonry Drill Bits for use with Concrete Screws



IBS No.	Description	Qty
55335	5/32 X 5 Masonry Drill Bit	1
55336	5/32 X 7 Masonry Drill Bit	1
55337	3/16 X 5 Masonry Drill Bit	1
55338	3/16 X 7 Masonry Drill Bit	1

A
N
C
H
O
R
S

Concrete Screws with Drills & Installation Kit (Z08)

IBS No. 273P • 13 ITEMS • 253 PIECES



Concrete Screws with Drills & Installation Kit

Assortment No. 273P

<p>55309 1/4 X 2-1/4 HWH CONCRETE SCREW</p> 	<p>55316 3/16X2-1/4 PHIL FLT CONCRETE SCREW</p> 	<p>55336 5/32X7 SDS HEX CARBIDE DRILL Use with 3/16 Screws</p> 	<p>55330 TOOL KIT FOR CONCRETE SCREWS</p> 
<p>55308 1/4 X 1-3/4 HWH CONCRETE SCREW</p> 	<p>55315 3/16X1-3/4 PHIL FLT CONCRETE SCREW</p> 		<p>55338 3/16X7 SDS HEX CARBIDE DRILL Use with 1/4 Screws</p> 
<p>55307 1/4 X 1-1/4 HWH CONCRETE SCREW</p> 	<p>55314 3/16X1-1/4 PHIL FLT CONCRETE SCREW</p> 	<p>55317 3/16X2-3/4 PHIL FLT CONCRETE SCREW</p> 	<p>55324 1/4X2-3/4 PHIL FLT CONCRETE SCREW</p> 
<p>55300 3/16 X 1-1/4 HWH CONCRETE SCREW</p> 	<p>55310 1/4 X 2-3/4 HWH CONCRETE SCREW</p> 		