

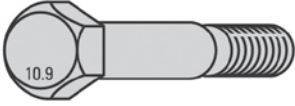
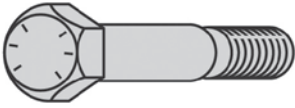


**HARDWARE**

# Bolts

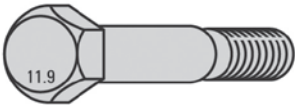
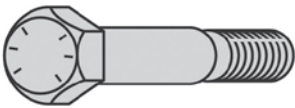
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## Hex Head Bolts



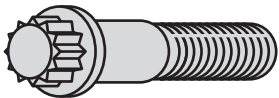
- Designed with smooth rolled threads for better clamp load, shear resistance and resistance to stripping.
- Made of fine grain steel for a more uniform micro-structure, resulting in improved toughness and fracture resistance.
- Inch Bolts:
  - Meet or exceed SAE Grade 8 specifications for tensile strength and proof load, minimum tensile strength of 150,000 psi.
  - Have 20% higher head height than SAE specifications for longer wear life, easier gripping and less slippage.
  - Marked with 6 radial dashes on the bolt head.
- Metric Bolts:
  - Meet or exceed ISO Class 10.9 specifications for tensile strength and proof load, minimum tensile strength of 1040 mPa (150,000 psi).
  - Marked with 10.9 on the bolt head.
- Bolt Coatings:
  - Phosphate and Oil coating provides better clamp loads and torque retention.
  - Zinc plating provides better long term corrosion resistance.

## High Strength Hex Head Bolts



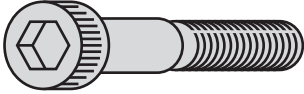
- Thread design and steel — similar to HEX Head Bolts
- Inch Bolts:
  - Have 20% higher head height than SAE specifications for longer wear life, easier gripping and less slippage.
  - Exceed SAE Grade 8 specifications for tensile strength and proof load, minimum tensile strength of 170,000 psi.
  - Marked with seven radial dashes on the bolt head.
- Metric Bolts:
  - Exceed ISO 10.9 specifications for tensile strength of 1170 mPa (170,000 psi).
  - Marked with 11.9 on the bolt head.
- Coatings – similar to HEX Head Bolts.

## 12 Point Head Bolts



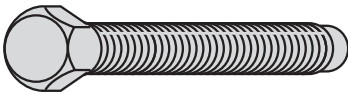
- Designed with smooth rolled threads for better clamp load, shear resistance, and resistance to stripping.
- Made of fine grain steel for a more uniform micro-structure, resulting in improved toughness and fracture resistance.
- Exceeds SAE Grade 8 specifications for tensile strength and proof load, minimum tensile strength of 1170 mPa (170,000 psi).
- For use in restricted clearance applications.

## Hex Socket Head Screw Bolts



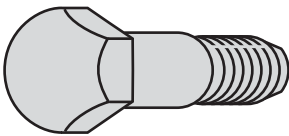
- Designed with smooth rolled threads for better clamp load, shear resistance, and resistance to stripping.
- Made of fine grain steel for a more uniform micro-structure, resulting in improved toughness and fracture resistance.
- Exceeds SAE Grade 8 specifications for tensile strength and proof load, minimum tensile strength of 1170 mPa (170,000 psi).
- For use in restricted clearance applications.

## Hex Head Forcing Bolts



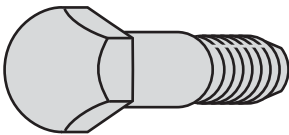
- Designed with smooth rolled threads for better clamp load, shear resistance, and strip resistance.
- Made of fine grain steel for a more uniform micro-structure, resulting in improved toughness and fracture resistance.

## Track Bolt and Split Master Link Bolts



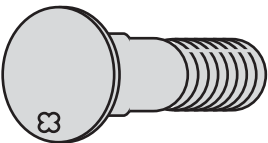
- High dome Hex head for longer wear life and reusability.
- Exceeds SAE Grade 8 specification for tensile strength and proof load, minimum tensile strength 170,000 psi.
- Special induction heat treat process provides Rockwell C37-42 hardness.

## High Strength Track Bolts



- Similar high dome Hex head as standard Track Bolts.
- Exceeds SAE Grade 8 specifications for tensile strength and proof load, minimum tensile strength 180,000 psi.
- Special induction heat treat process provides Rockwell C39-43 hardness.

## Cutting Edge Bolts



- Dome shaped head for added strength and wear resistance.
- Exceeds SAE Grade 8 specifications for tensile strength and proof load, minimum tensile strength of 150,000 psi.
- Special induction heat treat process provides Rockwell C33-39 minimum.

# Bolts

## Fastener Size and Coating

Thread Size	M6X1		M8X1.25		M10X1.5		M12X1.75	
	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil
Bolt length	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil
10	7X-2619	----	7X-2620	2W-9533	----	----	----	----
12	8T-4171	8T-0639	8T-4199	6V-2316	7X-2621	6V-8084	----	----
14	8T-4970	6V-8836	7X-2536	8T-0642	----	----	----	----
16	5C-9553	6V-8837	8T-4200	6V-5215	8T-4191	6V-8212	7X-2548	6V-8177
20	8T-4138	6V-8214	8T-4189	6V-5217	8T-4137	6V-6317	8T-4179	8T-0293
25	6V-7357	6V-8490	8T-4908	6V-3940	8T-4136	6V-4248	8T-4192	6A-5591
30	8T-4971	8T-0640	8T-7547	6V-2317	8T-4195	6V-1820	8T-4139	6V-3668
35	7X-2533	6V-2315	7X-2537	6V-5218	183-7121	6V-3822	8T-4956	143-0811
40	8C-8451	2W-9499	099-3649	6V-5219	8T-4186	291-5203	259-2627	6V-8197
45	9X-2480	6V-7728	7X-0818	8T-0276	8T-4182	6V-5843	8T-4184	6V-5684
50	7X-2534	8T-0275	8T-6912	6V-3918	8T-4185	6V-4249	8T-4194	6V-7673
60	7X-2535	8T-5066	8T-6869	8T-0100	8T-6466	6V-5230	8T-4910	6V-3823
70	8T-3844	6V-8359	8T-6870	5P-8347	8T-5005	6V-7981	8T-4648	6V-8336
80	8T-6974	----	8T-3647	6V-5221	8T-4172	8T-0643	8T-6868	6V-5696
90	7X-7888	----	8T-4177	8T-0292	8T-4178	8T-0644	8T-4176	8T-0372
100	457-2451	----	7X-2538	6V-5223	8T-4198	6V-1819	7X-2549	482-3555
110	----	295-4303	7X-2539	6V-3821	8T-6685	8T-0355	7X-2550	8T-0646
120	----	----	7X-2540	6V-9607	7X-2543	8T-5030	8T-5041	----
130	----	----	108-2989	7X-0457	8T-5436	210-4460	8T-5001	253-6267
140	----	6V-9606	7X-2541	7X-0870	7X-2544	8C-2926	8T-5412	7X-0909
150	----	----	7X-2542	8C-4984	7X-2545	8T-9085	8T-5092	----
160	----	----	8T-7352	3E-8005	8T-6408	8T-0356	8T-7930	8T-0162
180	9X-8498	----	----	9X-6000	7X-2546	8T-7950	8T-7929	8T-6991
200	7X-0490	----	----	9X-6628	7X-2547	8T-6854	7X-2551	8C-3226
220	----	----	9X-2028	----	7X-0474	----	7X-7960	515-4689
240	----	----	----	9X-6630	159-7463	----	7X-3335	----
260	----	----	----	----	8T-4144	----	8C-8407	----
280	----	----	----	----	----	----	----	----
300	----	----	----	----	286-3219	----	270-5290	----
Washer-Hard OD / THK	9X-8256 12/2	9X-8267	8T-4224 16/2	9M-1974	8T-4121 21/2.5	6V-5839	8T-4223 25.5/3	5P-8245
Washer-Hard Oversize OD OD / THK	----	----	5P-4116 20.5 / 2	3E-4352 20.5 / 2.5	7X-7729 25 / 3	3E-4353	5P-1076 30 / 4	7D-1649 32 / 5
Washer- Hard Structural OD/THK	198-4775 15/6		198-4776 20/8	198-4765	198-4777 25/10	198-4766	198-4778 30/12	198-4767
Nut-Hex	344-5673	6V-8225	344-5674	5P-7970	344-5675	2Y-5829	329-3356	6V-8149
Locknut Metal	6V-7746		6V-9189		6C-7744		6V-7687	
Locknut Nylon (Zn plated)	208-8469		3T-0852		8T-0389		8T-8549	
Nut-Flanged (Zn Plated)	099-6418		178-3336		175-7141		184-0983	
Nut-Weld (Zn Plated) Pilot Hole DIA	6V-9632 9.5		8T-3612 11.5		8T-3490		8T-3597 16.75	

## Fastener Size and Coating

Thread Size	M16X2		M20x2.5		M24X3		M30X3.5		M36X4	
Bolt length	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil
10	----	----	----	----	----	----	----	----	----	----
12	----	8T-0639	----	----	----	----	----	----	----	----
14	----	6V-8836	----	----	----	----	----	----	----	----
16	----	6V-8837	----	----	----	----	----	----	----	----
20	142-8545	6V-8214	----	----	----	----	----	----	----	----
25	8T-4190	6V-8490	----	----	----	----	----	----	----	----
30	7X-2552	8T-0640	8T-4780	8T-0651	----	----	----	----	----	----
35	8T-4779	6V-2315	7X-2561	----	7X-2572	----	----	----	----	----
40	7X-2553	2W-9499	8T-5460	6V-7729	7X-2573	----	----	----	----	----
45	8T-7338	6V-7728	288-3678	219-7569	7X-2574	----	----	----	----	----
50	8T-4193	8T-0275	287-5701	6C-3531	8T-5379	6V-9199	7X-7900	9X-2199	----	----
60	8T-4140	8T-5066	106-4175	287-3585	610-5988	8Y-0380	----	----	----	----
70	118-7313	6V-8359	8T-4141	173-9685	7X-2576	8T-0664	7Y-5232	----	----	----
80	303-9441	----	213-5007	6C-3669	114-6099	173-9779	8C-8723	274-4642	160-6513	----
90	8T-4175	----	112-3927	145-9278	7X-2577	----	7X-2580	173-9683	----	----
100	7X-2556	----	7X-2565	6C-9667	112-3929	173-9684	7X-2581	8T-0368	147-2001	173-9682
110	8T-4173	295-4303	112-3926	8T-0362	7X-2454	244-6356	7X-2582	8T-0283	----	----
120	8T-4174	----	8T-6381	8T-0070	8T-0363	6V-8132	7X-2583	----	7Y-5263	101-3672
130	7X-2475	----	7X-2532	8T-0655	8T-6380	8T-0669	130-0099	177-9754	7Y-5264	9X-6152
140	7X-2557	6V-9606	8C-8478	295-2409	8T-4649	8T-0670	7X-2584	8T-0370	7Y-5265	147-0170
150	7X-2558	----	202-0308	8T-0656	147-5112	141-6373	107-3953	101-1806	7Y-5245	147-0169
160	7X-2559	----	7X-2488	8T-0657	169-5792	8T-0672	313-2634	177-9755	7Y-5253	----
180	8T-6385	----	7X-2568	8T-0658	7X-2465	8T-0674	7X-2586	8T-6624	207-4919	201-4606
200	8T-6383	----	7X-2569	9X-6494	7X-2578	6V-8198	9X-6385	163-8682	153-3975	9X-6626
220	7X-2560	----	7X-2570	8T-7505	7X-2476	8T-0364	3E-9850	178-2992	----	224-8961
240	100-8255	----	7X-2571	8T-0161	7X-2579	8T-0365	----	334-6836	153-3976	----
260	8T-6382	----	125-3297	----	7X-2455	8T-0367	7Y-5231	139-5942	----	----
280	110-6968	----	----	9X-2475	9X-8477	8T-5397	108-7931	----	----	----
300	110-6969	----	----	----	9X-8913	152-0604	3E-7442	----	----	----
Washer-Hard OD / THK	9X-8257 30 / 3.5	9X-8268	8T-4123 35 / 3.5	8T-3282	8T-4167 44 / 4	6V-8237	9X-8258 56 / 6	9X-8399	9X-8259 66 - 6	146-1799
Washer- Hard Structural OD / THK	198-4780 32 / 8	198-4768	198-4781 40 / 10	198-4769	267-3507 47 / 12	198-4771	198-4783 60 / 14	198-4772	----	198-4773 70 / 16
Nut-Hex	8T-4132	8T-1757	8T-4131	6V-7742	8T-4001	7X-0851	8C-8722	8T-1583	8T-4955	8C-4032
Locknut Metal	8T-4778		----		317-1117		----		----	
Locknut Nylon (Zn plated)	176-5311		6V-7688		6V-7676		8T-5065		8T-3018	
Nut-Flanged (Zn Plated)	369-9046		----		----		----		----	
Nut-Weld (Zn Plated) Pilot Hole DIA	355-8941 20.75		----		----		----		----	

# Bolts

## Fastener Size and Coating

Thread Size		1/4 - 20		5/16 - 18		3/8 - 16		7/16 - 14	
Bolt length (mm)	Bolt Length (in)	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil
12.7	1/2	5S-7349	0S-1614	8T-5391	1C-0569	8T-9371	4F-4879	----	----
15.88	5/8	8T-9364	2A-0762	5K-0906	2H-3755	5P-8167	0T-0102	----	----
19.05	3/4	4M-5281	0S-1615	4M-0061	0S-1617	5M-3062	0S-0509	7X-0307	----
22.22	7/8	1H-3337	4F-7957	8T-9043	2B-2695	5S-7379	0L-1351	7X-0272	----
25.4	1	8T-8908	0S-1616	4M-6425	0S-1618	4L-6454	0S-1594	8T-9380	0T-0318
28.58	1 1/8	6D-2928	9F-6580	6V-5782	4B-3388	8T-2502	1A-2029	8T-6973	4F-8965
31.75	1 1/4	7X-2501	7B-2742	6V-8918	1B-7182	9B-7237	0S-1588	8T-9382	0T-0320
34.92	1 3/8	8C-0617	2A-5546	8C-6561	1B-2790	5S-7383	0S-1571	8C-6877	0T-0768
38.1	1 1/2	4M-5282	9F-7022	8C-3121	1A-9579	4L-9337	165-3929	8T-8916	0T-0772
44.45	1 3/4	5P-2675	1B-2713	7X-0440	1B-9575	5S-7383	0S-1571	8C-6877	0T-0768
50.8	2	8T-9367	8B-2377	8T-8911	2B-2694	8T-2501	165-3932	7X-0310	0T-0319
57.15	2 1/4	8T-9368	1D-4533	8T-8912	1D-4538	8T-9377	165-3933	7X-0311	1D-4707
63.5	2 1/2	7X-0264	1B-2714	5P-2955	1D-4539	4L-6459	261-5615	7X-0312	1D-4703
69.85	2 3/4	7X-0265	2A-4781	7X-0274	1D-4540	8T-9101	165-3934	7X-0313	1D-4556
76.2	3	7X-0266	4B-9365	4M-6424	1D-4541	7F-1866	165-3935	7X-0314	4F-5192
82.55	3 1/4	7X-0267	8F-8178	7X-0275	1F-5842	8T-8915	0L-1352	7X-0315	3B-8428
88.9	3 1/2	7X-0268	----	7X-0276	1F-4111	7X-0290	245-3804	7X-0316	7F-8698
95.25	3 3/4	8C-3793	----	7X-0277	4B-0831	7X-0291	0S-1608	7X-0317	----
101.6	4	7X-0269	8S-4710	7X-0278	4B-3903	8T-9378	8S-9191	7X-0318	4F-7226
107.95	4 1/4	----	----	7X-3351	8H-8769	8T-9379	0T-0055	7X-0319	----
114.3	4 1/2	----	8S-4711	7X-0473	3H-5932	7X-0292	1A-5964	7X-0456	4B-7220
120.65	4 3/4	----	4L-3776	7X-0279	3H-3243	7X-0293	245-3803	7H-3472	----
127	5	8T-8909	----	7X-0280	----	223-4903	----	7X-0320	5B-5059
139.7	5 1/2	7X-0271	----	7X-0281	5L-1761	7X-0296	5F-4899	7X-0321	8F-4197
152.4	6	----	1B-2718	5P-0059	----	8C-7323	1D-4706	7X-0322	8F-6419
165.1	6 1/2	----	4N-1761	7X-0282	4F-3508	7X-0300	4F-0411	3L-0742	----
177.8	7	113-4201	----	----	----	7X-0301	9F-8999	----	----
190.5	7 1/2	----	----	----	----	7X-0302	6B-1557	----	----
203.2	8	----	----	----	----	7X-0303	8F-6350	----	----
215.9	8 1/2	----	----	----	----	7X-0304	9F-2773	----	----
228.6	9	----	----	----	----	7X-0305	5F-6044	----	----
241.3	9 1/2	----	----	----	----	4H-3283	----	----	----
Washer-Hard OD / THK		8T-4205 14.5 / 2	5P-0537	8T-4224 16 / 2	9M-1974	8T-4896 18.5 / 2.5	5M-2894	8T-5360 22.5 / 2.5	5P-8244
Washer- Hard Structural OD / THK		5P-4115 19 / 2	----	5P-4116 20.5 / 2	3E-4352 20.5 / 2.5	5P-1075 22.5 / 3	9X-6458	7X-0589 28.5 / 5	2S-0932
Nut-Hex		6V-8185	9S-8750	6V-8189	5S-0003	6V-8801	9S-8752	7X-0447	3S-1546
Locknut Metal		2D-6235	----	031-4155	----	2K-4973	----	6V-5729	----
Locknut Nylon		3E-9865	----	3E-9860	----	3K-6060	----	9M-5048	----
Nut-Weld Pilot Hole DIA		9F-6445 10.5	----	4K-9097 12.5	----	1F-0750 13.8	----	8K-7186 17	----



## Fastener Size and Coating

Thread Size		1/2 - 13		5/8 - 11		3/4 - 10		7/8 - 9	
Bolt length (mm)	Bolt Length (in)	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil
12.7	1/2	7X-0323	----	----	----	----	----	----	----
15.88	5/8	----	----	----	----	----	----	----	----
19.05	3/4	8T-9383	0S-1620	7X-0342	1H-9456	----	----	----	----
22.22	7/8	8T-9384	2H-3855	----	----	----	----	----	----
25.4	1	5P-2228	0S-1621	5C-6266	0S-1624	5C-7886	7H-2069	----	----
28.58	1 1/8	5C-6565	6H-1717	----	----	----	----	----	----
31.75	1 1/4	8T-8917	0S-1595	7X-0343	0S-1592	8T-9397	0S-1583	----	----
34.92	1 3/8	8C-4436	7B-3235	7X-0344	4B-4043	----	----	----	----
38.1	1 1/2	6C-3241	0S-1585	8T-9393	9X-6380	7X-0365	0S-1626	7X-0379	----
44.45	1 3/4	8T-8919	0S-1587	7X-0345	0S-1589	8T-9398	1A-0458	7X-0380	----
50.8	2	8T-4835	1A-1460	7X-0346	1A-1135	7X-0366	0L-1178	7X-0381	0T-0319
57.15	2 1/4	5P-2424	2B-0947	7X-0347	8S-9092	201-2184	2A-1538	7X-0382	----
63.5	2 1/2	7X-0325	9S-1366	201-7354	0S-1625	8T-8924	1A-8063	338-8484	174-3056
69.85	2 3/4	8T-9389	1A-5822	8C-6362	1A-8537	8C-6857	1D-4608	7X-0383	1D-4626
76.2	3	7X-0326	0L-1329	7X-0349	1B-4367	336-8237	1D-4609	6C-3210	----
82.55	3 1/4	8T-8920	0V-0375	8T-9396	1D-4585	7X-0369	1D-4610	7X-0385	1D-4628
88.9	3 1/2	7X-0328	1D-4566	7X-0350	1D-4586	7X-0370	3B-2968	299-3436	1D-4629
95.25	3 3/4	8T-9391	1B-2886	7X-0351	9X-6417	7X-0371	7F-5227	7X-0453	2H-3856
101.6	4	6V-4432	0S-1573	7X-0352	0S-1569	8C-8842	4E-9311	7X-0387	1D-4630
107.95	4 1/4	7X-0331	1D-4569	7X-0353	1D-4588	7X-0372	0S-1756	7X-0455	----
114.3	4 1/2	7X-0332	8S-9089	7X-0354	1A-8651	8T-9311	0S-1627	7X-0388	----
120.65	4 3/4	7X-0333	2B-2006	7X-0355	1D-4590	8T-8925	3B-6753	7X-0389	----
127	5	7X-0334	----	7X-0356	1A-5405	7X-0375	1D-4614	6C-3220	----
139.7	5 1/2	7X-0336	1D-4572	7X-0358	1D-4593	7X-0373	1D-4615	7X-0391	----
152.4	6	7X-0338	1D-4574	7X-0359	1D-4595	8T-9312	1D-4616	7X-0392	----
165.1	6 1/2	7X-0340	231-4471	7X-0361	1D-4597	7X-0377	2B-1015	7X-0393	----
177.8	7	7X-0341	1A-7669	7X-0362	1D-4599	8T-9313	1D-4620	7X-0394	----
190.5	7 1/2	8T-9392	1A-0168	----	----	1J-8930	1D-4621	----	----
203.2	8	7X-0481	9S-1374	7X-0363	1B-7709	5P-4135	1D-4622	7X-0395	1D-6259
215.9	8 1/2	7X-0471	----	7X-0364	1D-4601	299-3399	1D-4623	7X-0396	----
228.6	9	----	6M-9613	8T-9375	2H-3756	7X-3179	1D-4624	7X-0397	----
241.3	9 1/2	----	----	7X-7890	1D-4602	----	----	----	----
254	10	----	----	----	----	8F-4225	----	304-5286	2B-2391
Washer-Hard OD / THK		8T-4223 25.5 / 3	5P-8245	8T-4224 32 / 3.5	5P-8247	8T-4994 36.5 / 3.5	5P-8248	8C-6913 41.5 / 4	5P-8249
Washer- Hard Structural OD / THK		5P-1076 30 / 4	7D-1649 32 / 5	7X-0515 35 / 5	2S-7593 35 / 5	7X-0582 44.5 / 6	5P-6652 44.5 / 6	----	----
Nut-Hex		6V-8188	1F-7958	7X-0448	4K-0367	6V-8182	2J-3506	7X-0449	2J-3505
Locknut Metal		1K-6872	----	3K-2889	----	1K-6870	----	6K-0545	----
Locknut Nylon		9X-0941	----	3E-9861	----	3E-9862	----	3E-9863	----
Nut-Weld Pilot Hole DIA		1F-0748 18.5	----	3J-5169 20.5	----	----	----	----	----

# Bolts

## Fastener Size and Coating

Thread Size		1 - 8		1 - 1/8 - 7		1 - 1/4 - 7		1 - 1/2 - 6	
Bolt length (mm)	Bolt Length (in)	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil
12.7	1/2	----	----	----	----	----	----	----	----
15.88	5/8	----	----	----	----	----	----	----	----
19.05	3/4	----	----	----	----	----	----	----	----
22.22	7/8	----	----	----	----	----	----	----	----
25.4	1	----	----	----	----	----	----	----	----
28.58	1 1/8	----	----	----	----	----	----	----	----
31.75	1 1/4	7X-0399	8S-4767	----	----	----	----	----	----
34.92	1 3/8	----	----	----	----	----	----	----	----
38.1	1 1/2	7X-0400	0V-0450	----	----	----	----	----	----
44.45	1 3/4	7X-0401	1J-7370	----	----	----	----	----	----
50.8	2	7X-0402	1J-5257	7X-0420	3J-8281	----	----	----	----
57.15	2 1/4	7X-0403	8S-9093	----	----	----	----	----	----
63.5	2 1/2	----	6I-6371	----	7J-7222	----	----	----	----
69.85	2 3/4	7X-0405	9S-1363	----	2K-2037	----	----	----	----
76.2	3	7X-0406	7Y-1136	7X-0421	1J-2814	----	----	----	----
82.55	3 1/4	7X-0407	1D-4637	----	----	----	----	----	----
88.9	3 1/2	7X-0408	1D-4638	7X-0422	1J-2175	7X-0427	2B-1955	----	519-2276
95.25	3 3/4	8T-8927	8H-5772	----	----	----	----	----	----
101.6	4	6C-3212	1D-4639	----	----	7X-0428	----	----	----
107.95	4 1/4	6C-3213	1D-4640	----	----	1S-6560	----	----	----
114.3	4 1/2	6C-3214	1D-4641	7X-0423	5M-0544	7X-0429	3R-2300	----	----
120.65	4 3/4	7X-0412	2A-1420	----	----	----	8F-1156	----	----
127	5	8C-8844	1D-4642	----	----	7X-0445	136-4188	7X-0439	1K-9414
139.7	5 1/2	7X-0443	1D-4643	----	----	7X-0430	1B-2721	----	----
152.4	6	1J-5929	9F-6936	7X-0425	8H-5727	7X-0431	2H-1537	288-8101	----
165.1	6 1/2	7X-0444	5B-5473	7X-0426	8T-4934	7X-0432	6H-1628	----	----
177.8	7	7X-0413	5F-9338	----	262-7250	7X-0433	----	----	----
190.5	7 1/2	7X-0414	2B-7218	127-4835	----	----	----	----	----
203.2	8	7X-0415	1D-4644	----	----	6V-2793	----	----	----
215.9	8 1/2	7X-0416	1D-4645	----	----	7X-0435	1J-6775	----	----
228.6	9	7X-0417	1D-4646	----	----	7X-0436	1K-9418	----	----
241.3	9 1/2	7X-0418	1D-4647	----	----	7X-0437	1K-9420	----	----
254	10	----	142-7074	----	----	1D-4649	----	----	----
Washer-Hard OD / THK		8T-5361 49 / 5	5P-8250	7X-0531 52.5 / 6	3S-1349	7X-0533 55 / 6	4K-0684	7X-0537 67 / 6	3S-6162
Nut-Hex		299-3423	2J-3507	329-3710	4K-0367	7X-0451	3K-9770	7X-0452	9S-8216
Locknut Metal		6K-3632	----	----	8D-9513	2J-5997	----	----	----
Locknut Nylon		93E-9864	----	----	----	----	----	----	----



## Fastener Size and Coating

Thread Size	M6x1		M8x1.25		M10x1.5		M12x1.75	
	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil	Zn Flake	Phos&Oil
Bolt length								
12	134-7721	8T-5451	----	----	----	----	----	----
16	8C-3210	----	134-7722	6V-8210	----	6V-8455	----	----
20	8T-4181	----	8T-5091	----	8T-4201	192-4744	----	----
25	----	109-1390	----	----	9X-2125	----	099-4691	----
30	8C-3798	----	----	----	8T-0722	----	8C-8992	6V-8097
35	163-3955	----	----	----	----	----	----	7X-7478

Thread Size	M6x1	M5x0.8	M8x1.25	M10x1.5	M10x1.5	M10x1.5
	Zn Flake	Zn Flake	Zn Flake	Zn Flake	Zn Flake	Zn Flake
Bolt length						
10	----	271-9408	----	271-9408	----	----
12	174-8131	----	9X-2042	----	----	----
14	225-3109	----	9X-2043	----	----	----
16	----	198-9706	215-6406	----	----	----
20	200-1131	191-2276	9X-2045	127-2170	9X-2041	253-9521
25	213-7315	263-5928	3E-8020	7Y-9099	9X-2040	345-7725
30	----	----	111-4627	216-7352	----	----
35	7Y-7256	----	9X-2046	----	9X-2039	----
40	----	----	121-9870	----	----	----
45	----	----	----	274-7409	----	----

Thread Size	M6x1	M8x1.25	M10x1.5	M12x1.75
	Zn Flake	Zn Flake	Zn Flake	Zn Flake
Coating				
Locknut nylon	208-8469	3T-0852	8T-0389	8T-8549
Nut-Hex	5C-2890	5C-7261	8T-4133	8T-4244
Washer-Soft OD / THK	1A-8912 12.7 / 1.6	8F-7242 16 / 2	7P-1695 19 / 3	4B-4280 27 / 2.5

Width	2.45	3.6	4.7	4.9	7.6	8.8	12.5
Length	100	148	390	170	387	820	372
Bundle DIA ( MIN / MAX )	1.5 / 22	1.5 / 35	1.5 / 225	1.5 / 50	5 / 105	8 / 245	13 / 100
PN	1S-9593	8L-8413	6K-0806	3S-2093	7K-1181	034-1432	204-2281

# Bolts

## Hex Head Bolts/Inch/Phosphate & Oil

Thread Size	OAL (in)	Grip Length (in)	Part Number
<b>Thread Size (in - TPI) 1/4 - 20</b>			
1/4 - 20	1/2	1/16	0S-1614
1/4 - 20	5/8	1/8	2A-0762
1/4 - 20	3/4	1/8	0S-1615
1/4 - 20	7/8	1/8	4F-7957
1/4 - 20	1	1/8	0S-1616
1/4 - 20	1 1/8	3/8	9F-6580
1/4 - 20	1 1/4	1/8	7B-2742
1/4 - 20	1 3/8	5/8	2A-5546
1/4 - 20	1 1/2	1/4	9F-7022
1/4 - 20	1 5/8	7/8	7B-8167
1/4 - 20	1 3/4	1	1B-2713
1/4 - 20	2	1 1/8	8B-2377
1/4 - 20	2 1/4	1 3/8	1D-4533
1/4 - 20	2 1/2	1 3/4	1B-2714
1/4 - 20	2 3/4	2	2A-4781
1/4 - 20	3	2	4B-9365
1/4 - 20	3 1/4	2 1/2	8F-8178
1/4 - 20	4	3 1/4	8S-4710
1/4 - 20	4 1/2	3 3/4	8S-4711
1/4 - 20	4 3/4	4	4L-3776
1/4 - 20	Nut	-	9S-8750
-	Washer	-	5P-0537
<b>Thread Size (in - TPI) 5/16 - 18</b>			
5/16 - 18	1/2	1/16	1C-0569
5/16 - 18	5/8	1/8	2H-3755
5/16 - 18	3/4	1/8	0S-1617
5/16 - 18	7/8	1/8	2B-2695
5/16 - 18	1	1/8	0S-1618
5/16 - 18	1 1/8	1/4	4B-3388
5/16 - 18	1 1/4	3/8	1B-7182
5/16 - 18	1 3/8	1/2	1B-2790
5/16 - 18	1 1/2	3/32	1A-9579
5/16 - 18	1 5/8	3/4	1H-5514
5/16 - 18	1 3/4	7/8	1B-9575
5/16 - 18	2	1 1/8	2B-2694
5/16 - 18	2 1/4	1 3/8	1D-4538
5/16 - 18	2 1/2	1 5/8	1D-4539
5/16 - 18	2 3/4	1 7/8	1D-4540
5/16 - 18	3	5/36	1D-4541
5/16 - 18	3 1/4	2 1/4	1F-5842
5/16 - 18	3 1/2	2 5/8	1F-4111
5/16 - 18	3 3/4	2 3/4	4B-0831
5/16 - 18	4	3	4B-3903

Thread Size	OAL (in)	Grip Length (in)	Part Number
5/16 - 18	4 1/4	3 3/8	8H-8769
5/16 - 18	4 1/2	3 5/8	3H-5932
5/16 - 18	4 3/4	3 7/8	3H-3243
5/16 - 18	5 1/2	4 5/8	5L-1761
5/16 - 18	5 3/4	4 7/8	8M-1865
5/16 - 18	6 1/2	5 3/8	4F-3508
5/16 - 18	Nut	-	5S-0003
-	Washer	-	9M-1974
<b>Thread Size (in - TPI) 3/8 - 16 and 3/8 - 24</b>			
3/8 - 16	1/2	3/32	4F-4879
3/8 - 16	5/8	3/32	0T-0102
3/8 - 16	3/4	1/8	0S-0509
3/8 - 16	7/8	1/8	0L-1351
3/8 - 16	1	1/8	0S-1594
3/8 - 16	1 1/8	5/16	1A-2029
3/8 - 16	1 1/4	1/4	165-3928 <sup>(1)</sup>
3/8 - 16	1 3/8	3/8	3B-1915
3/8 - 16	1 1/2	3/8	165-3929 <sup>(1)</sup>
3/8 - 16	1 5/8	7/8	165-3930
3/8 - 16	1 3/4	3/4	165-3931 <sup>(1)</sup>
3/8 - 16	1 7/8	1 1/16	1C-2251
3/8 - 16	2	27/28	165-3932
3/8 - 16	2 1/4	1 1/4	435-3128 <sup>(1)</sup>
3/8 - 16	2 1/4	1 1/4	165-3933 <sup>(1)</sup>
3/8 - 16	2 1/4	1/8	1M-0644
3/8 - 16	2 1/2	1 1/2	26-15615 <sup>(1)</sup>
3/8 - 16	2 3/4	1 3/4	165-3934 <sup>(1)</sup>
3/8 - 16	2 7/8	2 3/16	2H-5330
3/8 - 16	3	2	165-3935 <sup>(1)</sup>
3/8 - 16	3 1/4	2 1/4	0L-1352
3/8 - 16	3 1/2	2 1/2	245-3804 <sup>(1)</sup>
3/8 - 16	3 3/4	2 1/2	0S-1608
3/8 - 16	4	3	8S-9191
3/8 - 16	4 1/4	3 1/4	0T-0055
3/8 - 16	4 1/2	3 1/2	165-3936 <sup>(1)</sup>
3/8 - 16	4 1/2	3 1/4	1A-5964
3/8 - 16	4 3/4	3 3/4	245-3803 <sup>(1)</sup>
3/8 - 16	5	3 3/4	223-4903 <sup>(1)</sup>
3/8 - 16	5 1/4	4 1/4	5B-2638
3/8 - 16	5 1/4	4	165-3937 <sup>(1)</sup>
3/8 - 16	5 1/2	4 1/2	5F-4899
3/8 - 16	5 3/4	4 1/2	165-3925 <sup>(1)</sup>
3/8 - 16	6	4 7/8	1D-4706

<sup>1</sup> High Strength Bolt

## Hex Head Bolts/Inch/Phosphate & Oil (Cont'd.)

Thread Size	OAL (in)	Grip Length (in)	Part Number	Thread Size	OAL (in)	Grip Length (in)	Part Number
3/8 - 16	6 1/4	4 3/4	231-4470 <sup>(2)</sup>	1/2 - 13	2 1/4	3/8	5L-4398
3/8 - 16	6 1/2	5 1/4	4F-0411	1/2 - 13	2 3/8	3/4	351-1777 <sup>(2)</sup>
3/8 - 16	7	5 3/4	9F-8999	1/2 - 13	2 1/2	1 1/4	9S-1366
3/8 - 16	7 1/2	6 1/4	6B-1557	1/2 - 13	2 3/4	1 1/2	1A-5822
3/8 - 16	8	6 3/4	8F-6350	1/2 - 13	3	1 3/4	0L-1329 <sup>(2)</sup>
3/8 - 16	8 1/2	7 1/4	9F-2773	1/2 - 13	3 1/4	2	0V-0375
3/8 - 16	9	7 3/4	5F-6044	1/2 - 13	3 1/2	2 1/4	1D-4566 <sup>(2)</sup>
3/8 - 16	10 1/4	9	7L-7524	1/2 - 13	3 3/4	2 1/2	1B-2886
3/8 - 16	10 3/4	9 1/2	334-8167	1/2 - 13	3 3/4	3/16	275-9360
3/8 - 16	12 3/8	11 1/8	8J-5985	1/2 - 13	4	2 3/4	0S-1573
3/8 - 16	Nut	-	9S-8752	1/2 - 13	4 1/4	3	1D-4569
-	Washer	-	5M-2894	1/2 - 13	4 1/2	3 1/4	8S-9089
<b>Thread Size (in - TPI) 7/16 - 14</b>				1/2 - 13	4 1/2	3 1/4	463-6790
7/16 - 14	1	1/8	0T-0318	1/2 - 13	4 3/4	3 1/2	2B-2006 <sup>(2)</sup>
7/16 - 14	1 1/8	1/8	4F-8965	1/2 - 13	5	3 3/4	2H-6488 <sup>(2)</sup>
7/16 - 14	1 1/4	1/8	0T-0320	1/2 - 13	5 1/4	4	6F-5282 <sup>(2)</sup>
7/16 - 14	1 3/8	1/4	3H-5368	1/2 - 13	5 1/2	4 1/4	1D-4572 <sup>(2)</sup>
7/16 - 14	1 1/2	3/8	0T-0772	1/2 - 13	6	4 3/4	1D-4574
7/16 - 14	1 3/4	5/8	0T-0768	1/2 - 13	6 1/4	4 3/4	9H-8260
7/16 - 14	2	7/8	0T-0319	1/2 - 13	6 1/2	5	231-4471 <sup>(2)</sup>
7/16 - 14	2 1/4	1 1/8	1D-4707	1/2 - 13	6 3/4	5 1/4	9M-7269
7/16 - 14	2 1/2	1 3/8	1D-4703	1/2 - 13	7	5 1/2	1A-7669
7/16 - 14	2 3/4	1 5/8	1D-4556	1/2 - 13	7 1/4	5 3/4	4S-5882
7/16 - 14	3	1 7/8	4F-5192	1/2 - 13	7 1/2	6	1A-0168
7/16 - 14	3 1/4	2 1/8	3B-8428	1/2 - 13	8	6 1/2	9S-1374
7/16 - 14	3 1/2	2 3/8	7F-8698	1/2 - 13	8	4	6V-6633
7/16 - 14	3 3/4	2 5/8	7X-0317	1/2 - 13	8 1/2	7	1B-3573
7/16 - 14	4	2 7/8	4F-7226	1/2 - 13	9	7 1/2	6M-9613
7/16 - 14	4 1/2	3 1/4	4B-7220	1/2 - 13	9 3/4	8 1/4	6V-1612
7/16 - 14	5	3 3/4	5B-5059	1/2 - 13	11	9 1/2	8S-3887 <sup>(2)</sup>
7/16 - 14	5 1/2	4 3/8	8F-4197	1/2 - 13	12 8/25	10 41/50	4M-2442 <sup>(2)</sup>
7/16 - 14	6	4 7/8	8F-6419	1/2 - 13	14 25/29	13 69/80	6V-7568 <sup>(2)</sup>
7/16 - 14	Nut	-	3S-1546	1/2 - 13	Nut	-	1F-7958
-	Washer	-	5P-8244	-	Washer	-	5P-8245
<b>Thread Size (in - TPI) 1/2 - 13</b>				<b>Thread Size (in - TPI) 5/8 - 11 and 5/8 - 18</b>			
1/2 - 13	3/4	1/8	0S-1620	5/8 - 11	3/4	1/16	1H-9456
1/2 - 13	7/8	9/32	2H-3855	5/8 - 11	1	3/16	0S-1624
1/2 - 13	1	1/8	0S-1621	5/8 - 11	1 1/4	3/16	0S-1592
1/2 - 13	1 1/8	1/8	6H-1717	5/8 - 11	1 3/8	3/16	4B-4043
1/2 - 13	1 1/4	5/16	0S-1595	5/8 - 11	1 1/2	3/16	9X-6380 <sup>(2)</sup>
1/2 - 13	1 3/8	7/16	7B-3235	5/8 - 11	1 3/4	1/4	0S-1589
1/2 - 13	1 1/2	1/4	0S-1585	5/8 - 11	2	1/2	1A-1135 <sup>(2)</sup>
1/2 - 13	1 3/4	7/16	0S-1587	5/8 - 11	2 1/4	3/4	8S-9092 <sup>(2)</sup>
1/2 - 13	2	3/4	1A-1460	5/8 - 11	2 1/2	5/8	0S-1625 <sup>(2)</sup>
1/2 - 13	2	3/4	241-1855 <sup>(2)</sup>	5/8 - 11	2 3/4	1 1/4	1A-8537 <sup>(2)</sup>
1/2 - 13	2 1/4	1	2B-0947 <sup>(2)</sup>	5/8 - 11	3	1 1/2	1B-4367

# Bolts

## Hex Head Bolts/Inch/Phosphate & Oil (Cont'd.)

Thread Size	OAL (in)	Grip Length (in)	Part Number
5/8 - 11	3 1/4	1 3/4	1D-4585
5/8 - 11	3 1/2	2	1D-4586
5/8 - 11	3 3/4	2 1/4	9X-6417 <sup>(3)</sup>
5/8 - 11	4	2 1/2	0S-1569
5/8 - 11	4 1/4	2 3/4	1D-4588
5/8 - 11	4 1/2	3	1A-8651
5/8 - 11	4 3/4	3 1/4	1D-4590
5/8 - 11	5	3 1/2	1A-5405
5/8 - 11	5 1/2	4	1D-4593
5/8 - 11	5 62/63	4 1/2	1D-4595
5/8 - 11	6 1/4	4 1/2	5D-9514
5/8 - 11	6 1/4	4 1/2	231-7068 <sup>(3)</sup>
5/8 - 11	6 1/2	4 3/4	1D-4597
5/8 - 11	7	5 1/4	1D-4599
5/8 - 11	8	6 1/4	1B-7709
5/8 - 11	8 1/2	6 3/4	1D-4601
5/8 - 11	9	7 1/4	2H-3756
5/8 - 11	9 1/2	7 3/4	1D-4602
5/8 - 11	13	11 1/4	461-9980
5/8 - 11	13 1/4	11 1/2	174-1621 <sup>(3)</sup>
5/8 - 18	2 1/2	1	127-1571 <sup>(3)</sup>
5/8 - 18	6 1/4	4 1/2	156-7439
5/8 - 18	7	5 1/4	113-9122 <sup>(3)</sup>
5/8 - 18	7 1/4	5 1/2	349-8521 <sup>(3)</sup>
5/8 - 18	9 3/4	8 1/4	261-9576
5/8 - 18	Nut	-	6B-6683
5/8 - 11	Nut	-	4K-0367
-	Washer	-	5P-8247
Thread Size (in - TPI) 3/4 - 10 and 3/4 - 16			
3/4 - 10	1	5/16	7H-2069
3/4 - 10	1 1/4	5/16	0S-1583
3/4 - 10	1 1/2	5/16	0S-1626
3/4 - 10	1 3/4	5/16	1A-0458
3/4 - 10	2	5/16	0L-1178
3/4 - 10	2 1/4	1/2	2A-1538 <sup>(3)</sup>
3/4 - 10	2 1/2	3/4	1A-8063
3/4 - 10	2 3/4	1	1D-4608 <sup>(3)</sup>
3/4 - 10	3	1 1/4	1D-4609 <sup>(3)</sup>
3/4 - 10	3 1/4	1 1/2	1D-4610 <sup>(3)</sup>
3/4 - 10	3 1/2	1 3/4	3B-2968 <sup>(3)</sup>
3/4 - 10	3 3/4	2	7F-5227
3/4 - 10	4 1/4	2 1/2	0S-1756
3/4 - 10	4 1/2	2 3/4	0S-1627
3/4 - 10	4 3/4	3	3B-6753
3/4 - 10	5	3 1/4	1D-4614
3/4 - 10	5 1/2	3 3/4	1D-4615
3/4 - 10	5 3/4	4	6K-1330
3/4 - 10	6	4 1/4	1D-4616
3/4 - 10	6 1/4	4 1/4	1D-4617

Thread Size	OAL (in)	Grip Length (in)	Part Number
3/4 - 10	6 1/2	4 1/2	2B-1015
3/4 - 10	7	5	1D-4620
3/4 - 10	7 1/2	5 1/2	1D-4621
3/4 - 10	8	6	1D-4622
3/4 - 10	8 1/2	6 1/2	1D-4623
3/4 - 10	9	7	1D-4624
3/4 - 10	15	13	8K-1493
3/4 - 16	12	9 1/2	220-2832
3/4 - 16	Nut	-	6B-6682
3/4 - 10	Nut	-	2J-3506
-	Washer	-	5P-8248
Thread Size (in - TPI) 7/8 - 9 and 7/8 - 14			
7/8 - 9	2	3/8	0S-1973 <sup>(3)</sup>
7/8 - 9	2 1/2	1/2	174-3056 <sup>(3)</sup>
7/8 - 9	2 3/4	3/4	1D-4626 <sup>(3)</sup>
7/8 - 9	3 1/4	1 1/4	1D-4628 <sup>(3)</sup>
7/8 - 9	3 1/2	1 1/2	1D-4629 <sup>(3)</sup>
7/8 - 9	3 3/4	1 3/4	2H-3856 <sup>(3)</sup>
7/8 - 9	4	2	1D-4630 <sup>(3)</sup>
7/8 - 9	5 3/4	3 3/4	188-9435
7/8 - 9	8	5 3/4	1D-6259
7/8 - 9	10	7 3/4	2B-2391
7/8 - 14	3	1	123-4955 <sup>(3)</sup>
7/8 - 14	8 1/2	6 1/4	2T-3427
7/8 - 14	11	8 3/4	7X-7925 <sup>(3)</sup>
7/8 - 14	12 1/2	10 1/4	2T-3428
7/8 - 14	Nut	-	1A-5666
7/8 - 9	Nut	-	2J-3505
-	Washer	-	5P-8249
Thread Size (in - TPI) 1 - 8 and 1 - 14			
1 - 8	1 1/4	5/16	8S-4767
1 - 8	1 1/2	5/16	0V-0450
1 - 8	1 3/4	3/8	1J-7370
1 - 8	2	5/16	1J-5257
1 - 8	2 1/4	1/4	8S-9093
1 - 8	2 3/4	3/4	7Y-2146 <sup>(3)</sup>
1 - 8	2 3/4	1/2	9S-1363
1 - 8	3	3/4	7Y-1136 <sup>(3)</sup>
1 - 8	3 1/4	1	1D-4637
1 - 8	3 1/4	1	6I-8600 <sup>(3)</sup>
1 - 8	3 1/2	1 1/4	1D-4638
1 - 8	3 3/4	1 1/2	8H-5772
1 - 8	4	1 3/4	1D-4639 <sup>(3)</sup>
1 - 8	4 1/4	2	1D-4640 <sup>(3)</sup>
1 - 8	4 1/2	2 1/4	1D-4641
1 - 8	4 3/4	2 1/2	2A-1420
1 - 8	5	2 3/4	1D-4642 <sup>(3)</sup>
1 - 8	5 1/2	3 1/4	1D-4643

## Hex Head Bolts/Inch/Phosphate & Oil (Cont'd.)

Thread Size	OAL (in)	Grip Length (in)	Part Number
1 - 8	5 1/2	3/8	9X-2194 <sup>(4)</sup>
1 - 8	6	3 3/4	9F-6936
1 - 8	6 1/4	4	227-6181 <sup>(4)</sup>
1 - 8	6 1/2	4	5B-5473
1 - 8	7	4 1/2	5F-9338
1 - 8	7 1/2	5	2B-7218
1 - 8	8	5 1/2	1D-4644
1 - 8	8 1/2	6	1D-4645
1 - 8	9	6 1/2	1D-4646
1 - 8	9 1/2	7	1D-4647
1 - 8	10	7 1/2	142-7074 <sup>(4)</sup>
1 - 8	14	10 1/2	6M-2001
1 - 8	16	14	6M-1029
1 - 14	2 3/4	1 31/50	3S-7461
1 - 14	3 1/2	1 1/4	9S-1368
1 - 14	8	5 1/2	8S-4757
1 - 14	9	6 1/2	9F-8122
1 - 14	9 1/2	7	5F-7136
1 - 14	12	9 1/2	7X-0825
1 - 14	18 1/4	15 8/31	213-9024
1 - 14	Nut	-	1A-1935
1 - 8	Nut	-	2J-3507
-	Washer	-	5P-8250
Thread Size (in - TPI) 1 1/8 - 7 and 1 1/8 - 12			
1 1/8 - 7	2	1/4	3J-8281
1 1/8 - 7	3	1/2	1J-2814
1 1/8 - 7	3 1/2	3/7	1J-2175
1 1/8 - 7	4 1/2	2	5M-0544
1 1/8 - 7	6	3 1/2	8H-5727
1 1/8 - 7	6 1/2	3 3/4	8T-4934
1 1/8 - 7	7	2 3/4	262-7250 <sup>(4)</sup>
1 1/8 - 12	9 1/4	6	2M-3530
1 1/8 - 12	11 1/2	8 3/4	346-0351
1 1/8 - 12	Nut	-	3S-1356

Thread Size	OAL (in)	Grip Length (in)	Part Number
1 1/8 - 7	Nut	-	4J-5977
-	Washer	-	3S-1349
Thread Size (in - TPI) 1 1/4 - 7 and 1 1/4 - 12			
1 1/4 - 7	3 1/2	3/4	2B-1955
1 1/4 - 7	4 1/2	1 3/4	3R-2300
1 1/4 - 7	4 3/4	2	8F-1156
1 1/4 - 7	5	2 1/4	136-4188 <sup>(4)</sup>
1 1/4 - 7	5 1/2	2 3/4	1B-2721
1 1/4 - 7	6	3 1/4	2H-1537
1 1/4 - 7	6 1/2	3 1/2	6H-1628
1 1/4 - 7	7	4	6V-2624 <sup>(4)</sup>
1 1/4 - 7	8 1/2	5 1/2	1J-6775
1 1/4 - 7	9	6	1K-9418
1 1/4 - 7	9 1/2	6 1/2	1K-9420
1 1/4 - 7	20	17	033-0512
1 1/4 - 12	11	8	142-0142
1 1/4 - 12	Nut	-	3S-1356
1 1/4 - 7	Nut	-	7H-7539
-	Washer	-	4K-0684
Thread Size (in - TPI) 1 1/2 - 6 and 1 1/2 - 12			
1 1/2 - 6	3 1/2	2/5	519-2276
1 1/2 - 6	5	1 3/4	1K-9414
1 1/2 - 6	6 3/4	3 1/4	192-3694
1 1/2 - 6	8	4 1/2	561-2178
1 1/2 - 6	12 1/2	9	127-4840 <sup>(4)</sup>
1 1/2 - 6	16 1/4	10 1/4	478-7546
1 1/2 - 6	18	14 1/2	506-4218
1 1/2 - 12	4	3/4	8F-5535
1 1/2 - 12	4 1/2	1 1/4	1F-6762
1 1/2 - 12	7	1/4	098-0635
1 1/2 - 12	Nut	-	8H-3390
1 1/2 - 6	Nut	-	7X-0452
-	Washer	-	3S-6162

# Bolts

## Hex Head Bolts/Inch/Zinc Plated

Thread Size	OAL (in)	Grip Length (in)	Part Number
<b>Thread Size (in - TPI) 1/4 - 20 and 1/4 - 28</b>			
1/4 - 20	3/8	1/16	6V-1322
1/4 - 20	1/2	1/16	5S-7349
1/4 - 20	5/8	1/8	8T-9364
1/4 - 20	3/4	1/8	4M-5281
1/4 - 20	7/8	1/8	1H-3337
1/4 - 20	1	1/8	8T-8908
1/4 - 20	1 1/8	3/8	6D-2928
1/4 - 20	1 1/4	1/8	7X-2501
1/4 - 20	1 3/8	5/8	8C-0617
1/4 - 20	1 1/2	1/4	4M-5282
1/4 - 20	1 5/8	7/8	7X-3178
1/4 - 20	1 3/4	1	5P-2675
1/4 - 20	2	1 1/8	8T-9367
1/4 - 20	2 1/4	1 3/8	8T-9368
1/4 - 20	2 1/2	1 3/4	7X-0264
1/4 - 20	2 3/4	2	7X-0265
1/4 - 20	3	2	7X-0266
1/4 - 20	3 1/4	2 1/2	7X-0267
1/4 - 20	3 1/2	2 3/4	7X-0268
1/4 - 20	3 3/4	3	8C-3793
1/4 - 20	4	3 1/4	7X-0269
1/4 - 20	5 1/2	4 1/2	7X-0271
1/4 - 20	7	5 62/63	113-4201
1/4 - 28	1/2	3/32	7X-3182
1/4 - 28	5/8	5/64	0S-1570
1/4 - 28	7/8	5/64	6V-3960
1/4 - 28	1	1/4	0S-1597
1/4 - 20	Nut	-	6V-8185
-	Washer	-	8T-4205
<b>Thread Size (in - TPI) 5/16 - 18 and 5/16 - 24</b>			
5/16 - 18	1/2	1/16	8T-5391
5/16 - 18	5/8	1/8	5K-0906
5/16 - 18	3/4	1/8	4M-0061
5/16 - 18	7/8	1/8	8T-9043
5/16 - 18	1	1/8	4M-6425
5/16 - 18	1 1/8	1/4	6V-5782
5/16 - 18	1 1/4	3/8	6V-8918
5/16 - 18	1 3/8	1/2	8C-6561
5/16 - 18	1 1/2	3/32	8C-3121
5/16 - 18	1 5/8	3/4	8C-6876
5/16 - 18	1 3/4	7/8	7X-0440
5/16 - 18	1 3/4	1/8	9L-2796
5/16 - 18	2 1/4	1 3/8	8T-8912
5/16 - 18	2 1/2	1 5/8	5P-2955
5/16 - 18	2 3/4	1 7/8	7X-0274
5/16 - 18	3	2 1/8	4M-6424
5/16 - 18	3 1/4	2 1/4	7X-0275
5/16 - 18	3 1/2	2 5/8	7X-0276
5/16 - 18	3 3/4	2 3/4	7X-0277
5/16 - 18	4	3	7X-0278

Thread Size	OAL (in)	Grip Length (in)	Part Number
5/16 - 18	4 1/4	3 3/8	7X-3351
5/16 - 18	4 1/2	3 5/8	7X-0473
5/16 - 18	4 3/4	3 7/8	7X-0279
5/16 - 18	5	4 1/8	7X-0280
5/16 - 18	5 1/2	4 5/8	7X-0281
5/16 - 18	6	5 1/8	5P-0059
5/16 - 18	6 1/2	5 3/8	7X-0282
5/16 - 18	7	5 7/8	136-4181
5/16 - 18	Nut	-	6V-8189
-	Washer	-	9M-1974
<b>Thread Size (in - TPI) 3/8 - 16 and 3/8 - 24</b>			
3/8 - 16	7/16	1/8	203-7700
3/8 - 16	1/2	3/32	8T-9371
3/8 - 16	5/8	3/32	5P-8167
3/8 - 16	1 1/8	5/16	8T-2502
3/8 - 16	1 1/2	10/11	351-2247
3/8 - 16	1 1/2	3/32	7X-0860
3/8 - 16	1 5/8	7/8	7X-0288
3/8 - 16	1 3/4	3/4	5S-7383
3/8 - 16	1 3/4	1 5/24	354-5701
3/8 - 16	1 7/8	1 1/16	7X-0289
3/8 - 16	2	1 3/19	353-3914
3/8 - 16	2	27/28	8T-2501
3/8 - 16	2	3/8	7F-0192
3/8 - 16	2 1/8	1 1/8	7X-3186
3/8 - 16	2 1/4	1/8	8T-0192
3/8 - 16	2 1/2	1 1/2	4L-6459
3/8 - 16	2 1/2	1	8F-6974
3/8 - 16	2 52/93	1 62/87	354-5653
3/8 - 16	2 3/4	1 3/4	8T-9101
3/8 - 16	2 7/8	2 3/16	7X-3185
3/8 - 16	3	1 3/8	7F-1866
3/8 - 16	3 1/4	2 1/4	8T-8915
3/8 - 16	3 1/2	2 1/2	7X-0290
3/8 - 16	3 3/4	2 1/2	7X-0291
3/8 - 16	4	3	8T-9378
3/8 - 16	4 1/4	3 1/4	8T-9379
3/8 - 16	4 1/2	3 1/4	7X-0292
3/8 - 16	4 3/4	3 3/4	7X-0293
3/8 - 16	5	4	223-4903
3/8 - 16	5 1/4	4 1/4	7X-0295
3/8 - 16	5 1/2	4 1/2	7X-0296
3/8 - 16	5 3/4	4 3/4	7X-0297
3/8 - 16	6	4 7/8	8C-7323
3/8 - 16	6 1/4	4 3/4	7X-0299
3/8 - 16	6 1/2	5 1/4	7X-0300
3/8 - 16	7	5 3/4	7X-0301
3/8 - 16	7 1/2	6 1/4	7X-0302
3/8 - 16	8	6 3/4	7X-0303
3/8 - 16	8 1/2	7 1/4	7X-0304



## Hex Head Bolts/Inch/Zinc Plated (Cont'd.)

Thread Size	OAL (in)	Grip Length (in)	Part Number
3/8 - 16	9	7 3/4	7X-0305
3/8 - 16	10	8 1/4	6V-7191
3/8 - 16	10 3/4	9 1/2	9X-2648
3/8 - 16	12	11	7M-1202
3/8 - 24	5/8	3/32	0T-0642
3/8 - 24	7/8	3/32	7X-0469
3/8 - 24	1	3/16	7X-3183
3/8 - 24	1 3/8	3/8	7X-3174
3/8 - 24	1 3/4	3/4	7X-7477
3/8 - 24	2 1/4	1 1/4	7X-3187
3/8 - 16	Nut	-	6V-8801
-	Washer	-	5M-2894
Thread Size (in - TPI) 7/16 - 14 and 7/16 - 20			
7/16 - 14	3/4	3/16	7X-0307
7/16 - 14	7/8	1/8	7X-0272
7/16 - 14	1	1/8	8T-9380
7/16 - 14	1 1/8	1/8	8T-6973
7/16 - 14	1 1/4	1/8	8T-9382
7/16 - 14	1 3/8	1/4	7X-0308
7/16 - 14	1 1/2	3/8	8T-8916
7/16 - 14	1 3/4	5/8	8C-6877
7/16 - 14	2	7/8	7X-0310
7/16 - 14	2 1/4	1 1/8	7X-0311
7/16 - 14	2 1/2	1 3/8	7X-0312
7/16 - 14	2 3/4	1 5/8	7X-0313
7/16 - 14	3	1 7/8	7X-0314
7/16 - 14	3 1/4	2 1/8	7X-0315
7/16 - 14	3 1/2	2 3/8	7X-0316
7/16 - 14	3 3/4	2 5/8	7X-0317
7/16 - 14	4	2 7/8	7X-0318
7/16 - 14	4 1/4	3 1/8	7X-0319
7/16 - 14	4 1/2	3 1/4	7X-0456
7/16 - 14	4 3/4	3 5/8	7H-3472
7/16 - 14	5	3 3/4	7X-0320
7/16 - 14	5 1/2	4 3/8	7X-0321
7/16 - 14	6	4 7/8	7X-0322
7/16 - 14	6 1/2	5 1/8	3L-0742
7/16 - 14	7	5 5/8	7H-7209
7/16 - 14	8	6 5/8	20-91253
7/16 - 20	1 1/2	3/8	8S-4723
7/16 - 20	1 3/4	3/20	205-6388
7/16 - 20	2 1/4	1 1/8	8S-4724
7/16 - 20	2 3/4	1 5/8	8S-4725
7/16 - 20	3	1 7/8	8S-4726
7/16 - 14	Nut	-	7X-0447
-	Washer	-	5P-8244
Thread Size (in - TPI) 1/2 - 13 and 1/2 - 20			
1/2 - 13	1/2	1/16	7X-0323
1/2 - 13	3/4	1/8	8T-9383
1/2 - 13	7/8	9/32	8T-9384
1/2 - 13	1 3/8	7/16	341-0742
1/2 - 13	1 3/8	7/16	8C-4436

Thread Size	OAL (in)	Grip Length (in)	Part Number
1/2 - 13	1 3/4	7/16	8T-8919
1/2 - 13	2	1 13/55	351-2245
1/2 - 13	2	3/4	8T-4835
1/2 - 13	2 1/4	1	5P-2424
1/2 - 13	2 1/4	5/26	9X-8278
1/2 - 13	2 1/2	1 1/4	7X-0325
1/2 - 13	2 1/2	1/4	1H-2415
1/2 - 13	2 3/4	1 1/2	8T-9389
1/2 - 13	2 3/4	2/13	175-4149
1/2 - 13	3	1 3/4	7X-0326
1/2 - 13	3	3/4	0S-1623
1/2 - 13	3 1/4	2	8T-8920
1/2 - 13	3 1/2	3/8	7D-5962
1/2 - 13	3 3/4	2 1/2	8T-9391
1/2 - 13	4	2 3/4	6V-4432
1/2 - 13	4 1/4	3	7X-0331
1/2 - 13	4 1/4	3/16	7D-9766
1/2 - 13	4 1/2	3 1/4	7X-0332
1/2 - 13	4 3/4	3 1/2	7X-0333
1/2 - 13	5	3 3/4	7X-0334
1/2 - 13	5 1/4	4	7X-0335
1/2 - 13	5 1/2	4 1/4	7X-0336
1/2 - 13	5 3/4	4 1/2	7X-0337
1/2 - 13	6	4 3/4	7X-0338
1/2 - 13	6 1/4	4 3/4	7X-0339
1/2 - 13	6 1/2	5	7X-0340
1/2 - 13	7	5 1/2	7X-0341
1/2 - 13	7 1/2	6	8T-9392
1/2 - 13	7 1/2	3/4	8T-7834
1/2 - 13	8	6 1/2	7X-0481
1/2 - 13	8 1/2	7	7X-0471
1/2 - 13	8 3/4	7 1/4	2D-0516
1/2 - 13	11	9 1/2	293-9002
1/2 - 20	3/4	1/8	6F-7032
1/2 - 20	1	1/8	0S-1629
1/2 - 20	1 1/4	1/8	7X-3195
1/2 - 20	1 3/4	1/2	0S-1584
1/2 - 20	2	3/4	286-2493
1/2 - 13	Nut	-	6V-8188
-	Washer	-	5P-8245
Thread Size (in - TPI) 5/8 - 11 and 5/8 - 18			
5/8 - 11	3/4	1/16	7X-0342
5/8 - 11	1	3/16	5C-6266
5/8 - 11	1 1/8	9/32	7S-9372
5/8 - 11	1 1/4	3/16	7X-0343
5/8 - 11	1 3/8	3/16	7X-0344
5/8 - 11	1 1/2	3/16	8I-1391
5/8 - 11	1 3/4	1/4	7X-0345
5/8 - 11	2	1/2	7X-0346
5/8 - 11	2 1/4	3/4	7X-0347
5/8 - 11	2 1/2	5/8	8T-6871

# Bolts

## Hex Head Bolts/Inch/Zinc Plated (Cont'd.)

Thread Size	OAL (in)	Grip Length (in)	Part Number
5/8 - 11	2 3/4	1 1/4	8C-6362
5/8 - 11	2 3/4	1/2	7B-2725
5/8 - 11	3	1 1/2	7X-0349
5/8 - 11	3 5/32	3/16	105-6491
5/8 - 11	3 1/4	1 3/4	8T-9396
5/8 - 11	3 1/2	2	7X-0350
5/8 - 11	3 3/4	2 1/4	7X-0351
5/8 - 11	4	2 1/2	7X-0352
5/8 - 11	4 1/4	2 3/4	7X-0353
5/8 - 11	4 1/2	3	7X-0354
5/8 - 11	4 3/4	3 1/4	7X-0355
5/8 - 11	5	3 1/2	7X-0356
5/8 - 11	5	3/11	370-2185
5/8 - 11	5 1/2	4	7X-0358
5/8 - 11	5 3/4	2 1/4	8D-4348
5/8 - 11	5 62/63	4 1/2	7X-0359
5/8 - 11	6 1/4	4 1/2	7X-0360
5/8 - 11	6 1/2	4 3/4	7X-0361
5/8 - 11	7	5 1/4	7X-0362
5/8 - 11	7	2	9K-9679
5/8 - 11	7 1/4	5 1/2	9F-8689
5/8 - 11	7 1/2	5 3/4	1D-4600
5/8 - 11	8	6 1/4	7X-0363
5/8 - 11	8 1/2	6 3/4	7X-0364
5/8 - 11	9	7 1/4	7X-3184
5/8 - 11	9 1/2	7 3/4	7X-7890
5/8 - 11	10 1/4	8 1/2	1D-4603
5/8 - 11	10 1/2	8 3/4	5P-4626
5/8 - 11	11	9 1/4	5P-4625
5/8 - 11	11 1/2	9 3/4	5P-4624
5/8 - 11	12	10 1/4	5P-7971
5/8 - 18	1	5/36	170-4870
5/8 - 18	1 1/2	3/16	7X-3352
5/8 - 18	1 3/4	1/4	7X-3177
5/8 - 18	2	1/2	7X-3192
5/8 - 18	2 1/4	3/4	7X-3193
5/8 - 18	7	5 1/4	503-0790
5/8 - 18	9	6 3/4	148-2871
5/8 - 11	Nut	-	7X-0448
-	Washer	-	5P-8247
Thread Size (in - TPI) 7/16 - 10 and 7/16 - 16			
3/4 - 10	1	5/16	5C-7886
3/4 - 10	1 1/2	5/16	7X-0365
3/4 - 10	1 3/4	5/16	8T-9398
3/4 - 10	2	5/16	7X-0366
3/4 - 10	2 1/2	3/4	8T-8924
3/4 - 10	2 3/4	1	8C-6857
3/4 - 10	3 1/4	1 1/2	7X-0369
3/4 - 10	3 1/2	1 3/4	7X-0370
3/4 - 10	3 1/2	1/4	459-9006
3/4 - 10	3 3/4	2	7X-0371

Thread Size	OAL (in)	Grip Length (in)	Part Number
3/4 - 10	4	2 1/4	8C-8842
3/4 - 10	4 1/4	2 1/2	7X-0372
3/4 - 10	4 1/4	17/32	3K-3318
3/4 - 10	4 1/2	1 1/4	8J-1148
3/4 - 10	4 3/4	3	8T-8925
3/4 - 10	5	3 1/4	7X-0375
3/4 - 10	5 1/2	3 3/4	7X-0373
3/4 - 10	5 3/4	4	7X-0374
3/4 - 10	6	4 1/4	8T-9312
3/4 - 10	6 1/2	4 1/2	7X-0377
3/4 - 10	7	5	8T-9313
3/4 - 10	7 1/2	5 1/2	1J-8930
3/4 - 10	8	6	5P-4135
3/4 - 10	9	7	7X-3179
3/4 - 10	10	8	8F-4225
3/4 - 16	1 1/4	3/16	2H-3740
3/4 - 16	2 3/4	1	8F-3152
3/4 - 10	Nut	-	6V-8182
-	Washer	-	5P-8248
Thread Size (in - TPI) 7/8 - 9 and 7/8 - 14			
7/8 - 9	6 1/2	4 1/4	7X-0393
7/8 - 9	4 1/4	2 1/4	7X-0455
7/8 - 9	4 1/2	2 1/2	7X-0388
7/8 - 9	6	3 3/4	7X-0392
7/8 - 9	9	6 3/4	7X-0397
7/8 - 9	4 3/4	2 3/4	7X-0389
7/8 - 9	2	3/8	7X-0381
7/8 - 9	8	5 3/4	7X-0395
7/8 - 9	3 3/4	1 3/4	7X-0453
7/8 - 9	2 3/4	3/4	7X-0383
7/8 - 9	2 1/4	3/8	7X-0382
7/8 - 9	3 1/4	1 1/4	7X-0385
7/8 - 9	1 1/2	1/4	7X-0379
7/8 - 9	8 1/2	6 1/4	7X-0396
7/8 - 9	1 3/4	3/8	7X-0380
7/8 - 9	7	4 3/4	7X-0394
7/8 - 9	5 1/2	3 1/2	7X-0391
7/8 - 9	4	2	7X-0387
7/8 - 14	2 1/2	1/2	7X-3180
7/8 - 14	1 5/8	3/14	9R-2466
7/8 - 9	Nut	-	7X-0449
-	Washer	-	5P-8249
Thread Size (in - TPI) 1 - 8 and 1 - 14			
1 - 8	1 1/4	5/16	7X-0399
1 - 8	1 1/2	5/16	7X-0400
1 - 8	1 3/4	3/8	7X-0401
1 - 8	2 1/4	1/4	7X-0403
1 - 8	2 3/8	1	6J-4302
1 - 8	2 3/4	1/2	7X-0405
1 - 8	3	3/4	7X-0406
1 - 8	3 1/4	1	7X-0407

## Hex Head Bolts/Inch/Zinc Plated (Cont'd.)

Thread Size	OAL (in)	Grip Length (in)	Part Number
1 - 8	3 1/2	1 1/4	7X-0408
1 - 8	3 5/7/77	3/8	215-6297
1 - 8	3 3/4	1 1/2	8T-8927
1 - 8	4 1/4	2	7X-0411
1 - 8	4 1/2	2 1/4	8C-8843
1 - 8	4 3/4	2 1/2	7X-0412
1 - 8	5	2 3/4	8C-8844
1 - 8	5 1/4	3 1/4	443-2430
1 - 8	5 1/2	3 1/4	7X-0443
1 - 8	6	3 3/4	1J-5929
1 - 8	6	1/2	3E-8047
1 - 8	6 1/2	4	7X-0444
1 - 8	7	4 1/2	7X-0413
1 - 8	7 1/2	5	7X-0414
1 - 8	8	5 1/2	7X-0415
1 - 8	8 1/2	6	7X-0416
1 - 8	9	6 1/2	7X-0417
1 - 8	9 1/2	7	7X-0418
1 - 8	10 1/2	8	8F-6453
1 - 8	11	8 1/2	183-7218
1 - 8	11 1/2	9	7K-4363
1 - 8	14 1/2	12	466-8153
1 - 8	16	13 1/2	467-0905
1 - 8	17	14 1/2	467-0904
1 - 14	2	1/4	2H-3743
1 - 14	2 1/4	1/4	7X-0466
1 - 14	3	3/4	7X-0463
1 - 14	3 1/2	1 1/4	208-0956
1 - 14	4 22/25	3 1/4	077-5307
1 - 8	Nut	-	299-3423
-	Washer	-	5P-8250
Thread Size (in - TPI) 1 1/8 - 7			
1 1/8 - 7	4 1/2	2	7X-0423
1 1/8 - 7	6	3 1/2	7X-0425
1 1/8 - 7	2	1/4	7X-0420
1 1/8 - 7	3	1/2	7X-0421
1 1/8 - 7	7 1/2	4 3/4	127-4835
1 1/8 - 7	3 1/2	1	7X-0422

Thread Size	OAL (in)	Grip Length (in)	Part Number
1 1/8 - 7	6 1/2	3 3/4	7X-0426
1 1/8 - 7	Nut	-	329-3710
-	Washer	-	3S-1349
Thread Size (in - TPI) 1 1/4 - 7 and 1 1/4 - 12			
1 1/4 - 7	4 1/4	1 1/2	1S-6560
1 1/4 - 7	4 1/2	1 3/4	7X-0429
1 1/4 - 7	5	2 1/4	7X-0445
1 1/4 - 7	5 1/2	2 3/4	7X-0430
1 1/4 - 7	6	3 1/4	7X-0431
1 1/4 - 7	6 1/2	3 1/2	7X-0432
1 1/4 - 7	7	4	7X-0433
1 1/4 - 7	7 1/2	4 1/2	462-9834
1 1/4 - 7	8	5	6V-2793
1 1/4 - 7	8 1/2	5 1/2	7X-0435
1 1/4 - 7	9	6	7X-0436
1 1/4 - 7	9 1/2	6 1/2	7X-0437
1 1/4 - 7	11	8	1K-9415
1 1/4 - 7	12 1/2	9 1/2	153-0142
1 1/4 - 7	13	10	153-1857
1 1/4 - 7	15	12	031-0213
1 1/4 - 12	2 1/4	1/4	7B-2289
1 1/4 - 12	3 1/2	3/4	2K-0439
1 1/4 - 12	11 1/2	8 3/8	6F-4438
1 1/4 - 7	Nut	-	7X-0451
-	Washer	-	4K-0684
Thread Size (in - TPI) 1 1/2 - 6 and 1 1/2 - 12			
1 1/2 - 12	3	1/4	7X-3305
1 1/2 - 6	2 3/4	0	443-2453
1 1/2 - 6	4	1/2	7X-0857
1 1/2 - 6	7	3 1/2	465-5149
1 1/2 - 6	7 1/2	4	469-6703
1 1/2 - 6	8 1/2	5	506-4227
1 1/2 - 6	10	6 1/2	462-9895
1 1/2 - 6	16 1/2	13	462-9867
-	Nut	-	7X-0452
-	Washer	-	3S-6162

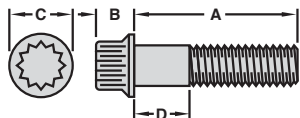
# Bolts

## Hex Head Bolts/Inch/Zinc Flake

Thread Size	OAL (in)	Grip Length (in)	Part Number
<b>Thread Size (in - TPI) 5/16 - 18</b>			
5/16 - 18	3/4	1/8	313-5637
5/16 - 18	2	1 1/8	8T-8911
<b>Thread Size (in - TPI) 3/8 - 16</b>			
3/8 - 16	3/4	1/8	5M-3062
3/8 - 16	7/8	1/8	5S-7379
3/8 - 16	1	1/8	4L-6454
3/8 - 16	1 1/4	1/4	9B-7237
3/8 - 16	1 3/8	3/8	5S-7382
3/8 - 16	1 1/2	3/8	4L-9337
3/8 - 16	2 1/4	1 1/4	8T-9377
3/8 - 18	1	1/8	313-5638
<b>Thread Size (in - TPI) 7/16 - 20</b>			
7/16 - 20	1 1/4	1/8	0T-0244
7/16 - 20	2	7/8	0T-0489
<b>Thread Size (in - TPI) 1/2 - 13 and 1/2 - 20</b>			
1/2 - 13	1	1/8	5P-2228
1/2 - 13	1 1/8	1/8	5C-6565
1/2 - 13	1 1/4	5/16	8T-8917
1/2 - 13	1 3/8	7/16	6C-3242 <sup>(5)</sup>
1/2 - 13	1 1/2	1/4	6C-3241 <sup>(5)</sup>
1/2 - 13	1 3/4	7/16	6C-3285 <sup>(5)</sup>
1/2 - 13	2 1/4	1	202-9769 <sup>(5)</sup>
1/2 - 13	3 1/2	2 1/4	7X-0328
1/2 - 13	6 1/2	5	329-7057 <sup>(5)</sup>
1/2 - 20	2 1/4	1	299-3398
1/2 - 20	3	1 3/4	421-3183
<b>Thread Size (in - TPI) 5/8 - 11</b>			
5/8 - 11	1 1/2	3/16	8T-9393
5/8 - 11	1 3/4	1/4	6C-3240 <sup>(5)</sup>
5/8 - 11	2	1/2	202-9008 <sup>(5)</sup>
5/8 - 11	2 1/4	1/2	202-9770 <sup>(5)</sup>
5/8 - 11	2 1/2	5/8	201-7354 <sup>(5)</sup>
5/8 - 11	2 3/4	1 1/4	201-7355 <sup>(5)</sup>
5/8 - 11	3	1 1/2	6C-3281 <sup>(5)</sup>
5/8 - 11	3 1/4	1 3/4	6C-3244 <sup>(5)</sup>
5/8 - 11	4 1/4	2 3/4	6C-3209 <sup>(5)</sup>
5/8 - 11	5 1/4	3 3/4	201-8898 <sup>(5)</sup>
5/8 - 18	3	1 1/2	299-3434

Thread Size	OAL (in)	Grip Length (in)	Part Number
<b>Thread Size (in - TPI) 3/4 - 10</b>			
3/4 - 10	1 1/4	5/16	8T-9397
3/4 - 10	1 3/4	5/16	6C-3284 <sup>(5)</sup>
3/4 - 10	2 1/4	1/2	201-2184 <sup>(5)</sup>
3/4 - 10	3	1 1/4	336-8237 <sup>(5)</sup>
3/4 - 10	3 1/4	1 1/2	299-5419 <sup>(5)</sup>
3/4 - 10	3 1/2	1 3/4	201-2185 <sup>(5)</sup>
3/4 - 10	4 1/4	1 3/4	251-5715 <sup>(5)</sup>
3/4 - 10	4 1/2	2 3/4	8T-9311
3/4 - 10	5	3 1/4	289-0272 <sup>(5)</sup>
3/4 - 10	8 1/2	6 1/2	299-3399
3/4 - 16	1 3/4	3/16	253-9037
3/4 - 16	10	8	2K-2813
<b>Thread Size (in - TPI) 7/8 - 9 and 7/8 - 14</b>			
7/8 - 9	2 1/2	1/2	338-8484
7/8 - 9	3	1	6C-3210 <sup>(5)</sup>
7/8 - 9	3 1/2	1 1/2	299-3436 <sup>(5)</sup>
7/8 - 9	5	3	6C-3220 <sup>(5)</sup>
7/8 - 9	10	7 3/4	304-5286
7/8 - 14	11 1/2	9 1/4	329-3702
<b>Thread Size (in - TPI) 1 - 8</b>			
1 - 8	2	1/3	7X-0402
1 - 8	2 1/2	1/2	6I-6371 <sup>(5)</sup>
1 - 8	4	1 3/4	6C-3212 <sup>(5)</sup>
1 - 8	4 1/4	2	6C-3213 <sup>(5)</sup>
1 - 8	4 1/2	2 1/4	6C-3214 <sup>(5)</sup>
1 - 8	4 3/4	2 1/2	299-7350
1 - 8	6 1/2	4	6C-3208 <sup>(5)</sup>
<b>Thread Size (in - TPI) 1 1/4 - 7 and 1 1/4 - 12</b>			
1 1/4 - 7	3 1/2	3/4	7X-0427
1 1/4 - 7	4	1 1/4	7X-0428
1 1/4 - 7	10	7	1D-4649
1 1/4 - 12	3	1/4	491-5688
<b>Thread Size (in - TPI) 1 1/2 - 6 and 1 1/2 - 12</b>			
1 1/2 - 6	4 1/2	1 1/4	138-8455
1 1/2 - 6	5	1 3/4	7X-0439
1 1/2 - 6	6	2 1/2	288-8101 <sup>(5)</sup>
1 1/2 - 12	3 3/4	1/2	6C-3243 <sup>(5)</sup>

## 12 Point Head Bolt/Inch/Coarse & Fine Thread

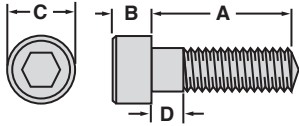


Thread Size (in - TPI)	A	B	C	D	Part Number
	Bolt Length	Head Height	Head Width	Grip Length	
<b>Coarse Thread</b>					
1/4 - 20	1/16 in	0.27 in	0.38 in	0.11 in	9S-5033
5/16 - 18	3/4 in	0.31 in	0.47 in	0.11 in	1T-0416
5/16 - 18	1 in	0.31 in	0.47 in	0.11 in	1T-0414
5/16 - 18	1 1/4 in	0.31 in	0.47 in	0.11 in	6L-4783
5/16 - 18	1 1/2 in	0.31 in	0.47 in	0.11 in	8M-8162
5/16 - 18	1 3/4 in	0.31 in	0.47 in	0.63 in	6L-4784
5/16 - 18	2 1/2 in	0.31 in	0.47 in	1.13 in	3S-4346
5/16 - 18	3 in	0.31 in	0.47 in	1.63 in	2S-5818
5/16 - 18	3 1/2 in	0.31 in	0.47 in	2.25 in	2S-0629
5/16 - 18	4 1/2 in	0.31 in	0.47 in	3.25 in	9M-4288
5/16 - 18	5 in	0.31 in	0.47 in	3.63 in	9M-4289
5/16 - 18	5 1/2 in	0.31 in	0.47 in	4.25 in	1S-9810
5/16 - 18	6 in	0.31 in	0.47 in	4.63 in	1S-9811
5/16 - 18	6 1/2 in	0.31 in	0.47 in	5.25 in	4S-5845
3/8 - 16	3/4 in	0.38 in	0.56 in	0.25 in	1T-0822
3/8 - 16	1 in	0.38 in	0.56 in	0.25 in	1T-0765
3/8 - 16	1 1/16 in	0.38 in	0.56 in	0.50 in	4D-5239
3/8 - 16	1 1/4 in	0.38 in	0.56 in	0.25 in	1T-0720
3/8 - 16	2 in	0.38 in	0.56 in	0.50 in	3S-1307
3/8 - 16	2 1/4 in	0.38 in	0.56 in	1.00 in	3S-0127
3/8 - 16	2 3/4 in	0.38 in	0.56 in	1.50 in	2S-3567
3/8 - 16	3 in	0.38 in	0.56 in	1.50 in	4S-9002
3/8 - 16	3 3/4 in	0.38 in	0.56 in	2.50 in	8M-2518
7/16 - 14	1 1/2 in	0.44 in	0.66 in	0.14 in	6K-3771
7/16 - 14	2 1/4 in	0.44 in	0.66 in	0.63 in	6K-3772
1/2 - 13	1 in	0.50 in	0.75 in	0.16 in	9M-6590
1/2 - 13	1 1/4 in	0.50 in	0.75 in	0.16 in	8M-2530
1/2 - 13	1 1/2 in	0.50 in	0.75 in	0.16 in	4K-5175
1/2 - 13	2 in	0.50 in	0.75 in	0.16 in	5J-5793
1/2 - 13	2 1/4 in	0.50 in	0.75 in	0.75 in	6J-2515

Thread Size (in - TPI)	A	B	C	D	Part Number
	Bolt Length	Head Height	Head Width	Grip Length	
1/2 - 13	2 1/2 in	0.50 in	0.75 in	1.00 in	7K-6058
1/2 - 13	2 3/4 in	0.50 in	0.75 in	0.75 in	9S-9739
1/2 - 13	3 1/2 in	0.50 in	0.75 in	1.50 in	338-4562
1/2 - 13	4 1/2 in	0.50 in	0.75 in	3.00 in	8D-0648
5/8 - 11	7/8 in	0.62 in	0.94 in	0.19 in	1S-9808
5/8 - 11	1 in	0.62 in	0.94 in	0.19 in	9S-8889
5/8 - 11	1 3/4 in	0.62 in	0.94 in	0.19 in	8S-2332
5/8 - 11	2 in	0.62 in	0.94 in	0.19 in	8S-2331
5/8 - 11	2 1/4 in	0.62 in	0.94 in	0.50 in	6M-9149
5/8 - 11	2 1/2 in	0.62 in	0.94 in	0.75 in	031-1382
5/8 - 11	3 in	0.62 in	0.94 in	1.25 in	031-3185
5/8 - 11	3 1/4 in	0.62 in	0.94 in	1.50 in	6J-3913
5/8 - 11	3 1/2 in	0.62 in	0.94 in	1.50 in	7K-3116
3/4 - 10	1 1/2 in	0.75 in	1.13 in	0.25 in	6J-3991
3/4 - 10	1 3/4 in	0.75 in	1.13 in	0.19 in	6M-8796
<b>Fine Thread</b>					
5/16 - 24	3/4 in	0.31 in	0.47 in	0.08 in	107-6826
3/8 - 24	5/8 in	0.38 in	0.56 in	0.08 in	1T-0510
3/8 - 24	1 in	0.38 in	0.56 in	0.08 in	1T-0417
3/8 - 24	1 1/4 in	0.38 in	0.56 in	0.50 in	1T-0448
3/8 - 24	1 3/4 in	0.38 in	0.56 in	0.50 in	1T-0954
3/8 - 24	2 1/2 in	0.38 in	0.56 in	1.00 in	5K-4451
7/16 - 20	2 3/4 in	0.44 in	0.66 in	1.25 in	5J-7820
1/2 - 20	3 in	0.50 in	0.75 in	1.50 in	8S-0509
5/8 - 18	1 in	0.62 in	0.94 in	0.19 in	9S-8890
5/8 - 18	3 in	0.62 in	0.94 in	0.75 in	2P-1956
5/8 - 18	2 1/2 in	0.62 in	0.94 in	0.75 in	9S-8891
3/4 - 16	3 1/4 in	0.75 in	1.13 in	1.00 in	9S-8892
7/8 - 14	2 1/2 in	0.88 in	1.31 in	0.16 in	2N-5014
1 - 14	2 1/2 in	1.00 in	1.50 in	0.75 in	2N-5006
1 - 14	4 in	1.00 in	1.50 in	1.00 in	9S-8893

# Bolts

## Hex Socket Head Screw Bolts/Inch/Coarse & Fine Thread



Thread Size (in - TPI)	A	B	C	D	Part Number
	Bolt Length	Head Height	Head Width	Grip Length	
<b>Coarse Thread</b>					
No. 4 - 40	3/8 in	0.11 in	0.19 in	0.05 in	2S-9255
No. 4 - 40	1/2 in	0.11 in	0.19 in	0.05 in	6D-3033
No. 4 - 40	5/8 in	0.11 in	0.19 in	0.05 in	107-1716
No. 4 - 40	1 1/4 in	0.11 in	0.19 in	0.05 in	228-6056
No. 6 - 32	1/2 in	0.16 in	0.27 in	0.05 in	6V-8927
No. 8 - 32	3/8 in	0.16 in	0.27 in	0.06 in	6D-3031
No. 8 - 32	1/2 in	0.16 in	0.27 in	0.06 in	6D-3897
No. 8 - 32	5/8 in	0.16 in	0.27 in	0.06 in	2N-2658
No. 8 - 32	3/4 in	0.16 in	0.27 in	0.06 in	7D-5473
No. 8 - 32	1 in	0.16 in	0.27 in	0.06 in	9M-4704
No. 10 - 24	1/2 in	0.19 in	0.31 in	0.08 in	5S-2671
No. 10 - 24	5/8 in	0.19 in	0.31 in	0.08 in	2H-0191
No. 10 - 24	3/4 in	0.19 in	0.31 in	0.08 in	3L-2540
No. 10 - 24	7/8 in	0.19 in	0.31 in	0.08 in	9F-1707
No. 10 - 24	1 in	0.19 in	0.31 in	0.08 in	8C-9034
No. 10 - 24	1 1/4 in	0.19 in	0.31 in	0.38 in	7L-0688
No. 10 - 24	1 1/2 in	0.19 in	0.31 in	0.38 in	5J-1714
No. 10 - 24	1 3/4 in	0.19 in	0.31 in	0.88 in	2N-0402
No. 10 - 24	2 in	0.19 in	0.31 in	0.88 in	8C-6512
1/4 - 20	3/8 in	0.25 in	0.38 in	0.11 in	7J-0637
1/4 - 20	1/2 in	0.25 in	0.38 in	0.11 in	8H-0708
1/4 - 20	5/8 in	0.25 in	0.38 in	0.11 in	033-5359
1/4 - 20	3/4 in	0.25 in	0.38 in	0.11 in	6V-3260
1/4 - 20	7/8 in	0.25 in	0.38 in	0.11 in	4N-2955
1/4 - 20	1 in	0.25 in	0.38 in	0.11 in	8H-0707
1/4 - 20	1 1/4 in	0.25 in	0.38 in	0.09 in	4L-7124
1/4 - 20	1 1/2 in	0.25 in	0.38 in	0.50 in	2H-3764
1/4 - 20	1 3/4 in	0.25 in	0.38 in	0.50 in	5L-9018
1/4 - 20	2 in	0.25 in	0.38 in	1.00 in	6L-1596
1/4 - 20	2 1/4 in	0.25 in	0.38 in	1.00 in	6L-5551
1/4 - 20	2 1/2 in	0.25 in	0.38 in	1.50 in	6H-3958
1/4 - 20	2 3/4 in	0.25 in	0.25 in	1.50 in	6J-2819
1/4 - 20	3 1/4 in	0.25 in	0.25 in	2.00 in	6V-7698
5/16 - 18	3/4 in	0.31 in	0.47 in	0.11 in	9F-5975
5/16 - 18	7/8 in	0.31 in	0.47 in	0.11 in	7X-3373
5/16 - 18	1 in	0.31 in	0.47 in	0.11 in	7J-9016
5/16 - 18	1 1/4 in	0.31 in	0.47 in	0.11 in	9F-6641
5/16 - 18	1 1/2 in	0.31 in	0.47 in	0.11 in	5J-5314
5/16 - 18	1 3/4 in	0.31 in	0.47 in	0.63 in	7S-6701
5/16 - 18	2 in	0.31 in	0.47 in	0.63 in	9S-7381
5/16 - 18	2 3/4 in	0.31 in	0.47 in	1.63 in	2L-1352
5/16 - 18	3 1/2 in	0.31 in	0.47 in	2.25 in	9S-7382

Thread Size (in - TPI)	A	B	C	D	Part Number
	Bolt Length	Head Height	Head Width	Grip Length	
3/8 - 16	3/4 in	0.38 in	0.56 in	0.25 in	1L-0509
3/8 - 16	7/8 in	0.38 in	0.56 in	0.25 in	4S-5565
3/8 - 16	1 in	0.38 in	0.56 in	0.25 in	2D-4534
3/8 - 16	1 1/4 in	0.38 in	0.56 in	0.25 in	2J-5245
3/8 - 16	1 1/2 in	0.38 in	0.56 in	0.25 in	4D-3120
3/8 - 16	1 3/4 in	0.38 in	0.56 in	0.50 in	5S-2586
3/8 - 16	2 in	0.38 in	0.56 in	0.50 in	1L-8793
3/8 - 16	2 1/4 in	0.38 in	0.56 in	1.00 in	2L-3793
3/8 - 16	2 1/2 in	0.38 in	0.56 in	1.00 in	1Y-7574
3/8 - 16	2 3/4 in	0.38 in	0.56 in	1.50 in	2K-6073
3/8 - 16	3 1/4 in	0.38 in	0.56 in	2.00 in	4B-3835
3/8 - 16	4 in	0.38 in	0.56 in	2.50 in	3B-7614
3/8 - 16	5 in	0.38 in	0.56 in	3.50 in	8L-3837
3/8 - 16	6 in	0.38 in	0.56 in	4.50 in	2D-8992
7/16 - 14	7/8 in	0.44 in	0.66 in	0.14 in	4J-1096
7/16 - 14	1 1/4 in	0.44 in	0.66 in	0.14 in	7B-7525
7/16 - 14	2 in	0.44 in	0.66 in	0.63 in	2N-0412
7/16 - 14	2 1/2 in	0.44 in	0.66 in	1.13 in	3J-4567
1/2 - 13	1/2 in	0.50 in	0.75 in	0.16 in	021-7916
1/2 - 13	3/4 in	0.50 in	0.75 in	0.16 in	013-8289
1/2 - 13	1 in	0.50 in	0.75 in	0.16 in	5H-4893
1/2 - 13	1 1/4 in	0.50 in	0.75 in	0.16 in	5F-8807
1/2 - 13	1 1/2 in	0.50 in	0.75 in	0.16 in	3F-7147
1/2 - 13	1 3/4 in	0.50 in	0.75 in	0.16 in	5S-2256
1/2 - 13	2 in	0.50 in	0.75 in	0.19 in	8B-7997
1/2 - 13	2 1/4 in	0.50 in	0.75 in	0.75 in	2L-0041
1/2 - 13	2 1/2 in	0.50 in	0.75 in	0.75 in	8B-7979
1/2 - 13	2 3/4 in	0.50 in	0.75 in	0.75 in	5S-2389
1/2 - 13	3 in	0.50 in	0.75 in	1.50 in	4L-8515
1/2 - 13	3 1/4 in	0.50 in	0.75 in	1.50 in	6D-0119
1/2 - 13	3 1/2 in	0.50 in	0.75 in	1.50 in	8B-7998
1/2 - 13	5 in	0.50 in	0.75 in	3.00 in	5S-2388
1/2 - 13	6 in	0.50 in	0.75 in	4.50 in	8L-4612
1/2 - 13	7 in	0.50 in	0.75 in	5.25 in	7L-0654
5/8 - 11	1 1/4 in	0.62 in	0.94 in	0.19 in	5S-2201
5/8 - 11	2 in	0.62 in	0.94 in	0.19 in	5S-2457
5/8 - 11	3 in	0.62 in	0.94 in	0.75 in	4D-0242
5/8 - 11	4 in	0.62 in	0.94 in	2.25 in	8L-4743
5/8 - 11	4 1/2 in	0.62 in	0.94 in	2.25 in	6H-3959
5/8 - 11	5 1/2 in	0.62 in	0.94 in	3.75 in	7L-8304
3/4 - 10	1 1/2 in	0.75 in	1.12 in	0.20 in	7L-9787
3/4 - 10	1 3/4 in	0.75 in	1.12 in	0.20 in	5F-5321
3/4 - 10	2 1/2 in	0.75 in	1.12 in	0.20 in	2N-6170



## Hex Socket Head Screw Bolts/Inch/Coarse & Fine Thread (Cont'd.)

Thread Size (in - TPI)	A	B	C	D	Part Number	Thread Size (in - TPI)	A	B	C	D	Part Number
	Bolt Length	Head Height	Head Width	Grip Length			Bolt Length	Head Height	Head Width	Grip Length	
3/4 - 10	3 1/4 in	0.75 in	1.12 in	1.00 in	2N-1746	3/8 - 24	1 in	0.38 in	0.56 in	0.08 in	5L-4183
3/4 - 10	3 1/2 in	0.75 in	1.12 in	1.00 in	9S-4920	3/8 - 24	1 1/4 in	0.38 in	0.56 in	0.08 in	1T-0131
7/8 - 9	2 1/2 in	0.88 in	1.31 in	0.22 in	8L-4638	3/8 - 24	1 1/2 in	0.38 in	0.56 in	0.19 in	5L-8894
7/8 - 9	4 in	0.88 in	1.31 in	1.00 in	8L-9299	3/8 - 24	1 3/4 in	0.38 in	0.56 in	0.50 in	013-8257
7/8 - 9	4 1/2 in	0.88 in	1.31 in	3.00 in	8L-4717	3/8 - 24	2 in	0.38 in	0.56 in	0.50 in	013-8258
1 - 8	2 1/2 in	1.00 in	1.50 in	0.25 in	8L-6059	3/8 - 24	2 1/4 in	0.38 in	0.56 in	1.00 in	013-8259
1 - 8	3 in	1.00 in	1.50 in	0.25 in	7L-9198	7/16 - 20	1/2 in	0.44 in	0.66 in	0.11 in	8S-2696
1 - 8	5 in	1.00 in	1.50 in	2.00 in	8L-3745	7/16 - 20	1 in	0.44 in	0.66 in	0.10 in	089-7989
<b>Fine Thread</b>						7/16 - 20	1 3/4 in	0.44 in	0.66 in	0.11 in	8F-1948
No. 10 - 32	7/16 in	0.19 in	0.31 in	0.13 in	8H-9299	7/16 - 20	2 1/2 in	0.44 in	0.66 in	1.50 in	6H-3958
No. 10 - 32	1 1/2 in	0.19 in	0.31 in	1.00 in	6V-7488	7/16 - 20	4 1/2 in	0.44 in	0.66 in	3.14 in	213-6004
No. 10 - 32	5/8 in	0.19 in	0.31 in	0.06 in	3K-6168	1/2 - 20	1/2 in	0.50 in	0.75 in	0.11 in	021-7956
No. 10 - 32	1 1/2 in	0.19 in	0.31 in	0.38 in	2R-8159	1/2 - 20	1 in	0.50 in	0.75 in	0.11 in	013-8307
No. 10 - 32	2 1/4 in	0.19 in	0.31 in	1.18 in	9T-5110	1/2 - 20	1 1/4 in	0.50 in	0.75 in	0.11 in	1F-1375
1/4 - 28	1/2 in	0.25 in	0.38 in	0.08 in	7K-8407	1/2 - 20	1 1/2 in	0.50 in	0.75 in	0.11 in	8F-0069
1/4 - 28	5/8 in	0.25 in	0.38 in	0.08 in	021-7941	1/2 - 20	1 3/4 in	0.50 in	0.75 in	0.11 in	013-8310
1/4 - 28	3/4 in	0.25 in	0.38 in	0.08 in	3H-1392	1/2 - 20	2 in	0.50 in	0.75 in	0.11 in	2H-3763
1/4 - 28	7/8 in	0.25 in	0.38 in	0.08 in	8S-1571	1/2 - 20	2 1/2 in	0.50 in	0.75 in	1.50 in	6H-3958
1/4 - 28	2 7/8 in	0.25 in	0.38 in	1.87 in	9T-5112	1/2 - 20	3 in	0.50 in	0.75 in	1.50 in	013-8315
1/4 - 28	3 1/2 in	0.25 in	0.38 in	2.50 in	9T-5113	5/8 - 18	1 3/4 in	0.62 in	0.94 in	0.11 in	013-8374
5/16 - 24	3/4 in	0.31 in	0.31 in	0.08 in	3F-8156	5/8 - 18	2 1/4 in	0.62 in	0.94 in	0.11 in	9S-9078
5/16 - 24	1 in	0.31 in	0.31 in	0.08 in	8T-0908	5/8 - 18	4 1/4 in	0.62 in	0.94 in	2.25 in	174-3741
3/8 - 24	3/4 in	0.38 in	0.56 in	0.08 in	013-8253	5/8 - 18	6 3/4 in	0.62 in	0.94 in	4.50 in	253-2180
3/8 - 24	7/8 in	0.38 in	0.56 in	0.08 in	4L-1507	3/4 - 16	2 in	0.75 in	1.12 in	0.13 in	061-8718

# Bolts

## Hex Head Bolts/Metric/Phosphate & Oil

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
<b>Thread Size (dia x pitch) M6 x 1.00</b>				
M6	1.00	12	3	8T-0639
M6	1.00	14	3	6V-8836
M6	1.00	16	3	6V-8837
M6	1.00	20	3	6V-8214
M6	1.00	25	3	6V-8490
M6	1.00	30	3	8T-0640
M6	1.00	35	3	6V-2315
M6	1.00	40	3	2W-9499
M6	1.00	45	3	6V-7728
M6	1.00	50	3	8T-0275
M6	1.00	55	3	6V-8211
M6	1.00	60	3	8T-5066
M6	1.00	70	52	6V-8359
M6	1.00	110	92	295-4303
M6	1.00	130	106	384-8758
M6	1.00	140	116	6V-9606
-	Nut	-	-	6V-8225
-	Washer	-	-	9X-8267
<b>Thread Size (dia x pitch) M8 x 1.00</b>				
M8	1.25	10	1.90	2W-9533
M8	1.25	12	2.50	6V-2316
M8	1.25	14	3.75	8T-0642
M8	1.25	16	3.75	6V-5215
M8	1.25	20	3.75	6V-5217
M8	1.25	30	3.75	160-8756
M8	1.25	35	3.75	6V-5218
M8	1.25	40	3.75	204-0714
M8	1.25	45	3.75	8T-0276
M8	1.25	50	3.75	6V-3918
M8	1.25	55	3.75	8C-5748
M8	1.25	60	3.75	8T-0100
M8	1.00	65	43	8T-2316
M8	1.25	70	3.75	5P-8347
M8	1.25	75	3.75	6V-9804
M8	1.25	80	3.75	6V-5221
M8	1.25	85	63	6V-5222
M8	1.25	90	68	8T-0292
M8	1.25	100	78	6V-5223
M8	1.25	105	83	143-4654
M8	1.25	110	88	6V-3821
M8	1.25	120	98	6V-9607
M8	1.25	130	102	7X-0457
M8	1.25	140	112	7X-0870
M8	1.25	145	117	276-5413
M8	1.25	150	122	8C-4984
M8	1.25	160	132	3E-8005
M8	1.25	165	137	237-2227
M8	1.25	180	152	9X-6000
M8	1.25	200	172	9X-6628
M8	1.25	205	164	174-3490

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
M8	1.25	240	199	9X-6630
-	Nut	-	-	5P-7970
-	Washer	-	-	9M-1974
<b>Thread Size (dia x pitch) M10 x 1.00</b>				
M10	1.50	12	4.50	6V-8084
M10	1.50	16	4.50	6V-8212
M10	1.50	20	4.50	6V-6317
M10	1.50	25	4.50	6V-4248
M10	1.50	30	4.50	6V-1820
M10	1.50	35	4.50	6V-3822
M10	1.50	45	4.50	6V-5843
M10	1.50	50	4.50	6V-4249
M10	1.50	55	4.50	160-8742
M10	1.50	60	4.50	6V-5230
M10	1.50	65	4.50	8T-5035
M10	1.50	70	44	6V-7981
M10	1.50	75	49	6V-5815
M10	1.50	80	54	8T-0643
M10	1.50	85	59	160-8492
M10	1.50	90	64	8T-0644
M10	1.50	100	74	6V-1819
M10	1.50	110	78	8T-0355
M10	1.50	120	94	8T-5030
M10	1.50	130	98	210-4460
M10	1.50	140	108	8C-2926
M10	1.50	150	118	8T-9085
M10	1.50	160	128	8T-0356
M10	1.50	170	138	212-2085
M10	1.50	180	148	8T-7950
M10	1.50	200	168	8T-6854
-	Nut	-	-	2Y-5829
-	Washer	-	-	6V-5839
<b>Thread Size (dia x pitch) M12 x 1.75</b>				
M12	1.75	16	5.25	6V-8177
M12	1.75	20	5.25	8T-0293
M12	1.75	25	4	6A-5591
M12	1.75	30	5.25	6V-3668
M12	1.75	35	4	7X-7478
M12	1.75	40	5.25	6V-8197
M12	1.75	45	5.25	6V-5684
M12	1.75	50	5.25	6V-7673
M12	1.75	60	5.25	6V-3823
M12	1.75	65	5.25	160-8750
M12	1.75	70	40	6V-8336
M12	1.75	80	50	6V-5696
M12	1.75	90	60	8T-0372
M12	1.75	95	65	8T-0279
M12	1.75	100	70	482-3555
M12	1.75	110	80	8T-0646
M12	1.75	130	94	253-6267
M12	1.75	140	104	7X-0909

## Hex Head Bolts/Metric/Phosphate & Oil (Cont'd.)

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
M12	1.75	160	124	8T-0162
M12	1.75	180	144	8T-6991
M12	1.75	200	147	8C-3226
M12	1.75	220	167	515-4689 <sup>(6)</sup>
M12	1.75	300	251	152-7146 <sup>(6)</sup>
M12	1.75	340	291	155-5081
M12	1.75	470	410	162-1497 <sup>(6)</sup>
-	Nut	-	-	6V-8149
-	Washer	-	-	5P-8245
Thread Size (dia x pitch) M16 x 2.00				
M16	2.00	16	6	8T-2926
M16	2.00	25	6	6V-5224
M16	2.00	30	6	8T-0299
M16	2.00	35	6	6V-5844
M16	2.00	40	6	290-7296 <sup>(6)</sup>
M16	2.00	45	6	154-1578 <sup>(6)</sup>
M16	2.00	50	6	178-3707 <sup>(6)</sup>
M16	2.00	55	6	162-2776 <sup>(6)</sup>
M16	2.00	55	6	357-6018 <sup>(6)</sup>
M16	2.00	60	22	202-6473 <sup>(6)</sup>
M16	2.00	65	27	8T-0088
M16	2.00	65	27	441-6455 <sup>(6)</sup>
M16	2.00	70	32	357-6019 <sup>(6)</sup>
M16	2.00	75	37	357-9606
M16	2.00	80	42	8T-0281
M16	2.00	80	42	137-3301 <sup>(6)</sup>
M16	2.00	90	52	8T-0358
M16	2.00	90	52	6C-8648 <sup>(6)</sup>
M16	2.00	95	57	281-1112 <sup>(6)</sup>
M16	2.00	100	61.65	8T-0207
M16	2.00	100	62	170-1483 <sup>(6)</sup>
M16	2.00	110	72	8T-0649
M16	2.00	110	72	6C-5304 <sup>(6)</sup>
M16	2.00	120	82	8T-0282
M16	2.00	120	82	235-9631 <sup>(6)</sup>
M16	2.00	130	86	8T-0359
M16	2.00	130	86	6C-3522 <sup>(6)</sup>
M16	2.00	140	96	235-8810 <sup>(6)</sup>
M16	2.00	150	106.2	9X-6491
M16	2.00	150	116	236-6365 <sup>(6)</sup>
M16	2.00	160	116	8T-0650
M16	2.00	160	116	175-0454 <sup>(6)</sup>
M16	2.00	170	126	6C-8647 <sup>(6)</sup>
M16	2.00	180	136	9X-6493 <sup>(6)</sup>
M16	2.00	190	146	236-0483 <sup>(6)</sup>

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
M16	2.00	195	163	236-6366 <sup>(6)</sup>
M16	2.00	200	156	9X-2075
M16	2.00	200	156	6C-5303 <sup>(6)</sup>
M16	2.00	215	183	190-3153 <sup>(6)</sup>
M16	2.00	220	163	8T-7013
M16	2.00	220	176	242-1811 <sup>(6)</sup>
M16	2.00	230	173	160-0017 <sup>(6)</sup>
M16	2.00	240	183	161-4517
M16	2.00	250	193	126-1499
M16	2.00	260	203	8T-5045
M16	2.00	270	213	505-0058
M16	2.00	420	384	120-9486 <sup>(6)</sup>
M16	2.00	470	410	162-1498 <sup>(6)</sup>
-	Nut	-	-	8T-1757
-	Washer	-	-	9X-8268
Thread Size (dia x pitch) M20 x 2.50				
M20	2.50	25	7.50	113-6990
M20	2.50	30	7.50	8T-0651
M20	2.50	40	7.50	6V-7729
M20	2.50	45	6.20	219-7569 <sup>(6)</sup>
M20	2.50	50	7.50	6V-3531
M20	2.50	55	15	093-6096
M20	2.50	55	7.50	6V-6787
M20	2.50	60	7.5	287-3585 <sup>(6)</sup>
M20	2.50	70	7.5	173-9685
M20	2.50	80	34	6V-3669
M20	2.50	85	39	6V-5231
M20	2.50	90	44	8T-0360
M20	2.50	90	44	457-9304
M20	2.50	90	44	145-9278 <sup>(6)</sup>
M20	2.50	100	54	6V-9667
M20	2.50	110	64	8T-0362
M20	2.50	110	64	457-9305
M20	2.50	110	64	5Q-3560v <sup>(6)</sup>
M20	2.50	120	74	8T-0070
M20	2.50	120	74	165-9756 <sup>(6)</sup>
M20	2.50	130	78	8T-0655
M20	2.50	130	78	5Q-3561 <sup>(6)</sup>
M20	2.50	140	88	295-2409 <sup>(6)</sup>
M20	2.50	150	98	8T-0656
M20	2.50	160	108	8T-0657
M20	2.50	160	108	127-4836
M20	2.50	170	118	6V-8807
M20	2.50	170	118	179-8733 <sup>(6)</sup>

# Bolts

## Hex Head Bolts/Metric/Phosphate & Oil (Cont'd.)

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number	Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
M20	2.50	170	132	189-3925 <sup>(7)</sup>	M24	3.00	340	267	166-9314
M20	2.50	180	128	8T-0658	M24	3.00	420	347	100-3204
M20	2.50	190	138	252-9148	M24	3.00	500	427	129-0438
M20	2.50	200	163	190-3152 <sup>(7)</sup>	M24	3.00	700	627	489-1832
M20	2.50	200	148	9X-6494 <sup>(7)</sup>	-	Nut	-	-	7X-0851
M20	2.50	220	155	8T-7505	-	Washer	-	-	6V-8237
M20	2.50	230	165	467-426 <sup>(7)2</sup>	<b>Thread Size (dia x pitch) M30 x 3.50</b>				
M20	2.50	240	175	8T-0161	M30	3.50	50	10.5	9X-2199
M20	2.50	240	203	190-3154 <sup>(7)</sup>	M30	3.50	60	7	286-9617
M20	2.50	280	215	9X-2475	M30	3.50	75	9	7Y-1810 <sup>(7)</sup>
M20	2.50	350	285	140-7092 <sup>(7)</sup>	M30	3.50	80	14	274-4642 <sup>(7)</sup>
M20	2.50	390	325	098-6000	M30	3.50	85	19	145-2970 <sup>(7)</sup>
-	Nut	-	-	6V-7742	M30	3.50	90	10.5	173-9683 <sup>(7)</sup>
-	Washer	-	-	8T-3282	M30	3.50	95	29	152-0194
<b>Thread Size (dia x pitch) M24 x 3.00</b>					M30	3.50	100	10.5	8T-0368
M24	3.00	50	9	6V-9199	M30	3.50	100	34	202-7708 <sup>(7)</sup>
M24	3.00	60	9	8T-0380	M30	3.50	110	44	8T-0283 <sup>(7)</sup>
M24	3.00	70	9	8T-0664	M30	3.50	130	58	177-9754 <sup>(7)</sup>
M24	3.00	70	9	201-7949 <sup>(7)</sup>	M30	3.50	140	68	8T-0370
M24	3.00	80	9	173-9779 <sup>(7)</sup>	M30	3.50	150	78	101-1806 <sup>(7)</sup>
M24	3.00	100	46	8T-0667	M30	3.50	160	88	177-9755 <sup>(7)</sup>
M24	3.00	100	46	173-9684	M30	2.00	190	118	493-5352 <sup>(7)</sup>
M24	3.00	110	56	244-6356 <sup>(7)</sup>	M30	3.50	190	118	171-9325 <sup>(7)</sup>
M24	3.00	120	66	6V-8132	M30	3.50	200	128	163-8682 <sup>(7)</sup>
M24	3.00	120	66	112-1531	M30	3.50	210	134	199-4500 <sup>(7)</sup>
M24	3.00	130	70	8T-0669	M30	3.50	210	138	163-8683 <sup>(7)</sup>
M24	3.00	140	80	8T-0670	M30	3.50	220	135	178-2992 <sup>(7)</sup>
M24	3.00	140	80	112-1532	M30	3.50	235	150	199-4502 <sup>(7)</sup>
M24	3.00	150	90	141-6373	M30	3.50	240	155	9X-6151
M24	3.00	160	100	8T-0672	M30	3.50	240	155	334-6836 <sup>(7)</sup>
M24	3.00	160	100	112-1533	M30	3.50	260	175	139-5942 <sup>(7)</sup>
M24	3.00	170	110	102-6445 <sup>(7)</sup>	M30	3.50	320	235	139-5943 <sup>(7)</sup>
M24	3.00	180	120	8T-0674	M30	3.50	350	265	3E-8036 <sup>(7)</sup>
M24	3.00	180	120	353-1660 <sup>(7)</sup>	M30	3.50	450	365	113-1047 <sup>(7)</sup>
M24	3.00	200	140	6V-8198	M30	3.50	500	415	3E-8009
M24	3.00	220	147	8T-0364	M30	3.50	520	435	3E-8010
M24	3.00	240	167	8T-0365	M30	3.50	550	460	332-4571
M24	3.00	250	177	6V-8207	M30	3.50	620	535	3E-8012
M24	3.00	260	187	8T-0367	M30	3.50	700	615	3E-8013
M24	3.00	270	221	177-8363 <sup>(7)</sup>	M30	3.50	760	675	3E-8011
M24	3.00	280	207	8T-5397	-	Nut	-	-	8T-1583
M24	3.00	300	227	152-0604	-	Washer	-	-	9X-8399

7 High Strength Bolt

## Hex Head Bolts/Metric/Zinc Plated

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number	Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
<b>Thread Size (dia x pitch) M6 x 1.00</b>					<b>Thread Size (dia x pitch) M10 x 1.25 and M10 x 1.50</b>				
M6	1.00	18	3	233-1291	M10	1.25	16	3.75	251-1391
M6	1.00	40	3	6C-9129	M10	1.25	20	3.75	51-4936
M6	1.00	45	3	8T-2947	M10	1.25	25	3.75	127-4839
M6	1.00	55	3	118-6503	M10	1.25	30	4.50	9X-8912
-	Nut	-	-	5C-2890	M10	1.25	35	3.75	303-8825
-	Washer	-	-	9X-8256	M10	1.25	40	3.75	128-7747
<b>Thread Size (dia x pitch) M8 x 1.25</b>					M10	1.25	45	27	154-2235
M8	1.25	12	2.50	421-4221	M10	1.25	50	3.75	388-6412
M8	1.25	16	3.75	8T-4200	M10	1.25	55	33.75	205-6883
M8	1.25	16	3.75	457-8757	M10	1.25	70	44	51-4969
M8	1.25	20	3.75	453-3432	M10	1.25	80	54	125-3003
M8	1.25	22	3.75	475-7281	M10	1.50	16	4.50	8T-4191
M8	1.25	25	3.75	453-3433	M10	1.50	20	4.50	457-8759
M8	1.25	28	18	446-8221	M10	1.50	25	4.50	455-3798
M8	1.25	30	3.75	457-8758	M10	1.50	30	4.50	453-3440
M8	1.25	35	24.10	351-2246	M10	1.50	35	4.50	457-5821
M8	1.25	40	3.75	8T-4197	M10	1.50	40	4.50	151-8754
M8	1.25	45	3.75	453-3435	M10	1.50	40	14	279-0961
M8	1.25	50	3.75	247-4285	M10	1.50	45	19	172-7865
M8	1.25	100	3.75	085-4773	M10	1.50	50	4.5	323-3730
M8	1.25	105	83	305-4746	M10	1.50	60	4.50	180-4686
M8	1.25	140	112	453-3439	M10	1.50	65	4.50	260-6673
M8	1.25	180	152	452-4277	<b>Thread Size (dia x pitch) M12 x 1.25 and M12 x 1.75</b>				
-	Nut	-	-	5C-7261	M12	1.25	20	3.75	199-0957
-	Washer	-	-	8T-4224	M12	1.25	25	3.75	150-3715
<b>Thread Size (dia x pitch) M10 x 1.25 and M10 x 1.50</b>					M12	1.25	30	5.25	119-9880
M10	1.25	16	3.75	251-1391	M12	1.25	35	3.75	176-8518
M10	1.25	20	3.75	51-4936	M12	1.25	40	5.25	143-0116
M10	1.25	25	3.75	127-4839	M12	1.25	45	15	226-3694
M10	1.25	30	4.50	9X-8912	M12	1.75	20	5.25	461-2757
M10	1.25	35	3.75	303-8825	M12	1.75	30	5.25	451-2181
M10	1.25	40	3.75	128-7747	M12	1.75	35	5.25	453-3446
M10	1.25	45	27	154-2235	M12	1.75	40	5.25	453-3447
M10	1.25	50	3.75	388-6412	M12	1.75	45	15	453-3448
M10	1.25	55	33.75	205-6883	M12	1.75	45	5.25	165-7019
M10	1.25	70	44	51-4969	M12	1.75	50	20	453-3449
M10	1.25	80	54	125-3003	M12	1.75	60	30	453-3450
M10	1.50	16	4.50	8T-4191	M12	1.75	70	40	491-0944
M10	1.50	20	4.50	457-8759	M12	1.75	75	5.25	438-9215
M10	1.50	25	4.50	455-3798	M12	1.75	80	5.25	092-5524
M10	1.50	30	4.50	453-3440	M12	1.75	90	10	7Y-0589
M10	1.50	35	4.50	457-5821	M12	1.75	100	80	365-0628
M10	1.50	40	4.50	151-8754	M12	1.75	100	40	286-0433
M10	1.50	40	14	279-0961	M12	1.75	105	80	198-5646
M10	1.50	45	19	172-7865	M12	1.75	115	85	250-0492
M10	1.50	50	4.5	323-3730	M12	1.75	125	60	124-5556
M10	1.50	60	4.50	180-4686	Nut	1.75	-	-	8T-4244
M10	1.50	65	4.50	260-6673	Washer	1.75	-	-	8T-4223
<b>Thread Size (dia x pitch) M12 x 1.25 and M12 x 1.75</b>					<b>Thread Size (dia x pitch) M16 x 2.00</b>				
M12	1.25	20	3.75	199-0957	M16	2.00	25	6	447-1730
M12	1.25	25	3.75	150-3715	M16	2.00	35	6	451-2180
M12	1.25	30	5.25	119-9880	M16	2.00	40	6	453-1259
M12	1.25	35	3.75	176-8518	M16	2.00	45	5	447-1709
M12	1.25	40	5.25	143-0116	M16	2.00	50	12	447-1711
M12	1.25	45	15	226-3694	M16	2.00	55	6	453-2837
M12	1.75	20	5.25	461-2757	M16	2.00	60	6	447-1707
M12	1.75	30	5.25	451-2181	M16	2.00	70	32	453-2838
M12	1.75	35	5.25	453-3446	M16	2.00	80	42	447-1708
M12	1.75	40	5.25	453-3447					
M12	1.75	45	15	453-3448					
M12	1.75	45	5.25	165-7019					
M12	1.75	50	20	453-3449					
M12	1.75	60	30	453-3450					
M12	1.75	70	40	491-0944					
M12	1.75	75	5.25	438-9215					
M12	1.75	80	5.25	092-5524					
M12	1.75	90	10	7Y-0589					
M12	1.75	100	80	365-0628					
M12	1.75	100	40	286-0433					
M12	1.75	105	80	198-5646					
M12	1.75	115	85	250-0492					
M12	1.75	125	60	124-5556					
Nut	1.75	-	-	8T-4244					
Washer	1.75	-	-	8T-4223					

# Bolts

## Hex Head Bolts/Metric/Zinc Plated (Cont'd.)

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
M16	2.00	90	52	447-1704
M16	2.00	90	6	453-4135
M16	2.00	100	6	453-4133
M16	2.00	100	56	522-0896
M16	2.00	110	72	453-1256
M16	2.00	120	82	447-1703
M16	2.00	130	86	447-1706
M16	2.00	140	96	453-2840
M16	2.00	150	106	453-2841
M16	2.00	160	116	453-2842
M16	2.00	180	136	453-2843
M16	2.00	190	146	454-6928
M16	2.00	200	156	453-4169
M16	2.00	230	173	328-4315
M16	2.00	240	183	453-4171
M16	2.00	260	203	453-4172
M16	2.00	280	223	453-4136
-	Nut	-	-	8T-4132
-	Washer	-	-	8T-4122
<b>Thread Size (dia x pitch) M18 x 1.50 and M18 x 2.50</b>				
M18	1.50	33	4.50	157-1442
M18	1.50	40	4.50	234-0390
M18	1.50	65	23	275-2231
M18	1.50	80	38	134-4765
M18	1.50	105	63	370-0553
M18	2.50	45	7.50	135-9421
M18	2.50	50	7.50	135-9422
M18	2.50	55	7.50	183-8005
M18	2.50	110	68	255-8933
Washer	-	-	-	8T-4123
<b>Thread Size (dia x pitch) M20 x 2.50</b>				
M20	2.50	30	30	453-2844
M20	2.50	35	7.50	453-4174
M20	2.50	40	7.50	453-2845
M20	2.50	45	6.20	447-1717
M20	2.50	50	4	447-1718
M20	2.50	60	14	447-1719
M20	2.50	70	7.50	447-1720
M20	2.50	80	34	447-1716
M20	2.50	90	44	453-2847
M20	2.50	100	54	447-1731
M20	2.50	120	74	447-1715
M20	2.50	130	7.50	168-7790
M20	2.50	130	78	447-1712
M20	2.50	150	98	447-1714
M20	2.50	160	6.2	146-4176
M20	2.50	160	122	186-5649
M20	2.50	170	118	7Y-5260
M20	2.50	180	128	453-4137
M20	2.50	180	142	7X-2568

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
M20	2.50	190	138	7Y-5261
M20	2.50	200	148	453-2850
M20	2.50	210	145	41-6765
M20	2.50	220	155	453-2851
M20	2.50	280	215	198-6003
M20	2.50	320	255	454-3206
M20	2.50	450	385	154-7415
-	Washer	-	-	8T-4167
<b>Thread Size (dia x pitch) M24 x 3.00</b>				
M24	3.00	35	9	453-4177
M24	3.00	40	9	453-2852
M24	3.00	45	9	453-2853
M24	3.00	50	9	453-2854
M24	3.00	60	9	447-1722
M24	3.00	70	9	447-1726
M24	3.00	80	9	447-1725
M24	3.00	90	36	453-2855
M24	3.00	100	46	453-2856
M24	3.00	110	56	447-1723
M24	3.00	120	66	430-2986
M24	3.00	120	66	447-1724
M24	3.00	140	80	453-4179
M24	3.00	143	100	253-0777
M24	3.00	150	90	447-1732
M24	3.00	160	100	447-1721
M24	3.00	180	9	169-2519
M24	3.00	180	120	430-2985
M24	3.00	190	130	454-6929
M24	3.00	200	152	201-2836
M24	3.00	200	140	430-2984
M24	3.00	210	165	115-2748
M24	3.00	220	147	453-4182
M24	3.00	270	197	241-1912
M24	3.00	350	277	453-2857
-	Washer	-	-	9X-8258
<b>Thread Size (dia x pitch) M30 x 3.50</b>				
M30	3.50	80	14	453-2858
M30	3.50	90	24	447-1728
M30	3.50	100	34	451-9261
M30	3.50	110	44	447-1729
M30	3.50	120	12	309-6466
M30	3.50	120	54	447-1733
M30	3.50	130	10.50	453-4189
M30	3.50	140	68	453-2859
M30	3.50	150	78	447-1727
M30	3.50	160	88	447-2461
M30	3.50	260	188	453-4193
M30	3.50	380	295	177-1449
M30	3.50	435	350	453-2860
M30	3.50	450	365	453-2861



## Hex Head Bolts/Metric/Zinc Plated (Cont'd.)

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
-	Nut	-	-	451-2186

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
-	Washer	-	-	309-2686

# Bolts

## Hex Head Bolts/Metric/Zinc Flake

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
<b>Thread Size (dia x pitch) M6 x 1.00</b>				
M6	1.00	10	3	7X-2619
M6	1.00	12	3	8T-4171
M6	1.00	14	3	8T-4970
M6	1.00	16	3	5C-9553
M6	1.00	20	3	8T-4138
M6	1.00	22	3	6V-6936
M6	1.00	25	3	6V-7357
M6	1.00	27	9	491-4660
M6	1.00	30	3	8T-4971
M6	1.00	32	14	488-9170
M6	1.00	35	3	7X-2533
M6	1.00	35	22	349-6111
M6	1.00	40	3	8C-8451
M6	1.00	42	24	491-3147
M6	1.00	45	3	9X-2480
M6	1.00	50	3	7X-2534
M6	1.00	60	3	7X-2535
M6	1.00	65	47	287-8257
M6	1.00	70	52	8T-3844
M6	1.00	80	62	8T-6974
M6	1.00	90	72	7X-7888
M6	1.00	95	77	8T-4145
M6	1.00	100	82	457-2451 <sup>(8)</sup>
M6	1.00	180	156	9X-8498
M6	1.00	200	176	7X-0490
-	Nut	-	-	344-5673
-	Washer	-	-	9X-8256
<b>Thread Size (dia x pitch) M8 x 1.25</b>				
M8	1.25	10	1.9	7X-2620
M8	1.25	12	2.5	8T-4199
M8	1.25	14	2.5	7X-2536
M8	1.25	16	3.75	8T-4200
M8	1.25	18	3.75	6V-5216
M8	1.25	20	3.75	8T-4189
M8	1.25	25	3.75	8T-4908
M8	1.25	30	3.75	8T-7547
M8	1.25	35	3.75	7X-2537
M8	1.25	40	3.75	099-3649
M8	1.25	45	3.75	7X-0818
M8	1.25	45	27	349-6110
M8	1.25	50	3.75	8T-6912
M8	1.25	50	34	305-5385 <sup>(8)</sup>
M8	1.25	55	3.75	8T-7329
M8	1.25	60	3.75	8T-6869
M8	1.25	65	3.75	285-9066
M8	1.25	70	3.75	8T-6870
M8	1.25	75	3.75	096-5866

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
M8	1.25	80	3.75	8T-3647
M8	1.25	85	63	243-7112
M8	1.25	90	68	8T-4177
M8	1.25	100	78	7X-2538
M8	1.25	110	88	7X-2539
M8	1.25	115	93	269-8354
M8	1.25	120	98	7X-2540
M8	1.25	125	103	153-3061
M8	1.25	130	102	108-2989
M8	1.25	140	112	7X-2541
M8	1.25	150	122	7X-2542
M8	1.25	160	132	8T-7352
M8	1.25	170	142	317-1119
M8	1.25	180	152	315-5494
M8	1.25	220	179	9X-2028
-	Nut	-	-	344-5674
-	Washer	-	-	8T-4224
<b>Thread Size (dia x pitch) M10 x 1.25</b>				
M10	1.50	12	4.5	7X-2621
M10	1.50	16	4.5	8T-4191
M10	1.50	20	4.5	8T-4137
M10	1.50	25	4.5	8T-4136
M10	1.50	30	4.5	8T-4195
M10	1.50	35	4.5	183-7121 <sup>(8)</sup>
M10	1.50	40	4.5	8T-4186
M10	1.50	45	4.5	8T-4182
M10	1.50	45	19	311-8193 <sup>(8)</sup>
M10	1.50	50	4.5	8T-4185
M10	1.50	50	4.5	250-0394 <sup>(8)</sup>
M10	1.50	55	4.5	085-8091
M10	1.50	55	29	276-1326 <sup>(8)</sup>
M10	1.50	60	4.5	8T-6466
M10	1.50	60	4.5	451-2617 <sup>(8)</sup>
M10	1.50	70	44	8T-5005
M10	1.50	70	44	196-6723 <sup>(8)</sup>
M10	1.50	75	49	280-8912
M10	1.50	80	54	8T-4172
M10	1.50	80	4.5	272-2351
M10	1.50	90	64	8T-4178
M10	1.50	90	4.5	272-3089
M10	1.50	100	74	8T-4198
M10	1.50	105	79	297-8107
M10	1.50	110	84	8T-6685
M10	1.50	120	94	7X-2543
M10	1.50	130	98	8T-5436
M10	1.50	140	108	7X-2544
M10	1.50	150	118	7X-2545

## Hex Head Bolts/Metric/Zinc Flake (Cont'd.)

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
M10	1.50	155	123	178-3333
M10	1.50	160	128	8T-6408
M10	1.50	170	138	308-0918
M10	1.50	175	143	313-5645
M10	1.50	180	148	7X-2546
M10	1.50	190	158	316-8227
M10	1.50	200	168	7X-2547
M10	1.50	210	172	6E-5293
M10	1.50	220	175	7X-0474
M10	1.50	230	185	153-2146
M10	1.50	240	195	159-7463
M10	1.50	250	205	157-4822
M10	1.50	260	215	8T-4144
M10	1.50	270	225	295-8888
M10	1.50	295	255	190-8250
M10	1.50	300	255	286-3219
-	Nut	-	-	344-5675
-	Washer	-	-	8T-4121
Thread Size (dia x pitch) M12 x 1.25				
M12	1.75	16	5.25	7X-2548
M12	1.75	20	5.25	8T-4179
M12	1.75	25	5.25	8T-4192
M12	1.75	30	5.25	8T-4139
M12	1.75	35	5.25	362-1320 <sup>(9)</sup>
M12	1.75	40	5.25	259-2627 <sup>(9)</sup>
M12	1.75	45	5.25	8T-4184
M12	1.75	45	5.25	319-6699 <sup>(9)</sup>
M12	1.75	50	5.25	8T-4194
M12	1.75	50	30	359-3328
M12	1.75	55	5.25	096-9986
M12	1.75	60	5.25	8T-4910
M12	1.75	65	5.25	172-9966
M12	1.75	70	40	8T-4648
M12	1.75	75	5.25	7Y-7992
M12	1.75	80	50	8T-6868
M12	1.75	85	55	485-1484
M12	1.75	85	55	323-3731 <sup>(9)</sup>
M12	1.75	90	60	8T-4176
M12	1.75	90	60	356-9261 <sup>(9)</sup>
M12	1.75	100	70	7X-2549
M12	1.75	110	80	7X-2550
M12	1.75	110	80	319-6698 <sup>(9)</sup>
M12	1.75	120	90	8T-5041
M12	1.75	130	94	8T-5001
M12	1.75	140	104	8T-5412
M12	1.75	140	60	151-1174
M12	1.75	150	114	8T-5092
M12	1.75	160	124	8T-7930
Thread Size (dia x pitch) M16 x 1.25				
M16	2.00	20	6	142-8545
M16	2.00	25	6	8T-4190
M16	2.00	30	6	7X-2552
M16	2.00	35	6	8T-4779
M16	2.00	40	6	7X-2553
M16	2.00	45	6	8T-7338
M16	2.00	50	6	8T-4193
M16	2.00	50	6	485-2850
M16	2.00	55	6	099-0169
M16	2.00	60	6	8T-4140
M16	2.00	60	22	339-1910 <sup>(9)</sup>
M16	2.00	65	27	118-4977
M16	2.00	70	32	7X-2554
M16	2.00	70	32	118-7313 <sup>(9)</sup>
M16	2.00	75	37	489-4520
M16	2.00	80	42	303-9441 <sup>(9)</sup>
M16	2.00	85	47	106-9162
M16	2.00	90	52	8T-4175
M16	2.00	90	6	170-8555
M16	2.00	90	52	141-8390 <sup>(9)</sup>
M16	2.00	90	52	303-9442 <sup>(9)</sup>
M16	2.00	100	56	7X-2556
M16	2.00	100	6	136-4182
M16	2.00	110	72	8T-4173
M16	2.00	110	72	392-9233 <sup>(9)</sup>
M16	2.00	120	82	8T-4174
M16	2.00	130	86	7X-2475
M16	2.00	140	96	7X-2557
M16	2.00	140	6	170-8556
M16	2.00	150	106	7X-2558
M16	2.00	160	116	7X-2559
M16	2.00	170	126	8T-6384
M16	2.00	180	136	8T-6385
M16	2.00	190	146	7Y-5227 <sup>(9)</sup>
M16	2.00	200	156	8T-6383

# Bolts

## Hex Head Bolts/Metric/Zinc Flake (Cont'd.)

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
M16	2.00	210	153	7Y-3557 <sup>(10)</sup>
M16	2.00	220	163	7X-2560
M16	2.00	240	183	100-8255
M16	2.00	260	203	8T-6382
M16	2.00	280	223	110-6968
M16	2.00	300	256	110-6969
M16	2.00	310	253	100-3740
M16	2.00	460	403	128-7800
-	Nut	-	-	8T-4132
-	Washer	-	-	9X-8257
Thread Size (dia x pitch) M20 x 1.25				
M20	2.50	30	7.5	8T-4780
M20	2.50	35	7.5	7X-2561
M20	2.50	40	7.5	8T-5460
M20	2.50	45	7.5	288-3678 <sup>(10)</sup>
M20	2.50	50	7.5	8T-6430
M20	2.50	50	7.5	287-5701 <sup>(10)</sup>
M20	2.50	55	7.5	304-9129
M20	2.50	55	7.5	290-6437 <sup>(10)</sup>
M20	2.50	60	7.5	106-4175 <sup>(10)</sup>
M20	2.50	60	7.5	257-8529 <sup>(10)</sup>
M20	2.50	65	7.5	262-7686
M20	2.50	70	7.5	8T-4141
M20	2.50	70	7.5	378-2695 <sup>(10)</sup>
M20	2.50	75	29	166-1880 <sup>(10)</sup>
M20	2.50	80	7.5	180-5932
M20	2.50	80	34	213-5007 <sup>(10)</sup>
M20	2.50	90	44	7X-2564
M20	2.50	90	44	112-3927 <sup>(10)</sup>
M20	2.50	90	44	303-9444 <sup>(10)</sup>
M20	2.50	100	54	7X-2565
M20	2.50	110	64	7X-2566
M20	2.50	110	64	112-3926 <sup>(10)</sup>
M20	2.50	110	64	303-9443 <sup>(10)</sup>
M20	2.50	120	74	8T-6381
M20	2.50	120	74	201-8034 <sup>(10)</sup>
M20	2.50	125	74	339-1911 <sup>(10)</sup>
M20	2.50	130	78	7X-2532
M20	2.50	140	88	8C-8478
M20	2.50	140	88	225-0098 <sup>(10)</sup>
M20	2.50	150	98	202-0308 <sup>(10)</sup>
M20	2.50	160	108	7X-2488
M20	2.50	180	128	7X-2568
M20	2.50	190	138	437-5742
M20	2.50	200	148	7X-2569
M20	2.50	220	155	7X-2570
M20	2.50	230	165	4I-6766

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
M20	2.50	240	175	7X-2571
M20	2.50	240	175	8T-1491 <sup>(10)</sup>
M20	2.50	250	185	089-7990
M20	2.50	260	195	125-3297
M20	2.50	270	205	199-7178
M20	2.50	290	225	222-3595
M20	2.50	310	245	3E-8045
M20	2.50	320	255	7X-2440 <sup>(10)</sup>
M20	2.50	330	265	4I-6994
M20	2.50	350	285	473-7175 <sup>(10)</sup>
M20	2.50	380	315	296-2039
-	Nut	-	-	8T-4131
-	Washer	-	-	8T-4123
Thread Size (dia x pitch) M24 x 1.25				
M24	3.00	35	9	7X-2572
M24	3.00	40	9	7X-2573
M24	3.00	45	9	7X-2574
M24	3.00	50	9	8T-5379
M24	3.00	60	9	610-5988
M24	3.00	70	9	7X-2576
M24	3.00	75	9	8T-0381
M24	3.00	80	9	114-6099 <sup>(10)</sup>
M24	3.00	90	36	8T-0666 <sup>(10)</sup>
M24	3.00	100	46	7X-2489
M24	2.00	100	46	286-0721
M24	3.00	100	9	234-2007
M24	3.00	100	46	112-3929 <sup>(10)</sup>
M24	3.00	110	56	7X-2454
M24	3.00	110	56	293-4938 <sup>(10)</sup>
M24	3.00	120	66	8T-0363
M24	3.00	120	66	475-9623
M24	3.00	120	9	152-0191
M24	3.00	120	66	112-3931 <sup>(10)</sup>
M24	3.00	125	65	288-3686 <sup>(10)</sup>
M24	3.00	130	70	8T-6380
M24	3.00	130	70	112-3928 <sup>(10)</sup>
M24	3.00	140	80	8T-4649
M24	3.00	140	80	112-3930 <sup>(10)</sup>
M24	3.00	150	90	8C-3290
M24	3.00	150	90	147-5112 <sup>(10)</sup>
M24	3.00	160	100	475-9624
M24	3.00	160	100	169-5792 <sup>(10)</sup>
M24	3.00	170	110	116-2434 <sup>(10)</sup>
M24	3.00	180	120	7X-2465
M24	3.00	190	130	7Y-5235
M24	3.00	190	130	298-2764 <sup>(10)</sup>
M24	3.00	200	140	7X-2578

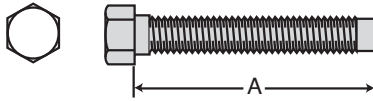
## Hex Head Bolts/Metric/Zinc Flake (Cont'd.)

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
M24	3.00	200	140	106-7994 <sup>(11)</sup>
M24	3.00	220	147	7X-2476
M24	3.00	240	167	7X-2579
M24	3.00	240	120	348-0255
M24	3.00	260	187	7X-2455
M24	3.00	280	207	9X-8477
M24	3.00	300	227	9X-8913
M24	3.00	315	242	121-7897
M24	3.00	320	247	104-9255
M24	3.00	340	267	127-4834
M24	3.00	350	277	140-3048
M24	3.00	360	287	132-5794
M24	3.00	380	307	4I-6806
M24	3.00	420	347	310-4096
M24	3.00	500	427	488-9235
-	Nut	-	-	8T-4001
-	Washer	-	-	8T-4167
Thread Size (dia x pitch) M30 x 1.25				
M30	3.50	50	10.5	7X-7900
M30	3.50	70	10.5	7Y-5232
M30	3.50	80	10.5	8C-8723
M30	3.50	90	10.5	7X-2580
M30	3.50	100	10.5	7X-2581
M30	3.50	110	44	7X-2582
M30	3.50	110	44	302-4536 <sup>(11)</sup>
M30	3.50	120	54	7X-2583 <sup>(11)</sup>
M30	3.50	130	10.5	130-0099
M30	3.50	140	68	7X-2584
M30	3.50	150	78	107-3953

Thread Size	Pitch (mm)	OAL (mm)	Grip Length (mm)	Part Number
M30	3.50	160	88	313-2634 <sup>(11)</sup>
M30	3.50	180	108	7X-2586 <sup>(11)</sup>
M30	2.00	180	108	438-9254
M30	3.50	200	128	9X-6385
M30	3.50	200	128	190-8494 <sup>(11)</sup>
M30	2.00	200	128	438-9255
M30	3.50	210	125	304-7356 <sup>(11)</sup>
M30	3.50	210	134	207-4918
M30	3.50	220	135	3E-9850
M30	3.50	230	145	107-8425 <sup>(11)</sup>
M30	3.50	240	155	217-4455
M30	3.50	260	175	7Y-5231
M30	3.50	280	195	108-7931 <sup>(11)</sup>
M30	3.50	290	205	376-9256
M30	3.50	300	215	3E-7442
M30	3.50	300	215	264-4449 <sup>(11)</sup>
M30	3.50	320	235	264-4450 <sup>(11)</sup>
M30	3.50	350	265	264-4451 <sup>(11)</sup>
M30	3.50	360	275	9X-8478
M30	3.50	370	285	264-4452 <sup>(11)</sup>
M30	3.50	380	295	264-4453 <sup>(11)</sup>
M30	3.50	400	315	100-3205 <sup>(11)</sup>
M30	3.50	420	335	152-1351 <sup>(11)</sup>
M30	3.50	430	345	264-4454 <sup>(11)</sup>
M30	3.50	435	350	105-6203
M30	3.50	450	365	176-7524
-	Nut	-	-	8C-8722
-	Washer	-	-	9X-8258

# Bolts

## Forcing Bolts/Inch/Fine Thread UNF

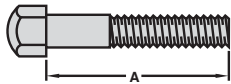


Thread Size (in - TPI)	A	Grip Length	Part Number
	Length		
7/8 - 14	5 3/8 in	0.33 in	5P-5265
1 - 14	6 15/16 in	0.97 in	5P-8715
1 1/2 - 12	2 7/8 in	0.33 in	6V-0187
1 1/2 - 12	4 3/4 in	0.33 in	5P-5264

## Forcing Bolts/Metric/Coarse Thread

Thread Size (dia x pitch)	A	Grip Length	Part Number
	Length		
M24 x 3.0	190 mm	13 mm	154-6185

## Track Bolts/Inch



Model	Thread Size (in - TPI)	A	Part Number
		Bolt Length	
307, E70, E70B	1/2 - 20	35 mm (1.38 in)	102-8072
307, PM465	1/2 - 20	38.1 mm (1.50 in)	3A-9605
D3, D4, 931	1/2 - 20	38.1 mm (1.50 in)	8H-7504
931C, 933C, 935C, 941, D3, D4, D4B, D3C, D4C, D3G, D4G, 215, TR225B, AP1050, PR450, SF350	9/16 - 18	41.4 mm (1.63 in)	4K-7038
AP650B, BG225C, AP1050B, BG245C	9/16 - 18	50.8 mm (2 in)	8S-4745
D5C, 561, D4, D5, D6, 941, 943, 951, 953, 955, 977, 205, 211, 213, 215, 215SA, 219, 225, PR750, PR1000, PM565, SF500, TR500 <sup>(12)</sup>	5/8 - 18	51 mm (2.01 in)	7H-3597
D5N, D5M, D5C, D5H, D4H, 953, 939, 939C	5/8 - 18	55.1 mm (2.17 in)	9G-3110
D6, D7, 572, 955, 963, 977, 215SA, 219, 225, 225SA, 229, 231, 235, FB227	3/4 - 16	54.8 mm (2.16 in)	1S-1859
D6N, D7N, D6R, D6H, D6M, D5H, 517, 257, FB227, D6HD	3/4 - 16	60.9 mm (2.40 in)	6V-1792
D7, D8, 571, 572, 973, 977, 235, 583	3/4 - 16	61.2 mm (2.41 in)	7H-3598
D7R, D7H, D8, 973, 983, 235	7/8 - 14	67.5 mm (2.66 in)	7H-3599
235	7/8 - 14	71.1 mm (2.80 in)	5P-4028
D8T/R/N, D8L, 583R, 578	7/8 - 14	87.1 mm (3.43 in)	6V-1723
D9, 594, 245 <sup>(13)</sup>	1 - 14	74.6 mm (2.94 in)	2M-5657
245	1 - 14	78.9 mm (3.11 in)	3T-6308
D9T/R/N	1 - 14	89.9 mm (3.54 in)	6T-2638
D9L, 589	1 - 14	96.7 mm (3.81 in)	6V-1726
D10T/R/N	1 1/8 - 12	96 mm (3.78 in)	7T-1000
D10	1 1/8 - 12	106.9 mm (4.21 in)	5P-3868
D11RN, 5130	1 3/8 - 12	109.2 mm (4.30 in)	6T-8853
5130	1 3/8 - 12	120.1 mm (4.73 in)	6I-8648

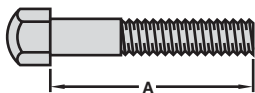
<sup>12</sup> Use model D5C with 9K links

<sup>13</sup> Use model 245 with 8K links

## Track Bolts/Inch/Self Cleaning Shoes

Model	Thread Size (in - TPI)	A	Part Number
		Bolt Length	
D3G, D4G, D3C, D4	9/16 - 18	41.4 mm (1.63 in)	4K-7038
D3G, D4G, D3C, D4	9/16 - 18	76.2 mm (3 in)	5A-3187
D4, D5	5/8 - 18	51 mm (2.01 in)	7H-3597
D5H, D5N, D5M, D4H	5/8 - 18	55.1 mm (2.17 in)	9G-3110
D4, D5	5/8 - 18	84 mm (3.31 in)	9G-8592
D5H, D5N, D5M, D4H	5/8 - 18	89.9 mm (3.54 in)	3T-3884
D6	3/4 - 16	54.8 mm (2.16 in)	1S-1859
D7H, D6R, D6H, D6N, D6M, D5H	3/4 - 16	60.9 mm (2.40 in)	6V-1792
D7	3/4 - 16	61.2 mm (2.41 in)	7H-3598
D6N, D6M, D5H	3/4 - 16	91.9 mm (3.62 in)	107-0718
D6	3/4 - 16	99 mm (3.90 in)	5A-7524
D7	3/4 - 16	104.1 mm (4.10 in)	5P-1028
D7H, D6R, D6H	3/4 - 16	104.9 mm (4.13 in)	6T-2162
D7R/H	7/8 - 14	67.5 mm (2.66 in)	7H-3599
D7R/H	7/8 - 14	109.9 mm (4.33 in)	116-8145

## Track Bolts/Metric



Model	Thread Size (dia x pitch)	A	Part Number
		Bolt Length	
308, 307B	M14 x 1.50	35 mm	136-2401
311, 312, 313, 314, E110, E110B, E120, E120B	M16 x 1.50	46 mm	4I-7538
E140	M16 x 1.50	55 mm	096-1043
E180	M18 x 1.50	58 mm	093-0262
315, 317, 318, 319, 320, 321, 322, E200B, E240B, E240C	M20 x 1.50	55 mm	9W-3619
E240, E300	M20 x 1.50	63 mm	093-0266
317, 318, 319, 320, 321, 322, 320S, 325	M20 x 1.50	63 mm	6Y-0846
E300B, EL300	M20 x 1.50	70 mm	093-0265
330, 345, 350 D6R SystemOne™	M22 x 1.50	67 mm	6Y-9024
350	M22 x 1.50	73 mm	143-4891
E450	M22 x 1.50	78 mm	093-0268
345B	M24 x 1.50	67 mm	301-2299
E650	M24 x 1.50	81 mm	093-0271
365B	M27 x 2.00	78 mm	144-0805
375, 5080	M27 x 2.00	90 mm	6Y-7432
385B, 5090	M30 x 2.00	90 mm	174-0221

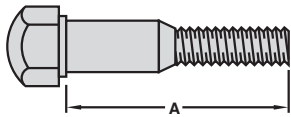


# Bolts

## Track Bolts/Metric/Self Cleaning Shoes

Model	Thread Size (dia x pitch)	A	Part Number
		Bolt Length	
311, 312, 313, 314, E110, E110B, E120, E120B, E140	M16 x 1.50	68 mm	093-0259
311, 312, 313, 314, E110, E110B, E120, E120B, E140	M16 x 1.50	108 mm	093-0261
E180 <sup>(14)</sup>	M18 x 1.50	90 mm	093-0264
315, 317, 318, 319, 320, 321, 322, E200B, E240B, E240C	M20 x 1.50	55 mm	9W-3619
325	M20 x 1.50	63 mm	6Y-0846
315, 317, 318, 319, 320, 321, 322, E200B, E240B, E240C	M20 x 1.50	80 mm	8E-9349
E240 <sup>(14)</sup>	M20 x 1.50	108 mm	096-0551
325	M20 x 1.50	110 mm	6Y-5686
330	M22 x 1.50	110 mm	254-0224

## Split Master Link Bolts/Inch



Model	Thread Size (in - TPI)	A	Part Number
		Bolt Length	
D3G, D4G, D3C, D4C	9/16 - 18	76.2 mm (3 in)	5A-3187
AP650B, BG225C, AP1050B, BG245C	9/16 - 18	88.9 mm (3.50 in)	8S-4747
D5N, D5M, D4H, D5H, D5G, D5C, 939C, 953	5/8 - 18	67 mm (2.64 in)	3T-8601
D5N, D5M, D4H	5/8 - 18	83 mm (3.27 in)	9G-8592
D5C, D4, D5, D6, 561, 941, 943, 951, 953, 955, 977 <sup>(15)</sup>	5/8 - 18	88.9 mm (3.50 in)	3P-2274
D5H	5/8 - 18	91 mm (3.58 in)	3T-8580
D6N, D6M, D5H, 517	3/4 - 16	74 mm (2.91 in)	106-1642
D7H	3/4 - 16	80 mm (3.15 in)	6V-1793
D6N, D6M, D5H	3/4 - 16	99 mm (3.90 in)	107-0719
D6R/H, D6, D7	3/4 - 16	105 mm (4.13 in)	9S-1838
D7, 571, 572, 973, 977	3/4 - 16	113 mm (4.45 in)	2P-9670
D7R/H	7/8 - 14	87.1 mm (3.43 in)	6V-1723
D8T/R/N, D8L, 583R, 578	7/8 - 14	96 mm (3.78 in)	6V-1724
D7R/H	7/8 - 14	116 mm (4.57 in)	9W-9058
D8, 983, 583	7/8 - 14	123 mm (4.84 in)	8S-0395
D7R/H	7/8 - 14	129 mm (5.08 in)	6V-1725
D9, 594	1 - 14	87 mm (3.43 in)	8S-1723
D9T/R/N, D9L, 589	1 - 14	123 mm (4.84 in)	7T-2283
D9T/R/N, D9L, 589	1 - 14	148 mm (5.83 in)	6V-1728
D10T/R/N	1 1/8 - 12	134 mm (5.28 in)	7T-0999
D10T/R/N	1 1/8 - 12	164 mm (6.46 in)	7T-0998
D10	1 1/8 - 12	168 mm (6.61 in)	5P-8222
D11R/N	1 3/8 - 12	153 mm (6.02 in)	6T-8521
D11R/N	1 3/8 - 12	183 mm (7.20 in)	6T-8520

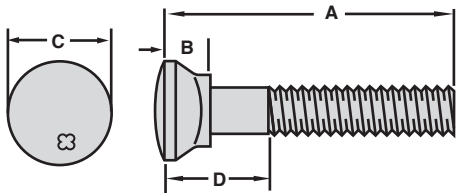
14 Only one bolt length used.

15 Use model D5C with 9K links

## Split Master Link Bolts/Inch/Self Cleaning Shoes

Model	Thread Size (in - TPI)	A	Part Number
		Bolt Length	
D3G, D4G, D3C, D4C	9/16 - 18	76.2 mm (3 in)	5A-3187
D3G, D4G, D3C, D4C	9/16 - 18	109 mm (4.29 in)	5P-4683
D5N, D5M, D4H	5/8 - 18	83 mm (3.27 in)	9G-8592
D4, D5	5/8 - 18	88.9 mm (3.50 in)	3P-2274
D5H	5/8 - 18	91 mm (3.58 in)	3T-8580
D5N, D5M, D4H, D5H	5/8 - 18	102 mm (4.02 in)	3T-3889
D4, D5	5/8-18	117.5 mm (4.63 in)	5P-0569
D6N, D6M, D5H	3/4 - 16	99 mm (3.90 in)	107-0719
D6R/H, D6, D7	3/4 - 16	105 mm (4.13 in)	9S-1838
D6N, D6M, D5H	3/4 - 16	109 mm (4.29 in)	107-0717
D7H, D7	3/4 - 16	113 mm (4.45 in)	2P-9670
D7H	3/4 - 16	125 mm (4.92 in)	6T-1441
D6R/H, D6, D7	3/4 - 16	139 mm (5.47 in)	3P-1111
D7R/H	7/8 - 14	116 mm (4.57 in)	9W-9058
D7R/H	7/8 - 14	129 mm (5.08 in)	6V-1725

## Cutting Edge Bolts/Inch/Coarse Thread



Thread Size (in - TPI)	A	B	C	D	Part Number
	Bolt Length	Head Height	Head Width	Grip Length	
<b>Thread Size (in - TPI) 3/8 - 16</b>					
3/8 - 16	1 in	0.31 in	0.67 in	0.44 in	8T-9414
3/8 - 16	2 in	0.31 in	0.67 in	1.00 in	4F-4048
3/8 - 16	Nut	—	—	—	9S-8752
<b>Thread Size (in - TPI) 1/2 - 13</b>					
1/2 - 13	1 1/4 in	0.44 in	0.89 in	0.50 in	4F-3647
1/2 - 13	1 1/2 in	0.44 in	0.89 in	0.63 in	4F-3646
1/2 - 13	1 3/4 in	0.44 in	0.89 in	0.63 in	4F-3648
1/2 - 13	2 in	0.44 in	0.89 in	0.75 in	4F-3649
1/2 - 13	2 1/2 in	0.44 in	0.89 in	1.25 in	4F-3651
1/2 - 13	2 3/4 in	0.44 in	0.89 in	1.50 in	4F-3652
1/2 - 13	3 in	0.44 in	0.89 in	1.75 in	4F-3662
1/2 - 13	3 1/2 in	0.45 in	0.89 in	2.25 in	4F-3663
1/2 - 13	5 in	0.44 in	0.89 in	3.75 in	4F-4043
1/2 - 13	Nut	—	—	—	1F-7958
<b>Thread Size (in - TPI) 5/8 - 11</b>					

Thread Size (in - TPI)	A	B	C	D	Part Number
	Bolt Length	Head Height	Head Width	Grip Length	
5/8 - 11	1 1/2 in	0.54 in	1.04 in	0.63 in	4F-3664
5/8 - 11	1 3/4 in	0.54 in	1.04 in	0.63 in	4F-3653
5/8 - 11	2 in	0.54 in	1.04 in	0.75 in	4F-3654
5/8 - 11	2 1/4 in	0.54 in	1.04 in	1.25 in	3F-5108
5/8 - 11	2 1/2 in	0.54 in	1.04 in	1.00 in	4F-3656
5/8 - 11	2 3/4 in	0.54 in	1.04 in	1.25 in	4F-3657
5/8 - 11	3 in	0.54 in	1.04 in	1.50 in	4F-3658
5/8 - 11	3 1/2 in	0.54 in	1.04 in	2.00 in	4F-3665
5/8 - 11	3 3/4 in	0.54 in	1.04 in	2.25 in	4F-0391
5/8 - 11	4 in	0.54 in	1.04 in	2.50 in	4F-3671
5/8 - 11	Nut	—	—	—	4K-0367
<b>Thread Size (in - TPI) 3/4 - 10</b>					
3/4 - 10	2 in	0.63 in	1.20 in	0.75 in	4F-3672
3/4 - 10	2 1/4 in	0.63 in	1.20 in	1.00 in	4F-7827
3/4 - 10	2 1/2 in	0.63 in	1.20 in	1.19 in	5J-4773
3/4 - 10	2 3/4 in	—	—	1.50 in	5J-4771
3/4 - 10	3 1/8 in	0.63 in	1.20 in	1.38 in	1J-6762

# Bolts

## Cutting Edge Bolts/Inch/Coarse Thread (Cont'd.)

Thread Size (in - TPI)	A	B	C	D	Part Number
	Bolt Length	Head Height	Head Width	Grip Length	
3/4 - 10	3 3/4 in	0.63 in	1.20 in	2.00 in	5F-8933
3/4 - 10	4 1/4 in	0.63 in	1.20 in	2.50 in	1J-0962
3/4 - 10	4 5/8 in	0.63 in	1.20 in	2.88 in	1J-6761
3/4 - 10	6 in	0.63 in	1.20 in	4.00 in	5P-6783
3/4 - 10	7 1/4 in	0.63 in	1.20 in	5.25 in	5P-6784
3/4 - 10	Nut	—	—	—	2J-3506
<b>Thread Size (in - TPI) 7/8 - 9</b>					
7/8 - 9	2 1/2 in	0.74 in	1.41 in	1.36 in	5J-4772
7/8 - 9	2 3/4 in	0.74 in	1.41 in	1.50 in	6F-0196
7/8 - 9	3 in	0.74 in	1.41 in	1.25 in	5J-2409
7/8 - 9	3 1/4 in	0.74 in	1.41 in	2.44 in	8J-2935
7/8 - 9	3 1/2 in	0.74 in	1.41 in	1.75 in	2J-2548
7/8 - 9	4 1/4 in	0.74 in	1.41 in	2.50 in	2J-5458
7/8 - 9	4 5/8 in	0.74 in	1.41 in	2.63 in	1J-0849
7/8 - 9	Nut	—	—	—	2J-3505
<b>Thread Size (in - TPI) 1 - 8</b>					
1 - 8	2 1/2 in	0.81 in	1.60 in	1.31 in	3J-2801
1 - 8	2 3/4 in	0.81 in	1.60 in	1.50 in	1J-5607

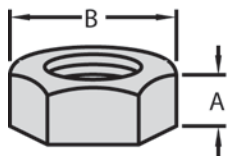
Thread Size (in - TPI)	A	B	C	D	Part Number
	Bolt Length	Head Height	Head Width	Grip Length	
1 - 8	3 in	0.81 in	1.60 in	1.75 in	4F-4042
1 - 8	3 1/4 in	0.81 in	1.60 in	1.91 in	4J-9058
1 - 8	3 1/2 in	0.81 in	1.60 in	2.19 in	4J-9208
1 - 8	3 3/4 in	0.81 in	1.60 in	2.69 in	8J-2928
1 - 8	4 in	0.81 in	1.60 in	2.95 in	5P-8136
1 - 8	4 1/2 in	0.81 in	1.60 in	2.25 in	1J-3527
1 - 8	5 1/4 in	0.81 in	1.60 in	3.00 in	1J-4947
1 - 8	6 in	0.81 in	1.60 in	3.00 in	317-1693
1 - 8	Nut	—	—	—	2J-3507
<b>Thread Size (in - TPI) 1 1/4 - 7</b>					
1 1/4 - 7	3 3/8 in	1.06 in	2.03 in	1.65 in	8T-9079
1 1/4 - 7	3 3/4 in	1.06 in	2.03 in	2.28 in	6V-6535
1 1/4 - 7	4 1/8 in	1.02 in	2.01 in	2.28 in	5P-8823
1 1/4 - 7	4 1/2 in	1.06 in	2.03 in	2.28 in	6V-8360
1 1/4 - 7	4 15/16 in	1.06 in	2.03 in	2.28 in	5P-8361
1 1/4 - 7	5 1/2 in	1.06 in	2.03 in	2.28 in	198-1092
1 1/4 - 7	6 1/2 in	1.06 in	2.03 in	2.28 in	209-9311
1 1/4 - 7	Nut	—	—	—	3K-9770

## Maintenance Tips For Cutting Edge Hardware

1. Clean all surfaces of rust, paint, nicks, and burrs.
2. Install bolts first in the center and work out toward the edge.
3. Tighten all bolts to the specified torque (see chart below for specifications).
4. Set bolt heads firmly into the edge countersink using a heavy hammer. Safety glasses MUST be worn when striking bolt heads.
5. Tighten all bolts again to the specified torque.

Thread Size (in - TPI)	(ft lb)	Torque (N-m)	Size
5/8	200 ± 30	270 ± 40	16 mm
3/4	350 ± 45	475 ± 60	19 mm
7/8	550 ± 65	750 ± 90	22 mm
1	825 ± 110	1125 ± 150	25 mm
1 1/4	1350 ± 220	1850 ± 300	31 mm

## Nuts/Hex/ Head/Inch



- Made of fine grain steel.
- Designed with a washer-faced surface.
- Provides a tensile strength comparable to SAE Grade 8 bolt.
- Hardened nuts marked with 6 lines, dashes, or dots for identification.

## Coarse Thread UNC/Phosphate & Oil Coated/Hardened

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
1/4 - 20	0.22 in	7/16 in	9S-8750
5/16 - 18	0.27 in	1/2 in	5S-0003
3/8 - 16	0.33 in	9/16 in	9S-8752
7/16 - 14	0.38 in	11/16 in	3S-1546
1/2 - 13	0.44 in	3/4 in	1F-7958
9/16 - 12	0.48 in	7/8 in	5P-0539
5/8 - 11	0.55 in	15/16 in	4K-0367

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
3/4 - 10	0.64 in	1 1/8 in	2J-3506
7/8 - 9	0.75 in	1 5/16 in	2J-3505
1 - 8	0.86 in	1 1/2 in	2J-3507
1 1/8 - 7	0.97 in	1 11/16 in	4J-5977
1 1/4 - 7	1.06 in	1 7/8 in	3K-9770
1 3/8 - 6	1.17 in	2 1/16 in	9M-3770
1 1/2 - 6	1.28 in	2 1/4 in	9S-8216

## Coarse Thread UNC/Zinc Plated/Hardened

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
1/4 - 20	0.22 in	7/16 in	6V-8185
5/16 - 18	0.27 in	1/2 in	6V-8189
3/8 - 16	0.33 in	9/16 in	6V-8801
7/16 - 14	0.37 in	11/16 in	7X-0447
1/2 - 13	0.44 in	3/4 in	6V-8188
5/8 - 11	0.55 in	15/16 in	7X-0448

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
3/4 - 10	0.64 in	1 1/8 in	6V-8182
7/8 - 9	0.75 in	1 5/16 in	7X-0449
1-8	0.86 in	1 1/2 in	299-3423
1 1/8 - 7	0.61	1 11/16	2H-3787
1 1/4 - 7	1.06 in	1 7/8 in	7X-0451
1 1/2 - 6	1.28 in	2 1/4 in	7X-0452

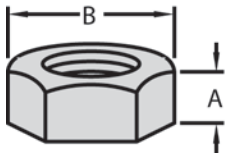
## Fine Thread UNF/Phosphate & Oil Coated/Hardened

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
1/4 - 28	0.22 in	7/16 in	9S-8748
5/16 - 24	0.27 in	1/2 in	9S-8751
3/8 - 24	0.33 in	9/16 in	3S-2713
7/16 - 20	0.38 in	11/16 in	9S-8905
1/2 - 20	0.44 in	3/4 in	6B-6684
9/16 - 18	0.48 in	7/8 in	5P-0540
5/8 - 18	0.55 in	15/16 in	6B-6683

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
3/4 - 16	0.64 in	1 1/8 in	6B-6682
7/8 - 14	0.75 in	1 5/16 in	1A-5666
1 - 14	0.86 in	1 1/2 in	1A-1935
1 1/8 - 12	0.97 in	1 11/16 in	3S-1356
1 1/4 - 12	1.06 in	1 7/8 in	7H-7539
1 3/8 - 12	1.17 in	2 in	2M-0400
1 1/2 - 12	1.28 in	2 1/4 in	8H-3390

# Nuts — Self-Locking Nuts/Hex Head/Inch

## Self Locking Nuts/Hex Head/Inch



- Made of fine grain steel.
- Resist loosening under vibration.
- Provides a tensile strength comparable with SAE Grade 8 bolts.
- Resist loosening under vibration.

## Coarse Thread UNC/Hardened

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
1/4 - 20	0.23 in	7/16 in	2D-6235
5/16 - 18	0.27 in	1/2 in	031-4155
3/8 - 16	0.33 in	9/16 in	2K-4973
7/16 - 14	0.38 in	11/16 in	6V-5729
1/2 - 13	0.44 in	3/4 in	1K-6872
9/16 - 12	0.50 in	7/8 in	034-9954

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
5/8 - 11	0.55 in	15/16 in	3K-2889
3/4 - 10	0.64 in	1 1/8 in	1K-6870
7/8 - 9	0.75 in	1 5/16 in	6K-0545
1-8	0.86 in	1 1/2 in	6K-3632
1 1/4 - 7	1.06 in	1 7/8 in	2J-5997
1 7/8 - 7	0.97 in	1 11/16 in	8D-9513

## Fine Thread UNF/Hardened

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
1/4 - 28	0.23 in	7/16 in	2L-9038
5/16 - 24	0.27 in	1/2 in	3D-8752
1/2 - 20	0.44 in	3/4 in	2K-0564
9/16 - 18	0.50 in	7/8 in	054-5448
5/8 - 18	0.55 in	15/16 in	2K-4821
3/4 - 16	0.64 in	1 1/8 in	2K-0337

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
7/8 - 14	0.75 in	1 5/16 in	5D-1986
1 - 14	0.86 in	1 1/2 in	2K-7471
1 1/8 - 12	0.97 in	1 11/16 in	3D-4904
1 1/4 - 12	1.06 in	1 7/8 in	2K-7468
1 1/2 - 12	1.28 in	2 1/4 in	5M-6667

# Nuts — Self-Locking Nuts/Hex Head/Inch/Plastic Insert

## Self-Locking Nuts/Hex Head/Inch/Plastic Insert



- Resist loosening under vibration.

### Coarse Thread/UNC/Zinc Plated/Hardened

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
1/4	0.31 in	7/16 in	3E-9865
5/16 - 18	0.34 in	1/2 in	3E-9860
3/8 - 16	0.45 in	9/16 in	3K-6060
1/2 - 13	0.59 in	3/4 in	9X-0941

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
5/8 - 11	0.75 in	15/16 in	3E-9861
3/4 - 10	0.88 in	1 1/16 in	3E-9862
7/8 - 9	0.98 in	1 1/4 in	3E-9863

### Coarse Thread/UNC/Zinc Plated/Non Hardened

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
No. 6-32	0.18 in	5/16 in	7D-6922
No. 8-32	0.23 in	11/32 in	6D-5801

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
No. 10-24	0.25 in	3/8 in	031-0249
3/8 - 16	0.37 in	11/16 in	9T-2730

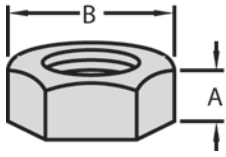
### Fine Thread/UNF/Zinc Plated/Non Hardened

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
No. 10-32	0.25 in	3/8 in	4L-1250
1/4	0.31 in	7/16 in	3F-7674
5/16 - 24	0.34 in	1/2 in	3F-2617

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
3/8 - 24	0.18 in	9/16 in	2F-8616
1/2 - 20	0.59 in	3/4 in	2M-2570

# Nuts — Hex Jam Nuts/Hex Head/Inch

## Hex Jam Nuts/Hex Head/Inch



- Designed with a chamfered and washer-faced surface.
- For use in locking other nuts to prevent loosening.

## Coarse Thread UNC/Non Hardened

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
1/4 - 20	0.16 in	7/16 in	1B-4427
5/16 - 18	0.19 in	1/2 in	5B-3180
3/8 - 16	0.22 in	9/16 in	1B-2578
7/16 - 14	0.25 in	11/16 in	1L-9048
9/16 - 12	0.31 in	7/8 in	8S-5151

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
5/8 - 11	0.38 in	15/16 in	1D-5118
3/4 - 10	0.42 in	1 1/8 in	1D-5119
7/8 - 9	0.48 in	1 5/16 in	5P-0541
1 - 8	0.55 in	1 1/2 in	1D-6306

## Fine Thread UNF/Non Hardened

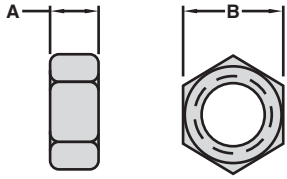
Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
1/4 - 28	0.16 in	7/16 in	6F-0612
5/16 - 24	0.19 in	1/2 in	4F-2294
3/8 - 24	0.22 in	9/16 in	5B-9079
7/16 - 20	0.25 in	11/16 in	5B-3254

Thread Size (in - TPI)	A	B	Part Number
	Nut Height	Nut Width	
3/4 - 16	0.42 in	1 1/8 in	1D-5120
7/8 - 14	0.48 in	1 5/16 in	1D-5121
1 - 14	0.55 in	1 1/2 in	2H-3786



# Nuts — Nuts/Hex Head/Metric

## Nuts/Hex Head/Metric



- Made of fine grain steel.
- Designed with a washer-faced surface.
- Provides a proof load comparable to 10.9 metric bolt.

## Coarse Thread/Phosphate & Oil Coated/Hardened

Thread Size (dia x pitch)	A	B	Part Number
	Nut Height	Nut Width	
M6 x 1.00	5.20 mm	10 mm	6V-8225
M8 x 1.25	6.80 mm	13 mm	5P-7970
M10 x 1.50	8.40 mm	16 mm	2Y-5829
M12 x 1.75	10.80 mm	18 mm	6V-8149
M16 x 2.00	14.80 mm	24 mm	8T-1757

Thread Size (dia x pitch)	A	B	Part Number
	Nut Height	Nut Width	
M20 x 2.50	18.00 mm	30 mm	6V-7742
M24 x 3.00	21.50 mm	36 mm	7X-0851
M30 x 3.50	25.60 mm	46 mm	8T-1583
M36 x 4.00	31.00 mm	55 mm	8C-4032

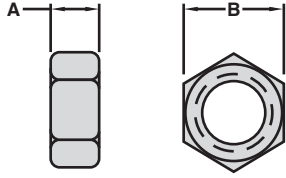
## Coarse Thread UNC/Zinc Plated and Zinc Flake Hardened

Thread Size (dia x pitch)	A	B	Part Number
	Nut Height	Nut Width	
M3 x 0.50	2.40 mm	5.5 mm	3C-6969
M6 x 1.00	5.20 mm	10 mm	5C-2890
M8 x 1.25	6.80 mm	13 mm	5C-7261
M10 x 1.50	8.40 mm	16 mm	8T-4133
M12 x 1.75	10.80 mm	18 mm	8T-4244
M16 x 2.00	14.80 mm	24 mm	8T-4132 <sup>(1)</sup>

Thread Size (dia x pitch)	A	B	Part Number
	Nut Height	Nut Width	
M20 x 2.50	18.00 mm	30 mm	8T-4131 <sup>(1)</sup>
M24 x 3.00	21.50 mm	36 mm	8T-4001 <sup>(1)</sup>
M30 x 3.50	25.60 mm	46 mm	8C-8722 <sup>(1)</sup>
M36 x 4.00	31.00 mm	55 mm	8T-4955 <sup>(1)</sup>

# Nuts — Self-Locking Nuts/Hex Head/Metric

## Self-Locking Nuts/Hex Head/Metric



- Made of fine grain steel.
- Designed with a washer-faced surface.
- Provides a proof load comparable to 10.9 metric bolt.
- Resists loosening under vibration.

## Coarse Thread UNC/Hardened

Thread Size (dia x pitch)	A		Part Number	Thread Size (dia x pitch)	B		Part Number
	Nut Height	Nut Width			Nut Height	Nut Width	
M6 x 1.00	5.90 mm	10 mm	6V-7743	M16 x 2.00	15.20 mm	24 mm	8T-4778
M8 x 1.25	7.10 mm	13 mm	6V-9189	M20 x 2.50	22.15 mm	30 mm	6V-7688
M10 x 1.50	9.00 mm	16 mm	6V-7744	M24 x 3.00	26.35 mm	36 mm	6V-7676
M12 x 1.75	11.60 mm	18 mm	6V-7687	M30 x 3.50	30.00 mm	46 mm	8T-5065

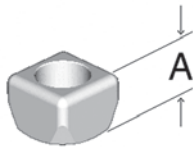
## Track Nuts

### Inch



Model	Thread Size (in - TPI)	A	Part Number
		Nut Height	
307, E70, E70B	1/2 - 20	12.9 mm (0.51 in)	102-8073
D4	1/2 - 20	14.2 mm (0.56 in)	8H-5724
D3, 931	1/2 - 20	15.875 mm (0.63 in)	117-8885
307, PM465	1/2 - 20	16 mm (0.63 in)	117-8885
D4, 941	9/16 - 18	15.4 mm (0.61 in)	7H-3606
D3, D3B, D3C, D4C, D4B, D4, D3G, D4G, 215, 931, 933, 935, 941, PR450, PM 565, AP650B, AP1050, BG225C, BG245C, SF350, TR225B	9/16 - 18	18.2 mm (0.72 in)	7K-2017
D5N, D5M, D5G, D5C, D4, D5, D6, 561, 939, 941, 943, 951, 953, 955, 977, 205, 211, 213, 215, 215SA, 219, 225, 215SA, 219, 225, PR750, PR1000, SF500, TR500	5/8 - 18	18.2 mm (0.72 in)	1M-1408
D6N, D6M, D5H, D6R/H, D7H, 517, 527, D6, D7, D8, 955, 936, 973, 977, 571, 572, 583, 215SA, 219, 225, 225SA, FB227, 229, 231, 235	3/4 - 16	18.2 mm (0.72 in)	1S-1860
D7R/H D8, 983, 583	7/8 - 14	23.6 mm (0.93 in)	2S-2140
973, 235	7/8 - 14	23.8 mm (0.94 in)	7T-9825
D9, 594, 245	1 - 14	25.4 mm (1 in)	1S-6421
245 <sup>(1)</sup>	1 - 14	25.4 mm (1 in)	2V-0250

### Metric

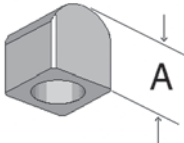


Model	Thread Size (dia x pitch)	A	Part Number
		Nut Height	
308, 307B	M14 x 1.50	14 mm	136-2402
311, 312, 313, 314, E110, E110B, E120B, E120	M16 x 1.50	16 mm	5I-6125
E140	M16 x 1.50	22 mm	099-0658
E180, EL180	M18 x 1.50	22 mm	093-0320
315, 317, 318, 319, 320, 321, 322, 325, 320S, E200B, EL200B, E240B, EL240B, E240C, EL240C	M20 x 1.50	21 mm	9W-3361
E240, EL240, E300B, E300, EL300, EL300B	M20 x 1.50	27 mm	093-0321
330, 345, 350, D6R SystemOne™	M22 x 1.50	22 mm	9W-4381
E450	M22 x 1.50	29 mm	096-0586
345B	M24 x 1.50	24 mm	150-4742
E650	M24 x 1.50	29 mm	093-0323
365B	M27 x 2.00	27 mm	144-0806
375, 5080	M27 x 2.00	38.5 mm	6Y-7433
385B, 5090B	M30 x 2.00	38.5 mm	174-0222

1 Use with 8K links

# Nuts — Track Nuts

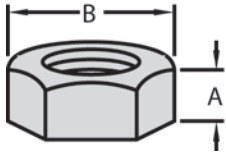
## Track Nuts (Cont'd.) Inch



Model	Thread Size (in - TPI)	A	
		Nut Height	
D8T/R/N, D8L, 583R, 578	7/8 - 14	35 mm (1.38 in)	
D9T/R/N	1 - 14	39.8 mm (1.57 in)	
D10, D10T/R/N, 5110B	1 3/8 - 12	43.6 mm (1.72 in)	
D11R/N, 5130	1 3/8 - 12	45.9 mm (1.81 in)	

# Nuts — Cutting Edge Nuts

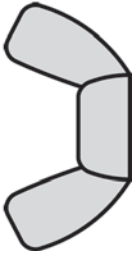
## Cutting Edge Nuts



Thread Size (in - TPI)	A	B	Part Number
	Height	Width	
1/2 - 20	0.44 in	3/4 in	6B-6684
5/8 - 11	0.55 in	15/16 in	4K-0367
3/4 - 10	0.64 in	1 1/8 in	2J-3506
3/4 - 16	0.64 in	1 1/8 in	6B-6682
7/8 - 9	0.75 in	1 5/16 in	2J-3505
1 - 8	0.86 in	1 1/2 in	2J-3507
1 1/4 - 7	1.06 in	1 7/8 in	3K-9770

# Nuts — Wing Nuts/Zinc Plated

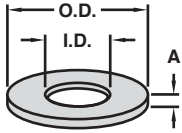
## Wing Nuts Zinc Plated



- Install and remove by hand.

Inch	
Thread Size (in - TPI)	Part Number
10 - 24	6F-6898
1/4 - 20	1F-1739
5/16 - 18	3B-0723
3/8 - 16	2B-9498
1/2 - 13	053-4881
Metric	
M5 x 0.8	240-6575
M6 x 1.0	8T-2910
M8 x 1.25	095-1250
M10 x 1.50	275-8115

## Washers/Flat/Inch



- Compatible with SAE Grade 5/Grade 8 and above bolts.

## Phosphate and Oil Coated/Hardened

Bolt Diameter	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
1/4 in	0.28 in	0.56 in	0.08 in	5P-0537
5/16 in	0.34 in	0.62 in	0.08 in	9M-1974
3/8 in	0.39 in	0.72 in	0.09 in	5M-2894
7/16 in	0.50 in	0.88 in	0.09 in	5P-8244
1/2 in	0.53 in	1.00 in	0.12 in	5P-8245
9/16 in	0.62 in	1.14 in	0.12 in	5P-8246
5/8 in	0.67 in	1.26 in	0.14 in	5P-8247

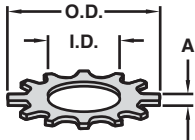
Bolt Diameter	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
3/4 in	0.79 in	1.44 in	0.14 in	5P-8248
7/8 in	0.94 in	1.62 in	0.16 in	5P-8249
1 in	1.09 in	1.94 in	0.20 in	5P-8250
1 1/8 in	1.19 in	2.06 in	0.25 in	3S-1349
1 1/4 in	1.31 in	2.12 in	0.25 in	4K-0684
1 1/2 in	1.59 in	2.62 in	0.25 in	3S-6162

## Zinc Plated/Hardened

Bolt Diameter	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
1/4 in	0.28 in	0.56 in	0.08 in	8T-4205
5/16 in	0.34 in	0.62 in	0.08 in	8T-4224
3/8 in	0.41 in	0.72 in	0.09 in	8T-4896
7/16 in	0.47 in	0.88 in	0.09 in	8T-5360
1/2 in	0.53 in	1.00 in	0.12 in	8T-4223
5/8 in	0.66 in	1.25 in	0.14 in	8T-4122

Bolt Diameter	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
3/4 in	0.78 in	1.44 in	0.14 in	8T-4994
7/8 in	0.94 in	1.62 in	0.16 in	8C-6913
1 in	1.09 in	1.94 in	0.20 in	8T-5361
1 1/8 in	1.22 in	2.06 in	0.25 in	7X-0531
1 1/4 in	1.34 in	2.19 in	0.25 in	7X-0533
1 1/2 in	1.59 in	2.64 in	0.25 in	7X-0537

## Lock Washers/External Tooth/Inch



- Provides "spring" action to keep assembly under tension.
- Resists corrosion due to zinc plated finish.

## Zinc Plated/Non-Hardened

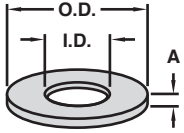
Bolt Diameter	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
No. 6	0.15 in	0.31 in	0.02 in	5H-6555
No. 8	0.17 in	0.38 in	0.02 in	1H-4393
No. 10	0.20 in	0.40 in	0.02 in	096-0192
1/4 in	0.26 in	0.50 in	0.03 in	1H-3338
5/16 in	0.33 in	0.59 in	0.03 in	7H-3937

Bolt Diameter	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
3/8 in	0.39 in	0.69 in	0.04 in	4D-1326
7/16 in	0.46 in	0.75 in	0.04 in	7F-6998
1/2 in	0.52 in	0.89 in	0.04 in	3J-4818



# Washers

## Washers/Flat/Metric



- Compatible with ISO property class 8.8, 10.9, 11.9, 12.9.

## Phosphate and Oil Coated/Hardened

Bolt Diameter (mm)	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
M6	6.60 mm	12.00 mm	2.00 mm	9X-8267
M8	8.80 mm	16.00 mm	2.00 mm	9M-1974
M10	11.00 mm	21.00 mm	2.50 mm	6V-5839
M12	13.50 mm	25.50 mm	3.00 mm	5P-8245
M14	15.50 mm	29.00 mm	3.00 mm	5P-8246

Bolt Diameter (mm)	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
M16	17.50 mm	30.00 mm	3.50 mm	9X-8268
M20	22.00 mm	35.00 mm	3.50 mm	8T-3282
M24	26.00 mm	44.00 mm	4.00 mm	6V-8237
M30	33.00 mm	56.00 mm	6.00 mm	9X-8399

## Zinc Plated/Hardened

Bolt Diameter (mm)	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
M6	6.60 mm	12.00 mm	2.00 mm	9X-8256
M8	8.80 mm	16.00 mm	2.00 mm	8T-4224
M10	11.00 mm	21.00 mm	2.50 mm	8T-4121
M12	13.50 mm	25.50 mm	3.00 mm	8T-4223

Bolt Diameter (mm)	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
M16	17.50 mm	30.00 mm	3.50 mm	9X-8257
M20	22.00 mm	35.00 mm	3.50 mm	8T-4123
M24	26.00 mm	44.00 mm	4.00 mm	8T-4167
M30	33.00 mm	56.00 mm	6.00 mm	9X-8258

## Lock Washers/Ratcheting/Inch



## Zinc Plated/Non-Hardened

Bolt Diameter	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
M4 or #8	4.4 mm	7.6 mm	1.8 mm	556-8137
M5 or #10	5.4 mm	10.8 mm	1.8 mm	296-2065
M6 or #12	6.5 mm	10.8 mm	1.8 mm	511-8448
M6	6.5 mm	10.8 mm	2.2 mm	551-6668
1/4"	7.2 mm	13.5 mm	2.5 mm	443-7834
M8 or 5/16"	8.7 mm	16.6 mm	2.5 mm	296-2067
M8 or 5/16 in	8.7 mm	13.5mm	2 mm	551-6667 <sup>3</sup>
M10	10.7 mm	16.6 mm	2.5 mm	215-4619
M10	10.7 mm	16.6 mm	2.2 mm	227-9851
M10	10.7 mm	21 mm	2.5 mm	338-9390
M12 or 1/2"	13.5 mm	25.4 mm	3.4 mm	296-2063
M12 or 1/2"	13.5 mm	19.5 mm	2.5 mm	3E-5823
M14	15.2 mm	30.7 mm	3.2 mm	386-0637 <sup>3</sup>
M14	15.2 mm	23 mm	3.4 mm	418-7793

Bolt Diameter	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
M16 or 5/8"	17 mm	30.7 mm	3.4 mm	296-2070
M18	19.5 mm	29 mm	3.4 mm	444-0373
M20 or 3/4"	21.4 mm	39 mm	3.4 mm	296-2071
M22	23.4 mm	42 mm	4.6 mm	485-2580
M22	23.4 mm	34.5 mm	3.4 mm	495-8958
M24	25.3 mm	48.5 mm	4.6 mm	296-2072
1"	25.65 mm	39.12 mm	3.3 mm	488-8611
1"	27.9 mm	48.5 mm	4.6 mm	514-1259
M30	31.4 mm	55 mm	5.8 mm	579-2431
M33 or 1 1/4"	36.4 mm	58.5 mm	6.6 mm	504-8716
M36 or 1 3/8"	37.4 mm	55 mm	5.8 mm	489-5237
M39 or 1-1/2"	40.4 mm	58.5 mm	5.8 mm	511-0641
M42	43.2 mm	63 mm	5.8 mm	443-7835

## Lock Washers/Split/Inch



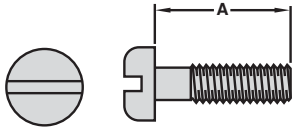
## Zinc Plated/Non-Hardened

Bolt Diameter (mm)	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
M2.5 & #4	3.1 mm	6.2 mm	0.8 mm	452-1893 <sup>1</sup>
M4 & #6	4.1 mm	7.6 mm	0.9 mm	531-5666
M4 & #8	4 mm	8 mm	1 mm	461-1722 <sup>1</sup>
M5 & #10	5 mm	9 mm	1 mm	461-9647 <sup>1</sup>
M5 & #12	5.3 mm	9 mm	1.2 mm	211-9337 <sup>1</sup>
M5 & #10	5.6 mm	9.2 mm	1.2 mm	241-8706 <sup>3</sup>
M6 & #12	6.4 mm	11.3 mm	1.6 mm	211-9347 <sup>1</sup>
M8 & 5/16 in	8.1 mm	14.8 mm	1.6 mm	507-8682 <sup>3</sup>
3/8 in	9.68 mm	13.97 mm	3.18 mm	478-5364 <sup>3</sup>
5/8 in	9.77 mm	17.27 mm	2.38 mm	478-5365 <sup>3</sup>
M10 or 3/8 in	10.9 mm	16.1 mm	2.6 mm	498-0432 <sup>1</sup>
M12 or 1/2 in	12.75 mm	22.07 mm	3.18 mm	3B-4508
M12 or 1/2 in	12.2 mm	21.2 mm	2.1 mm	494-5873 <sup>3</sup>
M12 or 1/2 in	13 mm	22 mm	3.18 mm	502-7508 <sup>3</sup>
M12 or 1/2 in	13 mm	22.3 mm	2.5 mm	454-6771 <sup>3</sup>
M14 & 9/16 in	14.3 mm	24.51 mm	3.6 mm	3B-4509
M16 & 5/8 in	16.2 mm	27.4 mm	2.8 mm	438-6693
1.5 in	39.62 mm	53.85 mm	1.24 mm	6G-6828 <sup>3</sup>
1.75 in	42.5 mm	99999.99 mm	2.5 mm	384-2387

Bolt Diameter (mm)	Inside Diameter	Outside Diameter	A	Part Number
			Thickness	
M2.5 & #4	3.1 mm	5.31 mm	0.64 mm	6B-4542
M3.5, M3 & #6	3.58 mm	6.35 mm	0.79 mm	9B-1117
M4 & #8	4.24 mm	7.44 mm	1.02 mm	3B-4501
M4.5 & #10	4.9 mm	8.48 mm	1.19 mm	3B-4502
M5 & #12	5.59 mm	9.58 mm	1.42 mm	3B-4503
M6 or 1/4 in	6.4 mm	12.37 mm	1.57 mm	3B-4504
M8 or 5/16 in	8.1 mm	15.4 mm	2 mm	3B-4505
3/8 in	9.58 mm	17.27 mm	2.39 mm	3B-4506
M10 or 3/8 in	10.2 mm	18.4 mm	2.5 mm	7X-0796
M16 & 5/8 in	16.2 mm	28 mm	4 mm	3B-4510
3/4 in	19.13 mm	32.13 mm	4.78 mm	3B-4512
M22 or 7/8 in	22.3 mm	37.06 mm	5.56 mm	3B-4514
1 in	25.48 mm	42.06 mm	6.35 mm	3B-4516
1.125 in	28.68 mm	46.91 mm	7.14 mm	3B-4518
1.25 in	31.85 mm	51.71 mm	7.92 mm	3B-4520
1.375 in	35.03 mm	56.36 mm	8.74 mm	3B-4522
1.5 in	38.2 mm	61.44 mm	9.53 mm	3B-4524
2 in	51 mm	74.57 mm	10.72 mm	529-5297

- 1 Coating unknown
- 2 Phos&Oil
- 3 Stainless Steel

## Pan Head/Machine Screws/Inch



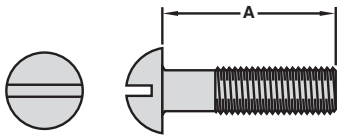
- Made of steel and finished with a zinc plating.
- Conforms to ANSI B18.6.3 standard.

Thread Size (in - TPI)	A	
	Screw Length	Part Number
No. 6 - 32	1/2 in	9X-6258
No. 6 - 32	3/4 in	214-3522
No. 6 - 32	1 in	030-8838
No. 6 - 32	1 1/4 in	2N-3477
No. 6 - 32	1 1/2 in	033-4815
No. 8 - 32	3/4 in	7U-4892
No. 8 - 32	1 1/4 in	6V-7697

Thread Size (in - TPI)	A	
	Screw Length	Part Number
No. 8 - 32	1 1/2 in	7S-1198
No. 8 - 32	2 in	5S-9105
No. 10 - 24	3/8 in	2N-3478
No. 10 - 24	1/2 in	8T-9394
No. 10 - 24	3/4 in	6V-1051
No. 10 - 24	1 1/2 in	2N-7456

Thread Size (in - TPI)	A	
	Screw Length	Part Number
1/4 - 20	3/8 in	9D-3868
1/4 - 20	5/8 in	3K-6881
1/4 - 20	3/4 in	2N-3680
1/4 - 20	1 in	9W-1464

## Round Head/Machine Screws/Inch



- Made of steel and finished with a zinc plating.
- Conforms to ANSI B18.6.3 standard.

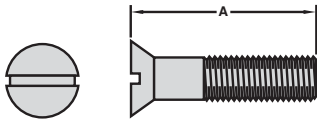
Thread Size (in - TPI)	A	
	Screw Length	Part Number
No. 6 - 32	1/4 in	2F-7306
No. 6 - 32	3/8 in	9X-6259
No. 6 - 32	1 1/4 in	2N-3477
No. 6 - 32	1 1/2 in	033-4815
No. 8 - 32	1/4 in	285-3944

Thread Size (in - TPI)	A	
	Screw Length	Part Number
No. 8 - 32	3/8 in	8C-8514
No. 8 - 32	1/2 in	8C-8514
No. 8 - 32	3/4 in	7U-4892
No. 8 - 32	1 in	103-9425
No. 10 - 24	1/4 in	108-8127
No. 10 - 24	3/8 in	2N-3478

Thread Size (in - TPI)	A	
	Screw Length	Part Number
No. 10 - 24	1/2 in	8T-9394
No. 10 - 24	3/4 in	6V-1051
No. 10 - 24	1 1/4 in	4B-1234
No. 10 - 24	1 1/2 in	2N-7456
No. 10 - 24	2 in	032-8924

# Screws

## Flat Head/Machine Screws/Inch/Coarse Thread

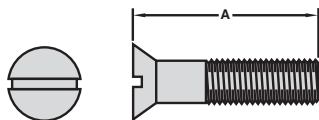


- Made of steel and finished with a zinc plating.
- Conforms to ANSI B18.6.3 standard.

Thread Size (in - TPI)	A		Drive Type	Part Number
	Screw Length			
No. 6 - 32	3/8 in		Int Hex	6V-7178
No. 6 - 32	1/2 in		Phillips	137-6723
No. 6 - 32	3/4 in		Slotted	473-1119
No. 8 - 32	1/2 in		Phillips	8T-3427
No. 8 - 32	3/4 in		Slotted	244-0908
No. 10 - 24	3/8 in		Slotted	4B-1293
No. 10 - 24	1/2 in		Int Hex	8T-7922
No. 10 - 24	1/2 in		Slotted	8T-7922
No. 10 - 24	5/8 in		Int Hex	4B-1274
No. 10 - 24	3/4 in		Slotted	2H-6120
No. 10 - 24	1 in		Slotted	1H-8456
No. 10 - 24	1 1/4 in		Slotted	5P-5583
No. 10 - 24	1 3/4 in		Slotted	5P-5582
1/4 - 20	3/8 in		Slotted	2M-5139
1/4 - 20	1/2 in		Slotted	031-6100
1/4 - 20	5/8 in		Int Hex	033-0695
1/4 - 20	3/4 in		Int Hex	6D-5799
1/4 - 20	1 in		Int Hex	8M-6802
1/4 - 20	1 in		Int Hex	7D-6921
1/4 - 20	1 1/4 in		Slotted	6V-4792
1/4 - 20	1 1/2 in		Slotted	1H-8294
1/4 - 20	1 3/4 in		Slotted	8M-6803
1/4 - 20	3 3/4 in		Int Hex	107-5011

Thread Size (in - TPI)	A		Drive Type	Part Number
	Screw Length			
5/16 - 18	1/2 in		Slotted	4B-1286
5/16 - 18	5/8 in		Int Hex	034-3223
5/16 - 18	3/4 in		Int Hex	153-8498
5/16 - 18	7/8 in		Torx	119-0036
5/16 - 18	1 1/4 in		Slotted	9S-0836
5/16 - 18	1 1/2 in		Slotted	129-2564
5/16 - 18	1 3/4 in		Int Hex	034-3101
5/16 - 18	1 3/4 in		Slotted	5P-0399
5/16 - 18	2 1/4 in		Slotted	6N-0768
5/16 - 18	4 in		Int Hex	107-5012
3/8 - 16	3/4 in		Int Hex	108-4311
3/8 - 16	1 in		Int Hex	030-9621
3/8 - 16	1 1/2 in		Slotted	030-7573
3/8 - 16	1 3/4 in		Slotted	030-9110
3/8 - 16	2 in		Int Hex	032-0682
1/2 - 13	1 in		Int Hex	107-2783
1/2 - 13	1 in		Int Hex	4K-1493
1/2 - 13	1 1/2 in		Int Hex	8T-4012
1/2 - 13	1 3/4 in		Int Hex	2J-0996
5/8 - 18	1 1/2 in		Int Hex	8T-4110
3/4 - 10	1 3/4 in		Int Hex	255-1241
3/4 - 10	2 in		Int Hex	061-6666

## Flat Head/Machine Screws/Metric/Coarse Thread

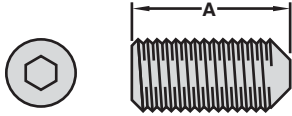


Thread Size (in - TPI)	Screw Length	Drive Type	Part Number
M2.5 x 0.45	10 mm	Phillips	6V-9668
M3 x 0.50	12 mm	Slotted	345-8535
M4 x 0.70	10 mm	Int Hex	3E-4302
M4 x 0.70	20 mm	Phillips	167-4063
M4 x 0.70	20 mm	Slotted	8T-7585
M5 x 0.80	12 mm	Int Hex	205-2941
M5 x 0.80	25 mm	Int Hex	8T-1573
M5 x 0.80	30 mm	Phillips	9X-2547
M5 x 0.80	35 mm	Slotted	8T-0386
M6 x 1.00	16 mm	Torx	127-1960
M6 x 1.00	20 mm	Int Hex	9X-6155
M6 x 1.00	25 mm	Int Hex	208-2651
M6 x 1.00	25 mm	Int Hex	260-6695
M6 x 1.00	30 mm	Int Hex	205-5149
M6 x 1.00	30 mm	Int Hex	8C-6802
M6 x 1.00	40 mm	Phillips	7X-0847
M8 x 1.00	40 mm	Phillips	179-7262
M8 x 1.25	14 mm	Slotted	323-3728
M8 x 1.25	16 mm	Int Hex	6V-8454
M8 x 1.25	20 mm	Int Hex	8C-7562
M8 x 1.25	20 mm	Int Hex	8C-7505
M8 x 1.25	30 mm	Int Hex	131-3539
M8 x 1.25	60 mm	Int Hex	114-3350
M8 x 1.25	80 mm	Slotted	133-8831
M10 x 1.50	20 mm	Int Hex	127-2909
M10 x 1.50	25 mm	Int Hex	6V7726

Thread Size (in - TPI)	Screw Length	Drive Type	Part Number
M10 x 1.50	25 mm	Int Hex	134-8273
M10 x 1.50	30 mm	Int Hex	3E-4310
M10 x 1.50	40 mm	Int Hex	131-0836
M12 x 1.75	35 mm	Int Hex	123-0354
M12 x 1.75	40 mm	Int Hex	145-1893
M12 x 1.75	45 mm	Int Hex	160-0018
M12 x 1.75	60 mm	Int Hex	173-8341
M12 x 1.75	80 mm	Int Hex	172-4014
M16 x 2.00	30 mm	Int Hex	8C-6789
M16 x 2.00	50 mm	Int Hex	159-2953
M16 x 2.00	55 mm	Int Hex	246-4349
M16 x 2.00	60 mm	Int Hex	159-8839
M16 x 2.00	70 mm	Int Hex	144-2531
M16 x 2.00	80 mm	Int Hex	135-3241
M20 x 2.50	70 mm	Int Hex	169-6065
M20 x 2.50	75 mm	Int Hex	145-4075
M20 x 2.50	80 mm	Int Hex	170-3524
M20 x 2.50	90 mm	Int Hex	144-2698
M20 x 2.50	100 mm	Int Hex	144-2715
M20 x 2.50	110 mm	Int Hex	144-2687
M20 x 2.50	120 mm	Int Hex	144-3087
M20 x 2.50	150 mm	Int Hex	174-6943
M20 x 2.50	160 mm	Int Hex	175-0335
M24 x 3.00	90 mm	Int Hex	170-4740
M24 x 3.00	120 mm	Int Hex	144-6589
M24 x 3.00	140 mm	Int Hex	144-8016
M24 x 3.00	160 mm	Int Hex	144-5966

# Screws

## Cup Point/Set Screws/Inch/UNC



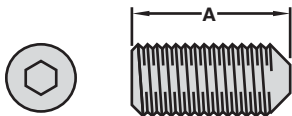
- Heat treated with a black oxide finish.

Thread Size (in - TPI)	A	
	Screw Length	Part Number
8 - 32	1/4 in	9L-9596
No. 10 - 24	1/4 in	5B-9324
No. 10 - 24	3/8 in	8C-8430
No. 10 - 24	1/2 in	4B-3627
1/4 - 20	1/4 in	4B-9806
1/4 - 20	1/4 in	8T-3601
1/4 - 20	5/16 in	010-2571
1/4 - 20	3/8 in	010-2570
1/4 - 20	1/2 in	4B-9808
1/4 - 20	1/2 in	173-5787
1/4 - 20	5/8 in	1K-6979
1/4 - 20	3/4 in	010-2573

Thread Size (in - TPI)	A	
	Screw Length	Part Number
1/4 - 20	1 in	8C-3996
5/16 - 18	1/4 in	010-2580
5/16 - 18	3/8 in	8B-7179
5/16 - 18	3/4 in	5P-2556
5/16 - 18	3/4 in	1T-0241
5/16 - 18	27/32 in	144-0691
5/16 - 18	1 3/16 in	4D-5253
5/16 - 18	1 1/2 in	5N-2882
5/16 - 18	1 1/2 in	1N-3887
3/8 - 16	1/4 in	010-2591
3/8 - 16	3/8 in	2F-5326
3/8 - 16	1/2 in	3B-8601

Thread Size (in - TPI)	A	
	Screw Length	Part Number
3/8 - 16	5/8 in	2F-5325
3/8 - 16	3/4 in	3H-8430
3/8 - 16	1 in	010-2597
3/8 - 16	1 1/8 in	4L-4155
1/2 - 13	1/2 in	010-2615
1/2 - 13	1/2 in	031-8610
1/2 - 13	1/2 in	8J-5912
1/2 - 13	5/8 in	010-2616
1/2 - 13	3/4 in	4B-1771
1/2 - 13	1 in	2H-3906

## Cup Point/Set Screws/Metric/Coarse Thread



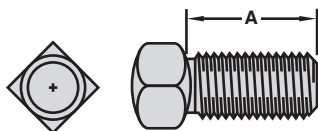
- Heat treated with a black oxide finish.

Thread Size (in - TPI)	A	
	Screw Length	Part Number
M4 x 0.70	20 mm	7X-7889
M5 x 0.70	12 mm	9Y-9846
M5 x 0.80	20 mm	106-5472
M5 x 0.80	25 mm	9X-6002
M5 x 0.80	30 mm	8T-6702
M6 x 1.00	6 mm	095-1260
M6 x 1.00	8 mm	9X-6608
M6 x 1.00	8 mm	6V-9327
M6 x 1.00	10 mm	6V-8932
M6 x 1.00	12 mm	8C-7531
M6 x 1.00	16 mm	095-1274
M6 x 1.00	16 mm	8T-0723
M6 x 1.00	25 mm	178-7877
M6 x 1.00	30 mm	099-5742
M6 x 1.00	40 mm	087-4759
M6 x 1.00	60 mm	109-5550
M8 x 1.25	16 mm	8T-0351

Thread Size (in - TPI)	A	
	Screw Length	Part Number
M8 x 1.25	20 mm	8T-2997
M8 x 1.25	30 mm	123-0368
M8 x 1.25	31.3 mm	6E-5583
M8 x 1.25	45 mm	9X-8914
M10 x 1.50	12 mm	095-1267
M10 x 1.50	16 mm	9X-6611
M10 x 1.50	21 mm	087-4710
M10 x 1.50	30 mm	096-2966
M10 x 1.50	44.3 mm	260-7524
M10 x 1.50	120 mm	274-9987
M12 x 1.25	50 mm	9T-6779
M12 x 1.75	10 mm	8T-9533
M12 x 1.75	12 mm	096-3216
M12 x 1.75	20 mm	095-1277
M12 x 1.75	30 mm	095-1270
M12 x 1.75	50 mm	9X-2403
M12 x 1.75	70 mm	9X-8482

Thread Size (in - TPI)	A	
	Screw Length	Part Number
M12 x 1.75	80 mm	9X-8483
M12 x 1.75	90 mm	125-1379
M12 x 1.75	110 mm	195-3834
M14 x 2.00	14 mm	096-6210
M16 x 2.00	22 mm	095-1280
M16 x 2.00	30 mm	479-6661
M16 x 2.00	130 mm	136-8416
M20 x 2.50	25 mm	099-8112
M20 x 2.50	45 mm	225-4607
M20 x 2.50	50 mm	096-5400
M20 x 2.50	60 mm	8T-5064
M20 x 2.50	80 mm	129-2220
M20 x 2.50	100 mm	8T-8555
M24 x 3.00	25 mm	157-2235
M27 x 2.00	27 mm	7Y-8436

## Square Head/Set Screws/Inch/Coarse Thread UNC



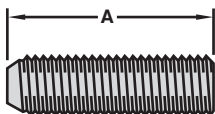
- Made of case-hardened steel with a full square head.

Thread Size (in - TPI)	A	
	Screw Length	Part Number
1/4 - 20	1/2 in	4B-3566
1/4 - 20	1 in	4B-3569
5/16 - 18	1/2 in	4B-3570
3/8 - 16	3/8 in	4B-3573
3/8 - 16	1/2 in	4B-3572
3/8 - 16	3/4 in	4B-3574
3/8 - 16	7/8 in	4B-4994
3/8 - 16	1 in	010-2597
3/8 - 16	1 1/4 in	4B-3576
3/8 - 16	1 1/2 in	4B-3577
3/8 - 16	1 3/4 in	2H-3881

Thread Size (in - TPI)	A	
	Screw Length	Part Number
1/2 - 13	3/4 in	4B-3580
1/2 - 13	1 1/4 in	4B-3583
1/2 - 13	1 1/2 in	4B-3584
1/2 - 13	1 3/4 in	4B-3585
1/2 - 13	2 in	4B-3586
1/2 - 13	5 in	4B-3626
5/8 - 11	1 1/2 in	4B-3594
5/8 - 11	1 3/4 in	4B-3595
5/8 - 11	2 in	4B-3596
5/8 - 11	2 in	4B-3619
5/8 - 11	3 in	4B-3599

Thread Size (in - TPI)	A	
	Screw Length	Part Number
3/4 - 10	1 1/2 in	4B-3601
3/4 - 10	2 in	4B-3603
3/4 - 10	2 1/2 in	4B-3604
3/4 - 10	2 27/32 in	4B-3605
3/4 - 10	4 1/2 in	8T-4162
1 - 8	2 3/4 in	2K-3229
1 - 8	3 1/4 in	4D-8318
1 - 14	3 7/8 in	4L-6665
1 1/2 - 12	7 1/2 in	6V-5137

## Taper Lock/Studs/Inch/Coarse Thread



- Heat treated with a direct-hardening process.
- Hardened to Rockwell C33-39
- Designed with a taper point for a plug tap.
- Meet SAE grade 8 strength requirements.

Thread Size (in - TPI)	A	
	Screw Length	Part Number
3/8 - 16	1 3/8 in	9M-2151
3/8 - 16	1 9/16 in	5P-2603
3/8 - 16	1 9/16 in	2M-1538
3/8 - 16	1 11/16 in	2N-9288
3/8 - 16	1 3/4 in	2M-4779
3/8 - 16	1 3/4 in	516-5987
3/8 - 16	1 31/32 in	1J-8668
3/8 - 16	2 in	7L-0520
3/8 - 16	2 5/32 in	313-9550
3/8 - 16	2 3/16 in	4M-2743
3/8 - 16	2 3/16 in	6V-1525
3/8 - 16	2 3/8 in	106-1793
3/8 - 16	2 5/8 in	3M-0496
3/8 - 16	2 5/8 in	9L-1658
3/8 - 16	2 3/4 in	6V-1426
3/8 - 16	2 15/16 in	9M-3296
3/8 - 16	3 1/16 in	4S-6137
3/8 - 16	3 1/8 in	2M-8411

Thread Size (in - TPI)	A	
	Screw Length	Part Number
3/8 - 16	3 3/16 in	4S-6137
3/8 - 16	3 35/64 in	6V-1427
3/8 - 16	3 9/16 in	2M-2488
3/8 - 16	3 15/16 in	106-1792
3/8 - 16	4 3/16 in	2P-1974
3/8 - 16	4 1/2 in	101-8917
1/2 - 13	1 9/16 in	8M-8778
1/2 - 13	1 3/4 in	2D-8153
1/2 - 13	2 in	3D-0490
1/2 - 13	2 3/16 in	5M-1932
1/2 - 13	2 3/8 in	2D-8154
1/2 - 13	2 9/16 in	4J-6925
1/2 - 13	2 13/16 in	3D-0472
1/2 - 13	3 in	3D-6627
1/2 - 13	3 1/8 in	2D-8426
1/2 - 13	3 3/8 in	9H-1288
1/2 - 13	3 9/16 in	2D-8155
1/2 - 13	3 13/16 in	3D-0473

Thread Size (in - TPI)	A	
	Screw Length	Part Number
1/2 - 13	4 1/2 in	5P-7071
5/8 - 11	2 3/16 in	3D-4639
5/8 - 11	2 3/8 in	340-3689
5/8 - 11	2 9/16 in	340-3688
5/8 - 11	2 3/4 in	4D-4823
5/8 - 11	2 15/16 in	6L-7655
5/8 - 11	3 3/16 in	3J-8154
5/8 - 11	3 3/8 in	3D-8439
5/8 - 11	3 9/16 in	3D-5963
5/8 - 11	4 in	5P-3887
5/8 - 11	4 3/16 in	5D-4809
3/4 - 10	2 9/16 in	4D-6579
3/4 - 10	2 3/4 in	2R-1600
3/4 - 10	2 15/16 in	4D-6578
3/4 - 10	3 1/8 in	4D-7246
3/4 - 10	3 3/8 in	7D-3504



# Screws

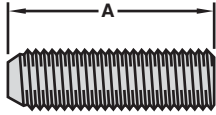
## Taper Lock/Studs/Inch/Coarse Thread (Cont'd.)

Thread Size (in - TPI)	A	Part Number
	Screw Length	
3/4 - 10	3 9/16 in	5J-6796
3/4 - 10	3 13/16 in	6D-1915
3/4 - 10	4 3/16 in	2P-1303
7/8 - 9	3 1/8 in	139-4782
7/8 - 9	3 9/16 in	4D-6589
7/8 - 9	3 3/4 in	139-4774

Thread Size (in - TPI)	A	Part Number
	Screw Length	
7/8 - 9	4 3/16 in	4D-7259
7/8 - 9	4 7/16 in	5P-2098
1 - 8	3 15/16 in	229-4975
1 - 8	3 15/16 in	5D-3118
1 - 8	4 3/16 in	9M-5854
1 - 8	4 7/16 in	9M-3948

Thread Size (in - TPI)	A	Part Number
	Screw Length	
1 - 8	4 15/16 in	6D-0419
1 - 8	5 1/8 in	5D-0600
1 1/2 - 16	2 5/16 in	2W-8225
1 1/2 - 16	39 5/8 in	2P-4304

## Taper Lock/Studs/Metric/Coarse Thread



- Heat treated with a direct-hardening process.
- Hardened to Rockwell C33-39
- Designed with a taper point for a plug tap.
- Meet SAE grade 8 strength requirements.

Thread Size (dia x pitch)	A	
	Screw Length	Part Number
M8 x 1.25	30 mm	329-8793
M8 x 1.25	40 mm	191-6301
M8 x 1.25	45 mm	232-5849
M8 x 1.25	55 mm	328-0826
M8 x 1.25	65 mm	9X-8496
M8 x 1.25	95 mm	192-7207
M10 x 1.50	35 mm	8T-7004
M10 x 1.50	35 mm	250-0485
M10 x 1.50	40 mm	418-6781
M10 x 1.50	45 mm	133-7810
M10 x 1.50	45 mm	186-0870
M10 x 1.50	45 mm	351-9434
M10 x 1.50	45 mm	9X-8281
M10 x 1.50	50 mm	264-0168
M10 x 1.50	50 mm	245-9750

Thread Size (dia x pitch)	A	
	Screw Length	Part Number
M10 x 1.50	50 mm	281-2592
M10 x 1.50	55 mm	309-1906
M10 x 1.50	60 mm	288-4402
M10 x 1.50	65 mm	109-3001
M10 x 1.50	70 mm	231-0336
M10 x 1.50	75 mm	224-5445
M10 x 1.50	80 mm	259-7140
M10 x 1.50	85 mm	116-3715
M10 x 1.50	85 mm	288-4403
M10 x 1.50	95 mm	268-4779
M10 x 1.50	100 mm	309-1905
M10 x 1.50	100 mm	274-6085
M12 x 1.75	45 mm	141-9481
M12 x 1.75	50 mm	8T-5414
M12 x 1.75	55 mm	3E-4319

Thread Size (dia x pitch)	A	
	Screw Length	Part Number
M12 x 1.75	65 mm	246-5451
M12 x 1.75	70 mm	310-1945
M12 x 1.75	80 mm	272-1882
M16 x 2.00	70 mm	8C-0623
M16 x 2.00	85 mm	296-5175
M16 x 2.00	90 mm	341-3770
M16 x 2.00	120 mm	342-9452
M16 x 2.00	130 mm	8C-6709
M20 x 2.50	75 mm	116-3719
M20 x 2.50	85 mm	286-2631
M24 x 3.00	105 mm	116-3720
M24 x 3.00	140 mm	292-4252
M36 x 4.00	135 mm	151-6288

## Standard/Studs/Inch/Coarse Thread UNC

Thread Size (in - TPI)	Screw Length	Part Number
No. 1 - 5	17 17/32 in	266-8994
No. 1 - 14	13 1/2 in	344-4705
No. 1 - 14	14 in	6V-2078
No. 1 - 14	14 15/16 in	252-9971
No. 1 - 14	16 3/8 in	252-9951
No. 1 - 14	18 in	5P-4776
1/4 - 20	1 3/4 in	037-6874
1/4 - 28	1 3/8 in	4V-0151
1/4 - 28	2 1/4 in	8L-9315
5/16 - 24	1 3/8 in	3N-7824
5/16 - 24	1 3/4 in	3N-2775
5/16 - 24	2 3/8 in	6B-0607

Thread Size (in - TPI)	Screw Length	Part Number
5/16 - 24	3 in	061-7284
3/8 - 16	1 in	133-5261
3/8 - 16	1 3/4 in	5P-9263
3/8 - 16	1 3/4 in	4K-2877
3/8 - 16	2 in	9L-4023
3/8 - 16	2 in	031-2666
3/8 - 16	2 1/2 in	4D-9589
3/8 - 16	3 1/4 in	9W-9687
3/8 - 16	3 3/8 in	5F-6849
1/2 - 13	4 in	193-1450
1/2 - 13	4 1/64 in	3D-0471
1/2 - 13	5 in	262-4377

Thread Size (in - TPI)	Screw Length	Part Number
1/2 - 20	2 3/8 in	4D-7235
5/8 - 18	8 1/2 in	8B-7552
5/8 - 18	8 7/8 in	6W-8509
5/8 - 18	12 in	8K-8466
3/4 - 10	9 5/8 in	1U-9597
1 1/8 - 12	20 in	1U-7758
1 1/4 - 5	24 in	264-5774
1 1/4 - 12	18 in	5P-4184
1 1/2 - 12	23 5/8 in	5P-7273
1 1/2 - 12	32 3/32 in	6V-2074

## Standard/Studs/Metric/Coarse Thread

Thread Size (dia x pitch)	Screw Length	Part Number
M5 x 0.80	40 mm	240-6577
M6 x 1.00	25 mm	8T-3982

Thread Size (dia x pitch)	Screw Length	Part Number
M6 x 1.00	40 mm	6R-7651
M6 x 1.00	108 mm	320-9318

Thread Size (dia x pitch)	Screw Length	Part Number
M8 x 1.25	31 mm	216-1035

# Screws

## Standard/Studs/Metric/Coarse Thread (Cont'd.)

Thread Size (dia x pitch)	Screw Length	Part Number
M8 x 1.25	35 mm	157-8861
M8 x 1.25	50 mm	166-0599
M8 x 1.25	60 mm	121-0483
M8 x 1.25	82 mm	111-9897
M8 x 1.25	225 mm	217-6670
M10 x 1.25	516 mm	334-7396
M10 x 1.50	43 mm	172-2663
M10 x 1.50	48 mm	331-4350
M10 x 1.50	55 mm	180-3998
M10 x 1.50	55 mm	376-3408

Thread Size (dia x pitch)	Screw Length	Part Number
M10 x 1.50	60 mm	357-0351
M10 x 1.50	60 mm	7Y-8710
M10 x 1.50	65 mm	9R-4764
M10 x 1.50	75 mm	164-1525
M10 x 1.50	80 mm	259-7140
M10 x 1.50	83 mm	164-1438
M10 x 1.50	95 mm	309-1905
M10 x 1.50	100 mm	8T-3612
M10 x 1.50	105 mm	302-5329
M10 x 1.50	110 mm	356-2419

Thread Size (dia x pitch)	Screw Length	Part Number
M10 x 1.50	125 mm	288-7158
M12 x 1.75	60 mm	7X-3342
M12 x 1.75	85 mm	358-3156
M12 x 1.75	200 mm	152-2489
M14 x 2.00	65 mm	285-6325
M14 x 2.00	85 mm	242-2911
M16 x 2.00	60 mm	8C-0623
M16 x 2.00	150 mm	332-0035
M24 x 3.00	140 mm	212-8687

## Link Brackets

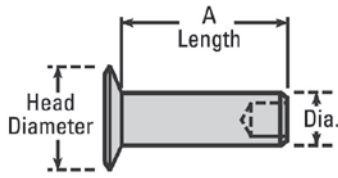


- Used to remove or install large components such as excavator swing gears (provides acceptable method of attaching hoist to component).
- 9U-6502 Link Bracket is used specifically to remove and install swing gear and bearing assembly on 5130 and 5230 Mining Excavators.
- All link brackets meet ANSI Standards for lifting devices.
- Bolts directly onto swing bearing/gear or other component (always use Grade 8 bolts to attach link bracket to component).
- Requires less clearance than standard eye bolt and makes placement/alignment of swing gear/bearing much faster and simpler.
- Used for any general purpose lifting where bracket can be attached to component.
- These link brackets are 100% proof tested at two times the working load limit. They comply with the requirements of ANSI/ASME B30.9.1984 as noted on the Certificate of Proof Test contained with each piece.

Part Number	Bolt Size	Working Load Limit	Minimum Bolt Torque
439-3938	3/8 in	1000 kg (2,205 lb)	43 Nm (32 lb ft)
439-3940	1/2 in	1800 kg (3,968 lb)	95 Nm (70 lb ft)
439-3939	3/4 in	4000 kg (8,818 lb)	360 Nm (266 lb ft)
439-3941	30 mm (1 1/4 in)	4000 kg (8,818 lb)	1300 Nm (959 lb ft)
241-3792	36 mm	5448 kg (12,011 lb)	2700 Nm (1,991 lb ft)

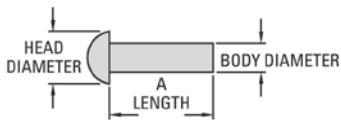
# Rivets

## Rivets/Flat Head/Countersunk Shank/Inch



Body Diameter	A	Head Diameter	Part Number	Material
	Length			
5/32 in	5/16 in	3/8 in	6B-4284	Steel
3/16 in	9/32 in	3/8 in	7B-5048	Brass
3/16 in	5/16 in	3/8 in	7B-5050	Brass
3/16 in	3/8 in	3/8 in	7B-5054	Brass
3/16 in	13/32 in	3/8 in	7B-5056	Brass
3/16 in	15/32 in	3/8 in	7B-5060	Brass
3/16 in	1/2 in	3/8 in	7B-5062	Brass
3/16 in	17/32 in	3/8 in	6B-1985	Steel
3/16 in	17/32 in	3/8 in	7B-5064	Brass
3/16 in	19/32 in	3/8 in	6B-4594	Steel
3/16 in	19/32 in	3/8 in	7B-5068	Brass
3/16 in	3/4 in	3/8 in	6B-1369	Steel

## Rivets/Button Head/Solid Shank/Inch

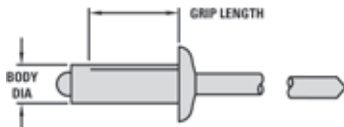


- Made of cold-formed steel.
- Meets ANSI B18.1.1 requirements.

Body Diameter	A	Head Diameter	Part Number
	Length		
1/8 in	3/8 in	0.23	4B-4306
3/16 in	3/8 in	0.34	4B-4310
3/16 in	1/2 in	0.34	4B-4311
3/16 in	5/8 in	0.34	4B-4312
3/16 in	3/4 in	0.34	4B-4314
3/16 in	1 in	0.34	4B-4315
1/4 in	3/8 in	0.45	4B-4319

Body Diameter	A	Head Diameter	Part Number
	Length		
1/4 in	1/2 in	0.45	4B-4320
1/4 in	3/4 in	0.45	4B-4322
1/4 in	1 1/8 in	0.45	4B-4325
5/16 in	5/8 in	0.56	4B-4334
5/16 in	7/8 in	0.56	4B-4336
3/8 in	7/8 in	0.67	4B-4344

## Rivets/Blind/Inch



- Contains an open-end and a steel mandrel.

Body Diameter	Grip Length	Part Number
1/8 in	1/16 - 1/8 in	8L-7905
1/8 in	1/8 - 3/16 in	7K-6536
1/8 in	5/16 - 3/8 in	9M-5731
1/8 in	3/8 - 1/2 in	6K-3273

Body Diameter	Grip Length	Part Number
5/32 in	1/8 - 1/4 in	2N-2258
5/32 in	1/4 - 3/8 in	034-7044
3/16 in	1/8 - 1/4 in	9M-5733
3/16 in	1/4 - 3/8 in	9M-5732

Body Diameter	Grip Length	Part Number
3/16 in	3/8 - 1/2 in	033-9412
3/16 in	1/2 - 5/8 in	4D-6716

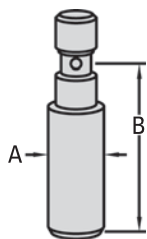
## Spring Pins/Roll Pin/Inch



- Contains a chamfered end for easy installation.
- Made of heat-treated steel.

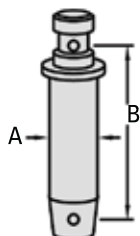
A	B	Part Number	A	B	Part Number	A	B	Part Number
Diameter	Pin Length		Diameter	Pin Length		Diameter	Pin Length	
1/16 in	1/4 in	8S-7499	3/16 in	1 in	6H-3956	3/8 in	5/8 in	1T-0068
1/16 in	3/8 in	1L-5316	3/16 in	1 1/4 in	138-1645	3/8 in	3/4 in	8T-5089
1/16 in	1/2 in	8S-3157	3/16 in	1 1/4 in	1H-1200	3/8 in	1 in	2L-3650
1/16 in	3/4 in	2L-4911	3/16 in	1 1/2 in	4H-3119	3/8 in	1 1/4 in	5J-3941
3/32 in	1/2 in	3H-1118	3/16 in	1 3/4 in	1J-5799	3/8 in	1 1/2 in	2J-5850
3/32 in	5/8 in	2K-3455	1/4 in	1/2 in	6B-6863	3/8 in	1 3/4 in	5L-5711
3/32 in	3/4 in	2L-5894	1/4 in	5/8 in	3H-2617	3/8 in	2 in	1J-8136
3/32 in	1 in	5M-8009	1/4 in	45/64 in	095-0884	3/8 in	2 1/2 in	053-1720
3/32 in	1 1/8 in	032-8870	1/4 in	3/4 in	7M-5130	3/8 in	3 in	045-7012
1/8 in	3/8 in	8L-6565	1/4 in	7/8 in	3S-2708	25/64 in	1 31/32 in	238-3200
1/8 in	1/2 in	3H-9675	1/4 in	1 in	5H-3182	15/32 in	1 3/16 in	195-6754
1/8 in	5/8 in	4H-1641	1/4 in	1 1/4 in	5H-3193	1/2 in	3/4 in	7K-6820
1/8 in	3/4 in	3K-4897	1/4 in	1 1/2 in	2L-1699	1/2 in	1 in	1N-5981
1/8 in	7/8 in	8T-0277	1/4 in	2 in	4H-6996	1/2 in	1 1/4 in	2K-9062
1/8 in	1 1/4 in	2K-8467	1/4 in	2 1/2 in	1J-5353	1/2 in	1 1/2 in	5H-4905
5/32 in	1/2 in	1T-0099	5/16 in	3/4 in	4H-1440	1/2 in	2 1/2 in	2K-8078
5/32 in	3/4 in	2L-5893	5/16 in	1 in	1T-0550	1/2 in	3 in	027-3873
5/32 in	1 in	5H-9839	5/16 in	1 1/4 in	8T-2925	1/2 in	3 1/2 in	031-0255
5/32 in	1 1/2 in	6V-3259	5/16 in	1 13/32 in	095-0891	1/2 in	4 in	8C-8513
3/16 in	1/2 in	5H-8985	5/16 in	1 1/2 in	2H-9445	37/64 in	4 21/64 in	9W-9455
3/16 in	5/8 in	2K-5986	5/16 in	1 3/4 in	5M-1179	21/32 in	5 1/8 in	6Y-8029
3/16 in	5/8 in	3S-8109	5/16 in	1 31/32 in	2M-3521	13/16 in	1 37/64 in	3Q-7864
3/16 in	3/4 in	4H-8380	5/16 in	3 in	2K-1594	13/16 in	2 3/4 in	9X-2617

## Drawbar and Clevis Pins/Type I



A	Pin Hole Diameter	B	Part Number
Diameter		Length	
1 1/2 in	25/64 in	9 7/8 in	7F-9546
2 in	25/64 in	8 3/8 in	9S-8184
2 in	25/64 in	9 3/8 in	2R-0179
2 15/64 in	25/64 in	10 3/8 in	1H-4106

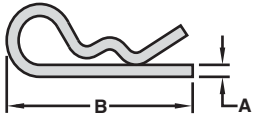
## Drawbar and Clevis Pins/Type II



A	Pin Hole Diameter	B	Part Number
Diameter		Length	
1 1/2 in	25/64 in	7 in	7F-9549
1 1/2 in	25/64 in	8 in	7F-9544
1 35/64 in	25/64 in	9 in	7F-9541
1 3/4 in	25/64 in	8 in	7F-9547

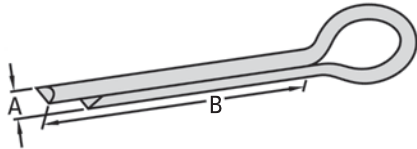
# Pins

## Locking Pins/Inch/Steel



A		B	
Diameter	Pin Hole Diameter	Length	Part Number
3/32 in	1/4 - 1/2 in	1.62 in	5P-0372
3/32 in	1/2 in	2.00 in	008-3843
1/8 in	1/2 - 3/4 in	1.75 in	6S-6646
1/8 in	5/8 - 7/8 in	2.50 in	8S-6377
5/32 in	5/8 - 7/8 in	3.00 in	5P-0370
3/16 in	3/4 - 11/16 in	3.75 in	5P-8837

## Cotter Pins/Inch/Zinc Plated Steel

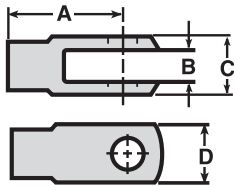


A	B	Cotter End Type	Part Number
Diameter	Pin Length		
1/16 in	3/4 in	Mitered End	3B-4605
1/16 in	1 1/4 in	Mitered End	3B-4606
1/16 in	1 1/2 in	Mitered End	010-3365
3/32 in	1 in	Mitered End	3B-4611
3/32 in	1 1/4 in	Mitered End	3B-4612
3/32 in	1 3/4 in	Chisel End	2H-3862
3/32 in	2 in	Mitered End	010-3378
1/8 in	1/2 in	Mitered End	3B-4613
1/8 in	1/2 in	Square End	3B-4607
1/8 in	1 in	Mitered End	3B-4617
1/8 in	1 1/4 in	Square End	3B-4618
1/8 in	2 1/4 in	Mitered End	3B-4622
1/8 in	2 1/2 in	Mitered End	8B-9264
5/32 in	1 1/2 in	Square End	3B-5301
5/32 in	2 in	Mitered End	2H-3768
5/32 in	2 1/4 in	Mitered End	095-0854
5/32 in	2 3/4 in	Mitered End	3B-4625
3/16 in	1 in	Mitered End	3B-4627
3/16 in	1 1/4 in	Square End	3B-4628
3/16 in	1 1/2 in	Mitered End	3B-4629

A	B	Cotter End Type	Part Number
Diameter	Pin Length		
3/16 in	2 in	Square End	3B-4631
3/16 in	2 1/4 in	Mitered End	3B-5302
3/16 in	2 1/2 in	Mitered End	3B-4632
3/16 in	2 3/4 in	Mitered End	3B-4633
3/16 in	3 in	Mitered End	3B-4634
3/16 in	4 in	Mitered End	3B-4636
1/4 in	1 in	Mitered End	3B-4637
1/4 in	1 1/2 in	Mitered End	3B-5313
1/4 in	1 3/4 in	Mitered End	3B-4639
1/4 in	2 in	Mitered End	3B-4640
1/4 in	2 1/2 in	Mitered End	3B-4641
1/4 in	3 in	Mitered End	099-5217
1/4 in	3 1/2 in	Mitered End	3B-4643
1/4 in	4 1/2 in	Mitered End	4D-8002
5/16 in	1 in	Mitered End	3B-6705
5/16 in	1 1/2 in	Mitered End	2H-3771
5/16 in	2 in	Mitered End	095-0863
5/16 in	2 1/4 in	Mitered End	3B-5315
5/16 in	3 in	Mitered End	3B-5317
5/16 in	3 1/2 in	Mitered End	095-0865
5/16 in	4 in	Mitered End	2H-3773

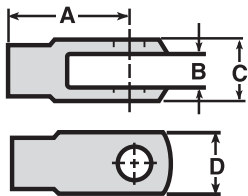
A	B	Cotter End Type	Part Number
Diameter	Pin Length		
5/16 in	5 in	Mitered End	2H-3774
3/8 in	1 1/2 in	Mitered End	3B-4644
3/8 in	2 in	Mitered End	3B-4646
3/8 in	2 1/2 in	Mitered End	3B-4647
3/8 in	2 3/4 in	Mitered End	3B-5319
3/8 in	3 in	Mitered End	3B-5320
3/8 in	3 1/2 in	Mitered End	3B-5322
3/8 in	4 in	Mitered End	3B-5329
3/8 in	4 1/2 in	Mitered End	4J-1888
13/32 in	2 1/2 in	Mitered End	095-7944
13/32 in	3 11/32 in	Mitered End	095-0868
13/32 in	5 1/2 in	Mitered End	096-1820
1/2 in	2 in	Mitered End	3B-5323
1/2 in	2 1/2 in	Mitered End	3B-5324
1/2 in	2 3/4 in	Mitered End	3B-5325
1/2 in	3 in	Mitered End	2H-3775
1/2 in	3 1/2 in	Mitered End	3B-5326
1/2 in	4 1/4 in	Square End	1J-2919
1/2 in	4 23/32 in	Mitered End	095-0872
1/2 in	5 1/2 in	Square End	3J-2985
5/8 in	3 in	Mitered End	3B-5327

## Yoke-Type Rod End/Inch



Diameter	A	B	C	D	Part Number	Nut	Pin Assy.	Clevis Pin	Retain. Clip	Retain. Pin	Cotter Pin
	Length to Pin Hole	Gap Size	Height	Width							
1/4 in	26.2 in	7.10 in	15.90 in	12.70 in	2M-4036	6V-8187	–	4B-3057	–	–	3B-4607
1/4 in	50.8 in	7.10 in	15.90 in	12.70 in	8B-3768	6V-8187	–	4B-3057	–	–	3B-4607
5/16 in	30.2 in	8.70 in	19.00 in	15.00 in	3D-9609	6V-8186	–	1A-2457	–	–	3B-4611
5/16 in	57.0 in	8.70 in	18.00 in	15.00 in	010-4037	6V-8186	–	1A-2457	–	–	3B-4611
3/8 in	34.9 in	11.10 in	22.20 in	17.50 in	1M-1341	6V-8183	8T-8932	1B-0676	–	–	3B-4615
3/8 in	63.5 in	11.10 in	22.20 in	17.50 in	1A-9252	6V-8183	–	1B-0676	–	–	3B-4617
1/2 in	46.0 in	14.30 in	28.60 in	23.90 in	2M-8340	7X-3374	–	8B-1419	–	6S-6646	3B-4617
1/2 in	76.2 in	14.30 in	28.60 in	23.90 in	6F-7010	7X-3374	–	8B-1419	–	6S-6646	3B-4617
5/8 in	57.9 in	17.50 in	34.90 in	30.20 in	4M-7930	5D-3183	–	9S-1315	–	–	3B-4617
5/8 in	125.4 in	17.50 in	34.90 in	30.20 in	9S-1314	5D-3183	–	9S-1315	–	–	3B-4617

## Yoke-Type Rod End/Metric

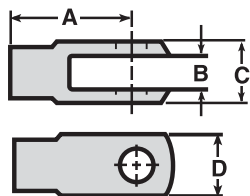


Diameter	A	B	C	D	Part Number	Nut	Pin Assy.	Clevis Pin	Retain. Clip	Retain. Pin	Cotter Pin
	Length to Pin Hole	Gap Size	Height	Width							
M12-LH	72.0 mm	12.0 mm	24.0 mm	24.0 mm	7X-0858	8T-4244	–	8T-6905, 7X-3161	8T-6903	6S-6646	3B-4615
M12	72.0 mm	12.0 mm	24.0 mm	24.0 mm	8T-4650	8T-4244	–	8T-6905, 7X-3161	8T-6903	6S-6646	3B-4615
M6	36.0 mm	6.0 mm	12.0 mm	12.0 mm	8T-4742	5C-2890	8T-4744	269-2892	8T-6902	–	–
M10	40.0 mm	10.0 mm	20.0 mm	20.0 mm	8T-4815	8T-4133	8T-4743	9R-2806	9R-2807	–	–
M10-LH	60.0 mm	10.0 mm	20.0 mm	20.0 mm	8C-6955	9X-2065	8T-5381	9R-2806	9R-2807	–	–
M10	60.0 mm	10.0 mm	20.0 mm	20.0 mm	8T-5063	8T-4133	9T-5381	9R-2806	9R-2807	–	–
M12	48.0 mm	12.2 mm	24.0 mm	24.0 mm	8C-3393	8T-4244	8C-3394	8T-6905, 7X-3161	8T-6903	6S-6646	3B-4615



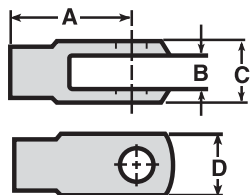
# Rod Ends

## Yoke-Type Rod End/Jump Sizes/Metric



Diameter	A	B	C	D	Part Number	Nut	Pin Assy.	Clevis Pin	Retain. Clip	Retain. Pin	Cotter Pin
	Length to Pin Hole	Gap Size	Height	Width							
M10 <sup>(1)</sup>	40.0 mm	10.0 mm	20.0 mm	20.0 mm	3E-3826	8T-4133	–	1B-0676	–	6S-6646	3B-4615

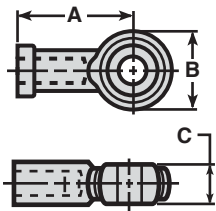
## Yoke-Type Rod End/Forged/Metric



Diameter	A	B	C	D	Part Number	Nut	Pin Assy.	Clevis Pin	Retain. Clip	Retain. Pin	Cotter Pin
	Length to Pin Hole	Gap Size	Height	Width							
M6 <sup>(2)</sup>	45.0 mm	7.1 mm	15.9 mm	13.0 mm	7X-2496	5C-2890	–	7X-2618	–	–	3B-4607
M10 <sup>(1)</sup>	34.9 mm	11.1 mm	22.2 mm	17.5 mm	169-0921	8T-4133	–	1B-0676	–	6S-6646	3B-7615
M10 <sup>(1)</sup>	63.5 mm	11.1 mm	22.2 mm	17.5 mm	8T-3988	8T-4133	–	1B-0676	–	6S-6646	3B-7615
M12 <sup>(3)</sup>	46.4 mm	14.3 mm	28.6 mm	23.9 mm	7X-7660	8T-4244	–	8B-1419	–	–	3B-4617

- 1 9.5 mm bore.
- 2 External thread.
- 3 12.7 mm bore.

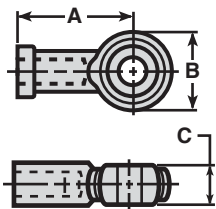
## Spherical Rod End/Inch



Diameter	A	B	C	Part Number
	Length to Pin Hole	Diameter	Height	
1/4 in	1.33 in	0.89 in	0.37 in	6L-7751
5/16 in	1.37 in	1.02 in	0.44 in	7H-3641
5/16 in	1.40 in	1.02 in	0.44 in	5P-6672
5/16 in	1.40 in	1.02 in	0.44 in	7L-4186
5/16 in	1.90 in	1.02 in	0.44 in	7E-9748
5/16 in	1.90 in	1.02 in	0.44 in	6V-8955
5/16 in	1.90 in	1.02 in	0.44 in	6V-9163
5/16 in	1.90 in	1.02 in	0.44 in	6L-3353
3/8 in	1.63 in	1.00 in	0.50 in	225-3770
3/8 in	1.63 in	1.00 in	0.50 in	225-3769
3/8 in	1.64 in	1.13 in	0.50 in	8C-7321

Diameter	A	B	C	Part Number
	Length to Pin Hole	Diameter	Height	
3/8 in	1.64 in	1.13 in	0.50 in	8C-7315
3/8 in	1.64 in	1.13 in	0.50 in	7X-7875
3/8 in	1.64 in	1.13 in	0.50 in	7X-7874
3/8 in	1.64 in	1.13 in	0.50 in	4D-4064
3/8 in	1.96 in	1.13 in	0.50 in	8C-6971
1/2 in	2.14 in	1.39 in	0.63 in	4D-4065
1/2 in	2.63 in	1.50 in	0.63 in	212-6854
5/8 in	2.52 in	1.57 in	0.75 in	2K-5804
5/8 in	2.63 in	1.50 in	0.75 in	125-6857
1 1/4 in	4.13 in	2.76 in	1.37 in	8C-1457

## Spherical Rod End/Metric

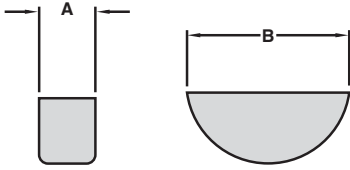


Diameter (mm)	A	B	C	Part Number
	Length to Pin Hole	Diameter	Height	
M6	29.0 mm	22.0 mm	9.0 mm	8C-3111
M6	29.0 mm	22.0 mm	9.0 mm	7U-2713
M6	30.0 mm	18.0 mm	9.0 mm	208-8479
M8	36.0 mm	24.0 mm	13.0 mm	381-2885
M8	36.0 mm	24.0 mm	13.0 mm	381-2911
M8	36.0 mm	22.0 mm	12.0 mm	7X-7915
M10	42.0 mm	30.0 mm	14.0 mm	132-0994
M10	42.0 mm	30.0 mm	14.0 mm	8T-6431
M10	47.0 mm	30.0 mm	14.0 mm	8C-5057
M12	50.0 mm	31.0 mm	16.0 mm	240-9815
M12	54.0 mm	30.0 mm	16.0 mm	102-8245
M12	49.0 mm	34.0 mm	16.0 mm	240-9816
M12	54.0 mm	34.0 mm	10.0 mm	279-0963

Diameter (mm)	A	B	C	Part Number
	Length to Pin Hole	Diameter	Height	
M12	49.0 mm	34.0 mm	19.0 mm	8C-3392
M14	63.0 mm	40.0 mm	14.0 mm	309-4481
M14	63.0 mm	40.0 mm	12.0 mm	309-4480
M14	50.0 mm	30.0 mm	16.0 mm	095-6591
M16	66.7 mm	37.9 mm	21.0 mm	098-5653
M16	63.0 mm	42.0 mm	21.0 mm	9R-4760
M20	77.0 mm	53.0 mm	25.0 mm	254-3355
M20	78.0 mm	53.0 mm	16.0 mm	260-3418
M20	78.0 mm	53.0 mm	16.0 mm	260-3417
M20	133.0 mm	50.8 mm	25.4 mm	390-7798
M24	94.0 mm	65.0 mm	20.0 mm	253-3745
M24	94.0 mm	65.0 mm	20.0 mm	253-3746
M42	270.0 mm	108.0 mm	51.0 mm	180-6758

# Woodruff Keys

## Woodruff Keys

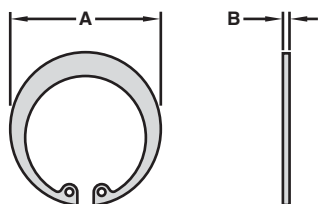


- Made of medium carbon steel and machined to a smooth finish.

A	B	MFG Number	Part Number
Thickness	Diameter		
1/16 in	5/16 in	206	4F-2291
1/16 in	3/8 in	211	3B-2098
1/8 in	3/8 in	212	1B-8735
1/8 in	3/8 in	213	5H-2532
1/8 in	1/2 in	2	8L-4000
1/8 in	1/2 in	2	3H-1489
1/8 in	1/2 in	2	1B-8701
1/8 in	1/2 in	3	1B-8702
1/8 in	5/8 in	4	1B-8703
1/8 in	5/8 in	5	1B-8704
1/8 in	3/4 in	7	1B-8706
3/16 in	8/13 in	–	8M-5599
3/16 in	5/8 in	6	1B-8705
3/16 in	3/4 in	8	1B-8707
3/16 in	3/4 in	9	1B-8708
3/16 in	3/4 in	9	5H-2671
3/16 in	7/8 in	10	1B-8709
3/16 in	7/8 in	11	1B-8710
3/16 in	1 in	13	1B-8712
3/16 in	1 1/8 in	16	1B-8715
1/4 in	3/4 in	91	2B-9373

A	B	MFG Number	Part Number
Thickness	Diameter		
1/4 in	7/8 in	A	1B-8736
1/4 in	7/8 in	–	094-4628
1/4 in	1 in	14	3K-4723
1/4 in	1 in	15	1B-8714
1/4 in	1 1/8 in	18	1B-8716
1/4 in	1 1/4 in	21	1B-8719
1/4 in	1 3/8 in	22	1B-8720
1/4 in	1 1/2 in	24	1B-8722
5/16 in	1 in	B	1H-6627
5/16 in	1 1/8 in	C	1B-8737
5/16 in	1 1/4 in	D	1B-8738
5/16 in	1 3/8 in	23	1B-8721
5/16 in	1 1/2 in	25	1B-8723
5/16 in	2 3/4 in	SX	1B-8742
3/8 in	1 1/4 in	E	1B-8739
3/8 in	1 3/8 in	F	1B-8740
3/8 in	1 1/2 in	G	1B-8741
3/8 in	2 3/4 in	T	1B-8743
3/8 in	2 3/4 in	TX	1B-8744
1/2 in	2 3/4 in	V	1B-8745

## Snap Rings/Internal/Inch



- Made of tempered carbon steel.

Bore Diameter	A	B	Part Number
	Free Diameter	Thickness	
<b>Tempered Basic</b>			
0.44 in	0.48 in	0.025 in	3D-8358
0.50 in	0.55 in	0.035 in	1S-1638
0.56 in	0.62 in	0.035 in	2R-1256
0.69 in	0.76 in	0.035 in	1H-4142
0.75 in	0.83 in	0.035 in	2M-8191
0.81 in	0.90 in	0.042 in	5S-4455
0.88 in	0.97 in	0.042 in	2L-6726
0.90 in	1.00 in	0.042 in	4L-1466
1.00 in	1.11 in	0.042 in	4D-1322
1.12 in	1.25 in	0.050 in	5S-1522
1.25 in	1.39 in	0.050 in	2D-6398
1.38 in	1.53 in	0.050 in	1L-3768
1.44 in	1.60 in	0.050 in	2H-1142
1.50 in	1.66 in	0.062 in	8N-7294
1.56 in	1.73 in	0.062 in	3K-9879
1.65 in	1.83 in	0.062 in	2R-1230
1.81 in	1.95 in	0.069 in	7X-2908
1.81 in	2.01 in	0.062 in	2D-5826
1.85 in	2.05 in	0.078 in	1L-8490
2.05 in	2.28 in	0.078 in	6J-7855
2.31 in	2.54 in	0.078 in	2D-6648
2.44 in	2.61 in	0.079 in	8T-9598
2.44 in	2.70 in	0.078 in	6L-8797
2.50 in	2.77 in	0.078 in	4D-1736
2.75 in	3.05 in	0.093 in	6K-3531
2.83 in	3.01 in	0.098 in	095-0942
2.83 in	3.12 in	0.093 in	2H-5549
3.00 in	3.33 in	0.093 in	2R-1236
3.15 in	3.37 in	0.098 in	2W-1145
3.16 in	3.52 in	0.109 in	1K-6985
3.25 in	3.62 in	0.109 in	8J-7636
3.35 in	3.56 in	0.118 in	6V-5590
3.50 in	3.89 in	0.109 in	3D-8341
3.54 in	3.76 in	0.118 in	8T-0707
3.56 in	3.94 in	0.109 in	1J-6472
3.88 in	4.29 in	0.109 in	1S-3311
3.88 in	4.29 in	0.109 in	9M-9935
3.94 in	4.36 in	0.109 in	5J-3964
4.00 in	4.42 in	0.109 in	7M-2275
4.13 in	4.41 in	0.157 in	8T-7567
4.33 in	4.76 in	0.109 in	5L-4751
4.53 in	4.80 in	0.157 in	9T-2584
4.72 in	5.21 in	0.109 in	067-3161

Bore Diameter	A	B	Part Number
	Free Diameter	Thickness	
4.92 in	5.20 in	0.157 in	3E-4334
5.00 in	5.49 in	0.109 in	2L-0043
5.12 in	5.39 in	0.109 in	8T-9044
5.50 in	6.07 in	0.125 in	8D-2258
5.91 in	6.22 in	0.157 in	109-0119
6.00 in	6.62 in	0.125 in	5L-4756
6.25 in	6.89 in	0.156 in	8J-8905
6.63 in	7.31 in	0.156 in	6V-4495
7.00 in	7.72 in	0.156 in	1L-7388
7.25 in	7.99 in	0.187 in	1U-4022
8.00 in	8.82 in	0.187 in	340-2376
8.25 in	9.09 in	0.187 in	9X-1802
8.27 in	8.74 in	0.197 in	3E-9400
9.06 in	9.53 in	0.197 in	101-2860
10.24 in	10.82 in	0.197 in	3E-9401
11.02 in	11.61 in	0.197 in	192-7145
11.42 in	12.01 in	0.197 in	103-8096
13.39 in	14.06 in	0.236 in	117-9750
–	2.35 in	0.078 in	3J-8500
–	2.53 in	0.079 in	250-2940
–	2.91 in	0.093 in	216-6148
–	3.05 in	0.094 in	8N-7296
–	3.32 in	0.093 in	253-1238
–	5.19 in	0.156 in	7C-1413
<b>Rectangular</b>			
0.69 in	0.73 in	0.035 in	3P-8485
2.17 in	2.38 in	0.125 in	6V-2832
2.31 in	2.48 in	0.078 in	7X-2495
3.08 in	3.41 in	0.124 in	290-9849
3.54 in	3.81 in	0.109 in	8C-3229
3.75 in	3.90 in	0.062 in	6V-0835
3.75 in	3.93 in	0.125 in	6V-5837
4.00 in	4.30 in	0.109 in	6V-6768
4.25 in	4.56 in	0.109 in	121-1257
4.45 in	4.66 in	0.125 in	4J-4968
4.63 in	4.94 in	0.109 in	121-1258
4.72 in	4.94 in	0.125 in	5P-6414
4.75 in	4.97 in	0.062 in	6V-0473
4.82 in	5.08 in	0.125 in	8E-1218
5.00 in	5.19 in	0.078 in	132-1183
5.12 in	5.36 in	0.156 in	3P-7313
5.32 in	5.44 in	0.098 in	8T-2151
5.50 in	5.69 in	0.210	8W-3074
5.51 in	5.75 in	0.156 in	5P-9957

Bore Diameter	A	B	Part Number
	Free Diameter	Thickness	
6.25 in	6.52 in	0.093 in	6V-0836
6.25 in	7.25 in	0.156 in	271-1440
6.30 in	6.57 in	0.093 in	7X-7608
6.48 in	6.83 in	0.125 in	236-2541
6.50 in	6.83 in	0.156 in	8T-1742
6.50 in	6.83 in	0.156 in	8C-4400
6.51 in	6.84 in	0.093 in	9W-3136
7.09 in	7.38 in	0.187 in	3E-3212
7.48 in	7.89 in	0.187 in	1Q-3332
7.50 in	7.89 in	0.086 in	185-2888
7.64 in	7.97 in	0.172 in	6V-2833
7.75 in	8.24 in	0.125 in	6V-1586
7.87 in	8.27 in	0.120 in	313-4918
7.90 in	8.31 in	0.125 in	188-0751
8.00 in	8.51 in	0.187 in	8C-6799
8.50 in	9.04 in	0.187 in	3E-4371
9.06 in	9.62 in	0.187 in	117-8806
10.00 in	10.35 in	0.076 in	261-3121
10.00 in	10.46 in	0.187 in	5P-8194
12.60 in	12.92 in	0.157 in	241-0163
16.75 in	17.09 in	0.078 in	183-6233
17.72 in	20.08 in	0.210 in	7G-5831
27.68 in	31.65	0.210 in	5P-7989
31.48 in	9.00 in	0.210 in	5T-4024
35.12 in	39.37 in	0.210 in	8X-0559
40.55 in	49.21 in	0.210 in	139-7645
–	1.34 in	0.197 in	6Y-2875
–	1.34 in	0.197 in	6Y-2115
–	1.71 in	0.252 in	8N-6739
–	2.29 in	0.120 in	4D-1186
–	2.39 in	0.078 in	4M-8010
–	2.50 in	0.125 in	1T-0895
–	3.00 in	0.126 in	234-0743
–	3.56 in	0.095 in	8F-1145
–	3.75 in	0.125 in	5H-0793
–	4.19 in	0.127 in	1H-9106
–	4.31 in	0.188 in	1P-9646
–	4.81 in	0.138 in	7Y-4672
–	4.83 in	0.093 in	533-4824
–	5.37 in	0.125 in	7J-3296
–	5.80 in	0.138 in	087-5393
–	5.91 in	0.333 in	6T-0364
–	6.13 in	0.120 in	3P-8218
–	7.07 in	0.125 in	1T-1232

# Snap Rings

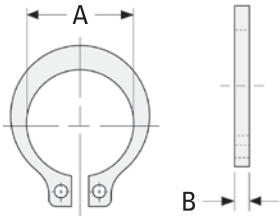
## Snap Rings/Internal/Inch (Cont'd.)

Bore Diameter	A	B	Part Number
	Free Diameter	Thickness	
–	7.77 in	0.210 in	8X-0563
–	8.19 in	0.125 in	5P-6047
–	8.94 in	0.197 in	09I-5224
–	10.63 in	0.157 in	144-4284
–	12.13 in	0.125 in	7G-1596
–	12.76 in	0.118 in	108-2736
–	13.78 in	0.125 in	3T-0007
–	14.87 in	0.125 in	1T-0896
–	15.51 in	0.156 in	115-0764
<b>Spiral</b>			
1.25 in	1.33 in	0.050 in	8H-1037
2.00 in	2.13 in	0.062 in	2D-0592
2.06 in	2.19 in	0.078 in	2K-6091
2.13 in	2.26 in	0.078 in	6H-9361
2.44 in	2.59 in	0.078 in	2D-1523
2.63 in	2.79 in	0.093 in	5S-7779
3.13 in	3.25 in	0.061 in	2J-7761

Bore Diameter	A	B	Part Number
	Free Diameter	Thickness	
3.35 in	3.55 in	0.111 in	4M-8910
3.56 in	3.78 in	0.111 in	066-5816
3.94 in	4.18 in	0.111 in	8S-9104
4.13 in	4.28 in	0.061 in	9M-6166
4.33 in	4.59 in	0.111 in	5M-4480
4.50 in	4.77 in	0.111 in	3K-2556
4.75 in	5.03 in	0.111 in	3K-2559
5.00 in	5.30 in	0.111 in	1M-8649
5.12 in	5.31 in	0.153 in	340-2367
5.12 in	5.44 in	0.127 in	5J-9454
5.25 in	5.56 in	0.127 in	2S-0613
5.75 in	5.95 in	0.072 in	9H-3452
6.00 in	6.31 in	0.127 in	7S-3004
7.00 in	7.37 in	0.156 in	340-2375
7.37 in	7.76 in	0.187 in	340-2382
8.25 in	8.68 in	0.187 in	340-2377
9.05 in	9.47 in	0.187 in	340-2378

Bore Diameter	A	B	Part Number
	Free Diameter	Thickness	
9.25 in	9.56 in	0.086 in	6V-7979
9.33 in	9.87 in	0.165 in	3W-2421
9.76 in	10.07 in	0.086 in	6P-8309
10.25 in	10.79 in	0.187 in	5P-9362
10.59 in	11.13 in	0.165 in	3W-2025
10.75 in	11.09 in	0.086 in	9M-1976
11.02 in	11.42 in	0.187 in	340-2381
13.52 in	14.07 in	0.187 in	5P-6651
14.29 in	14.76 in	0.111 in	9W-3301
14.96 in	15.52 in	0.111 in	8E-2827
15.43 in	15.92 in	0.111 in	7T-8004
17.09 in	17.65 in	0.111 in	7X-2627
18.61 in	19.30 in	0.187 in	5P-4041
19.53 in	20.15 in	0.111 in	7X-2628
–	12.76 in	0.187 in	5P-4256

## Snap Rings/External/Inch



- Made of tempered carbon steel.

Shaft Diameter	A	B	Part Number
	Free Diameter	Thickness	
0.25 in	0.22 in	0.025 in	6H-5829
0.38 in	0.34 in	0.025 in	2H-3429
0.44 in	0.40 in	0.025 in	4H-0094
0.44 in	0.43 in	0.035 in	8C-5061
0.47 in	0.43 in	0.025 in	6L-3801
0.50 in	0.46 in	0.059 in	6P-1037
0.56 in	0.52 in	0.035 in	3D-2975
0.59 in	0.55 in	0.035 in	2L-8509
0.62 in	0.58 in	0.035 in	8F-4610
0.75 in	0.69 in	0.042 in	2J-6356
0.81 in	0.75 in	0.042 in	9F-5444
0.94 in	0.87 in	0.042 in	6H-6109
0.98 in	0.89 in	0.079 in	3E-4332
0.98 in	0.91 in	0.042 in	1L-8497
1.00 in	0.93 in	0.042 in	001-5600
1.06 in	0.98 in	0.050 in	3K-8276
1.12 in	1.04 in	0.050 in	5L-4019
1.19 in	1.10 in	0.050 in	4M-5285
1.25 in	1.16 in	0.050 in	2M-4287
1.31 in	1.21 in	0.050 in	4D-8309
1.38 in	1.27 in	0.050 in	1J-6474
1.50 in	1.38 in	0.098 in	145-0909
1.56 in	1.45 in	0.062 in	2L-6965
1.62 in	1.50 in	0.062 in	9L-2336
1.69 in	1.56 in	0.062 in	5L-2931
1.77 in	1.64 in	0.062 in	2J-7550
1.81 in	1.68 in	0.062 in	5K-9106
1.85 in	1.69 in	0.120 in	253-3262
1.88 in	1.74 in	0.062 in	1K-6995
1.89 in	1.77 in	0.098 in	3E-3891
1.93 in	1.76 in	0.120 in	7T-7162
1.97 in	1.82 in	0.062 in	8L-9811
2.12 in	1.96 in	0.078 in	1K-6984
2.16 in	1.99 in	0.078 in	4K-4284
2.24 in	2.07 in	0.063 in	094-1399
2.50 in	2.31 in	0.078 in	5K-4627
2.56 in	2.32 in	0.120 in	9W-6927
2.56 in	2.38 in	0.078 in	6S-1753
2.62 in	2.43 in	0.078 in	1K-6992
2.74 in	2.68 in	0.142 in	8E-2144
2.75 in	2.54 in	0.093 in	5J-3864
2.80 in	2.50 in	0.120 in	5P-9862

Shaft Diameter	A	B	Part Number
	Free Diameter	Thickness	
2.94 in	2.72 in	0.093 in	7J-6580
3.02 in	2.79 in	0.126 in	147-5764
3.03 in	2.75 in	0.120 in	5P-9863
3.11 in	2.85 in	0.157 in	9W-5925
3.16 in	2.92 in	0.093 in	1N-8620
3.27 in	2.97 in	0.142 in	6Y-5790
3.35 in	3.09 in	0.093 in	9S-4368
3.35 in	3.15 in	0.157 in	9W-6277
3.50 in	3.24 in	0.109 in	5L-4753
3.55 in	3.35 in	0.157 in	9W-6278
3.62 in	3.35 in	0.109 in	7J-6525
3.74 in	3.58 in	0.126 in	315-6224
4.00 in	3.70 in	0.109 in	8F-1959
4.02 in	3.78 in	0.207 in	6V-2835
4.25 in	3.99 in	0.109 in	1N-5410
4.38 in	4.11 in	0.109 in	5H-5012
6.25 in	5.87 in	0.156 in	2L-0044
10.07 in	9.91 in	0.120 in	151-5729
–	0.16 in	0.020 in	1W-0565
–	0.21 in	0.020 in	7N-8821
–	0.33 in	0.026 in	4N-2953
–	0.40 in	0.059 in	2S-1387
–	0.52 in	0.035 in	7N-6825
–	0.61 in	0.060 in	3J-6008
–	0.62 in	0.038 in	4T-0933
–	0.62 in	0.083 in	096-4032
–	0.67 in	0.102 in	4N-7521
–	0.72 in	0.062 in	4F-3544
–	0.78 in	0.079 in	130-8150
–	0.78 in	0.105 in	4H-8158
–	0.91 in	0.060 in	6H-3455
–	0.91 in	0.060 in	1A-6235
–	1.06 in	0.236 in	243-2101
–	1.06 in	0.630 in	234-8962
–	1.34 in	0.090 in	1A-4590
–	1.37 in	0.120 in	2A-4758
–	1.44 in	0.091 in	191-2164
–	1.52 in	0.062 in	7S-4439
–	1.53 in	0.120 in	2B-9747
–	1.56 in	0.118 in	3T-2405
–	1.61 in	0.120 in	9W-6926
–	1.62 in	0.120 in	4B-1127

Shaft Diameter	A	B	Part Number
	Free Diameter	Thickness	
–	1.64 in	0.207 in	3K-9269
–	1.75 in	0.105 in	4K-1240
–	1.81 in	0.120 in	4B-1136
–	1.81 in	0.120 in	9W-6904
–	1.86 in	0.125 in	6S-3172
–	1.88 in	0.157 in	213-4227
–	1.90 in	0.207 in	3K-9263
–	2.01 in	0.126 in	197-0087
–	2.02 in	0.063 in	096-7380
–	2.14 in	0.135 in	4M-1709
–	2.16 in	0.125 in	5M-4443
–	2.16 in	0.207 in	6K-0468
–	2.25 in	0.125 in	6H-2953
–	2.26 in	0.188 in	3S-2619
–	2.28 in	0.095 in	3K-6701
–	2.31 in	0.120 in	4H-6195
–	2.33 in	0.188 in	4S-6712
–	2.36 in	0.126 in	195-6899
–	2.37 in	0.120 in	1M-1655
–	2.64 in	0.138 in	099-6975
–	2.69 in	0.187 in	6Y-1890
–	2.71 in	0.188 in	8S-6328
–	2.87 in	0.177 in	104-7336
–	3.09 in	0.207 in	7K-4520
–	3.15 in	0.187 in	4M-1708
–	3.19 in	0.120 in	165-0512
–	3.38 in	0.207 in	5K-7989
–	3.88 in	0.207 in	7S-2020
–	3.94 in	0.118 in	177-5241
–	3.98 in	0.250 in	8G-1259
–	4.25 in	0.188 in	2M-4480
–	4.44 in	0.188 in	2P-3421
–	4.78 in	0.250 in	8P-4608
–	4.86 in	0.250 in	7P-2781
–	5.32 in	0.138 in	155-9189
–	5.98 in	0.125 in	6P-3964
–	6.00 in	0.244 in	2B-7862
–	6.04 in	0.250 in	7P-4796
–	6.30 in	0.187 in	155-4881
–	6.46 in	0.079 in	136-2444

# Snap Rings

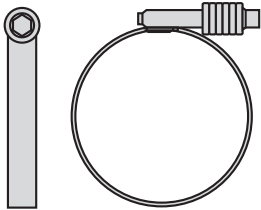
## Snap Rings/External/Inch (Cont'd.)

Shaft Diameter	A	B	Part Number
	Free Diameter	Thickness	
–	6.88 in	0.177 in	9C-7368

Shaft Diameter	A	B	Part Number
	Free Diameter	Thickness	
–	7.76 in	0.156 in	6P-7983
–	8.75 in	0.187 in	1J-6269

Shaft Diameter	A	B	Part Number
	Free Diameter	Thickness	
–	8.86 in	0.125 in	1W-2824

## Hose Clamps



Working Diameter	Part Number
<b>Belleville</b>	
17 - 32 mm (5/8 - 1 1/4 in)	159-1503
21 - 27 mm (7/8 - 1 1/16 in)	9X-2488
25 - 44 mm (1 - 1 3/4 in)	7X-7958
32 - 54 mm (1 1/4 - 2 1/8 in)	8T-4983
45 - 67 mm (1 3/4 - 2 5/8 in)	8T-6703
57 - 79 mm (2 1/4 - 3 1/8 in)	8T-4984
83 - 105 mm (3 1/4 - 4 1/8 in)	8T-4985
95 - 118 mm (3 6/8 - 4 5/8 in)	9X-2201
108 - 130 mm (4 1/4 - 5 1/8 in)	8T-4986
121 - 143 mm (4 3/4 - 5 5/8 in)	9X-6654
133 - 156 mm (5 1/4 - 6 1/8 in)	8T-4987
146 - 168 mm (5 3/4 - 6 5/8 in)	3E-7424
149 - 307 mm (5 7/8 - 12 1/8 in)	366-5879
159 - 181 mm (6 1/4 - 7 1/8 in)	8T-4988
172 - 194 mm (6 3/4 - 7 3/4 in)	124-2732
184 - 206 mm (7 1/4 - 8 1/8 in)	8T-4989
210 - 232 mm (8 1/ - 9 1/8 in)	8T-4990
248 - 270 mm (9 3/4 - 10 5/8 in)	116-8535
335 - 381 mm (13 1/4 - 15 in)	301-0402
<b>T-Bolt Spring</b>	
35.05 - 39.12 mm (1 3/8 - 1 1/2 in)	250-2952
36.5 - 39.6 mm (1 7/16 - 1 9/16 in)	222-6962
42.9 - 47.4 mm (1 11/16 - 1 7/8 in)	220-3246
44.5 - 49 mm (1 3/4 - 1 15/16 in)	216-1649
46 - 52.4 mm (1 13/16 - 2 1/16 in)	232-4901
47.6 - 53.7 mm (1 7/8 - 2 7/64 in)	222-1178
49.28 - 57.15 mm (1 15/16 - 2 1/4 in)	296-5807
52.4 - 58.5 mm (2 1/16 - 2 5/16 in)	221-5252
54.1 - 62 mm (2 1/8 - 2 7/16 in)	215-4012
55.6 - 63.5 mm (2 3/16 - 2 1/2 in)	263-9020
55.65 - 63.45 mm (2 3/16 - 2 1/2 in)	215-4011
57.2 - 65 mm (2 1/4 - 2 9/16 in)	212-6933
57.2 - 65 mm (2 1/4 - 2 9/16 in)	214-7457
58.6 - 66.6 mm (2 5/16 - 2 5/8 in)	212-6934
58.7 - 66.5 mm (2 5/16 - 2 5/8 in)	214-7458
60.4 - 68.4 mm (2 3/8 - 2 3/4 in)	217-6885
61.9 - 69.9 mm (2 7/16 - 2 3/4 in)	223-9985
61.9 - 69.9 mm (2 7/16 - 2 3/4 in)	216-6944

Working Diameter	Part Number
63.45 - 71.45 mm (2 1/2 - 2 13/16 in)	221-8571
63.5 - 71.4 mm (3 - 2 13/16 in)	215-4013
65.1 - 71.2 mm (2 9/16 - 2 13/16 in)	216-6945
68.25 - 76.25 mm (2 11/16 - 3 in)	226-0449
68.25 - 76.25 mm (2 11/16 - 3 in)	216-4983
68.3 - 78 mm (2 11/16 - 3 1/16 in)	324-3210
69.9 - 75.9 mm (2 3/4 - 3 in)	208-6054
69.9 - 77.7 mm (2 3/4 - 3 1/16 in)	320-0635
71.4 - 79.2 mm (2 13/16 - 3 1/8 in)	295-5550
71.4 - 79.2 mm (2 13/16 - 3 1/8 in)	209-4573
73.2 - 81 mm (2 7/8 - 3 3/16 in)	209-4574
74.6 - 82.5 mm (2 15/16 - 3 1/4 in)	209-4575
77.7 - 85.6 mm (3 1/16 - 3 3/8 in)	209-4577
79.5 - 87.4 mm (3 1/8 - 3 7/16 in)	208-6055
81 - 88.9 mm (3 3/16 - 3 1/2 in)	209-4578
82.55 - 90.45 mm (3 1/4 - 3 9/16 in)	209-4579
84.1 - 91.9 mm (3 5/16 - 3 5/8 in)	209-4580
85.9 - 93.7 mm (3 3/8 - 3 11/16 in)	209-4581
87.3 - 95.2 mm (3 7/16 - 3 3/4 in)	209-4582
90.5 - 98.4 mm (3 9/16 - 3 7/8 in)	254-5633
92.2 - 100 mm (3 5/8 - 3 15/16 in)	166-1153
93.7 - 101.6 mm (3 11/16 - 4 in)	209-4586
96.8 - 102.9 mm (3 13/16 - 4 3/64 in)	209-4588
98.4 - 104.5 mm (3 7/8 - 4 7/64 in)	209-4589
100 - 106.1 mm (4 - 4 1/8 in)	216-6947
103.12 - 111 mm (4 1/16 - 4 3/8 in)	307-9917
104.6 - 112.9 mm (4 1/8 - 4 7/16 in)	135-6259
104.65 - 112.78 mm (4 1/8 - 4 7/16 in)	208-7448
106.43 - 114.3 mm (4 3/16 - 4 1/2 in)	212-6932
109.5 - 115.6 mm (4 5/16 - 4 9/16 in)	209-4590
109.5 - 115.6 mm (4 5/16 - 4 9/16 in)	216-6946
112.7 - 120.6 mm (4 7/16 - 4 3/4 in)	230-3671
117.6 - 125.5 mm (4 5/8 - 5 in)	224-0807
120.65 - 128.52 mm (4 3/4 - 5 1/16 in)	250-2953
122.2 - 130 mm (4 13/16 - 5 1/8 in)	221-9208
128.5 - 136.4 mm (5 1/16 - 5 3/8 in)	222-2277
130.2 - 142.9 mm (5 1/8 - 5 5/8 in)	135-6260
130.3 - 138.2 mm (5 1/8 - 5 7/16 in)	219-0314
131.82 - 139.7 mm (5 3/16 - 5 1/2 in)	256-4448



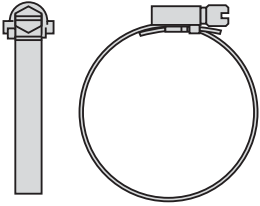
# Hose Clamps

## Hose Clamps (Cont'd.)

Working Diameter	Part Number
133.35 - 141.22 mm (5 1/4 - 5 9/16 in)	247-1925
134.87 - 142.75 mm (5 5/16 - 5 5/8 in)	239-5609
135 - 147 mm (5 5/16 - 5 13/16 in)	147-1685
136.22 - 144.53 mm (5 3/8 - 5 11/16 in)	246-8026
136.65 - 144.53 mm (5 3/8 - 5 11/16 in)	226-0087
141.22 - 149.09 mm (5 9/16 - 5 7/8 in)	237-0226
143 - 150.88 mm (5 5/8 - 5 15/16 in)	220-4125
150.11 - 155.45 mm (5 29/32 - 6 1/8 in)	220-4126
152.42 - 160.32 mm (6 - 6 5/16 in)	240-2651
155.7 - 163.6 mm (6 1/8 - 6 7/16 in)	219-0313
155.7 - 168.4 mm (6 1/8 - 6 1/2 in)	135-6261
158.7 - 164.9 mm (6 1/4 - 6 1/2 in)	214-0584
158.75 - 171.45 mm (6 1/4 - 6 3/4 in)	233-8350
160.3 - 168.1 mm (6 5/16 - 6 5/8 in)	216-2212
160.3 - 168.1 mm (6 5/16 - 6 5/8 in)	216-2211
163.6 - 176.3 mm (6 7/16 - 6 15/16 in)	231-3264
165.1 - 171.2 mm (6 1/2 - 6 3/4 in)	224-0808
169.93 - 182.63 mm (6 3/4 - 7 3/16 in)	233-8351
181.1 - 188.99 mm (7 1/8 - 7 7/16 in)	230-2536
184.15 - 192.02 mm (7 1/4 - 7 9/16 in)	251-4184
185.67 - 198.37 mm (7 1/4 - 7 13/16 in)	233-8482
187.45 - 195.33 mm (7 3/8 - 7 11/16 in)	231-5210
188.98 - 201.68 mm (7 7/16 - 7 15/16 in)	233-8483
196.85 - 209.55 mm (7 3/4 - 8 1/4 in)	233-8354
206.38 - 214.25 mm (8 1/8 - 8 7/16 in)	289-4013
208 - 220.7 mm (8 3/16 - 8 11/16 in)	323-3315
211.07 - 223.77 mm (8 5/16 - 8 13/16 in)	233-8484
215.9 - 228.6 mm (8 1/2 - 9 in)	254-0816

Working Diameter	Part Number
216.78 - 224.65 mm (8 17/32 - 8 27/32 in)	230-2535
222.25 - 234.95 mm (8 3/4 - 9 1/4 in)	233-8356
254 - 266.7 mm (10 - 10 1/2 in)	230-2534
265.18 - 277.88 mm (10 7/16 - 10 15/16 in)	233-8485
268.22 - 280.92 mm (10 1/2 - 11 1/16 in)	251-0039
287.66 - 307.98 mm (11 21/64 - 12 1/8 in)	232-1779
635 - 647 mm (25 - 25 1/2 in)	313-5058
Wave Liner	
25 - 38 mm (1 - 1 1/2 in)	289-9139
27 - 35 mm (1 1/16 - 1 3/8 in)	284-3502
33 - 48 mm (1 1/4 - 1 7/8 in)	335-8254
35 - 51 mm (1 3/8 - 2 in)	280-8911
39 - 57 mm (1 1/2 - 2 1/4 in)	300-6036
39 - 59 mm (1 1/2 - 2 5/16 in)	347-3148
46 - 67 mm (1 13/16 - 2 5/8 in)	347-4163
48 - 70 mm (1 7/8 - 2 3/4 in)	314-7599
51 - 76 mm (2 - 3 in)	335-9214
56 - 83 mm (2 3/16 - 3 1/4 in)	343-6821
60 - 89 mm (2 3/8 - 3 1/2 in)	347-4165
60 - 91 mm (2 3/8 - 3 9/16 in)	346-9043
69 - 102 mm (2 11/16 - 4 in)	343-1820
73 - 108 mm (2 7/8 - 4 1/4 in)	346-4789
76 - 114 mm (3 - 4 1/2 in)	346-4790
86 - 127 mm (3 3/8 - 5 in)	346-4791
94 - 140 mm (3 11/16 - 5 1/2 in)	346-4788
102 - 152 mm (4 - 6 in)	346-4792
124 - 173 mm (4 7/8 - 6 13/16 in)	342-9511

## Standard Hose Clamps



Working Diameter	Part Number
6 - 16 mm (1/4 - 5/8 in)	1P-4278
16 - 27 mm (5/8 - 1 1/16 in)	5D-1026
22 - 44 mm (7/8 - 1 3/4 in)	9M-7958
32 - 51 mm (1 1/4 - 2 in)	5P-2230
43 - 64 mm (1 11/16 - 2 1/2 in)	9M-0164
45 - 67 mm (1 3/4 - 2 5/8 in)	5P-0597

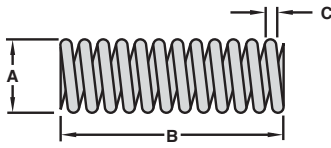
Working Diameter	Part Number
54 - 105 mm (2 1/8 - 4 1/8 in)	5P-0598
65 - 89 mm (2 9/16 - 3 1/2 in)	9M-7959
89 - 108 mm (3 1/2 - 4 1/4 in)	9M-6738
133 - 156 mm (5 1/4 - 6 1/8 in)	5P-0599
156 - 229 mm (6 1/8 - 9 in)	5P-0600

### Clamp Style Recommendations

- For low pressure joints, up to 7 PSI, a standard worm drive clamp is recommended.
- For joints with higher pressure, which does not exceed 50 PSI, a constant pressure style clamp is recommended (T-Bolt, Belleville, and Wave Liner).
- For pressure lines exceeding 50 PSI, a T-Bolt style clamp or hose assembly with crimped fittings should be used.

# Springs

## Springs/Compression



A	B	C	Part Number
Outside Diameter	Length	Wire Diameter	
<b>1/4 Inch</b>			
1/4 in	5/16 in	0.031 in	9N-1747
1/4 in	1/2 in	0.031 in	098-7468
1/4 in	9/16 in	0.031 in	3G-0670
1/4 in	3/4 in	0.031 in	7V-3827
1/4 in	1 in	0.063 in	4T-7794
1/4 in	1 5/16 in	0.063 in	1V-8784
1/4 in	1 1/2 in	0.031 in	9N-4049
1/4 in	2 13/16 in	0.063 in	8J-9273
<b>3/8 Inch</b>			
3/8 in	1/2 in	0.031	6B-3364
3/8 in	9/16 in	0.063	7M-3801
3/8 in	15/16 in	0.031	9S-1347
3/8 in	1 1/8 in	0.031	9L-6422
3/8 in	1 1/4 in	0.031	3N-6233
3/8 in	1 5/8 in	0.031	6N-8793
3/8 in	1 3/4 in	0.031	2V-3457
3/8 in	2 1/4 in	0.031	2L-4403
3/8 in	3 1/8 in	0.094	1P-9602
3/8 in	3 3/8 in	0.094	7B-9411
3/8 in	3 5/8 in	0.094	4M-5912
<b>1/2 Inch</b>			
1/2 in	1 in	0.031 in	5K-3918
1/2 in	1 1/4 in	0.031 in	5F-7464
1/2 in	1 1/2 in	0.063 in	6Y-0172
1/2 in	1 3/4 in	0.125	3G-7402
1/2 in	1 7/8 in	0.063	9M-1986
1/2 in	2 in	0.031	7M-7244
1/2 in	2 1/4 in	0.063	0L-1466
1/2 in	2 1/2 in	0.063	6P-7701
1/2 in	2 5/8 in	0.031	3N-5738
1/2 in	3 1/4 in	0.031	0L-1142
1/2 in	3 3/4 in	0.063	5B-1952
1/2 in	3 7/8 in	0.094	5J-9605
1/2 in	4 3/4 in	0.063	5M-6110
1/2 in	4 7/8 in	0.094	3T-7584
1/2 in	5 3/8 in	0.094	6T-1318
1/2 in	5 7/8 in	0.094	9S-9876

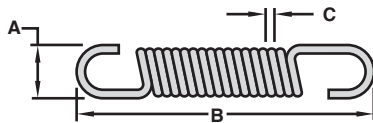
A	B	C	Part Number
Outside Diameter	Length	Wire Diameter	
<b>5/8 Inch</b>			
5/8 in	5/8 in	0.031	9N-6249
5/8 in	1 1/8 in	0.094	6S-8736
5/8 in	1 13/16 in	0.063	3F-8845
5/8 in	1 7/8 in	0.094	4F-9503
5/8 in	2 in	0.094	9W-1467
5/8 in	2 1/8 in	0.063	2P-5700
5/8 in	2 1/2 in	0.063	2F-5889
5/8 in	2 3/4 in	0.063	4F-6145
5/8 in	3 1/8 in	0.094	4J-4051
5/8 in	3 1/4 in	0.063	1W-6077
5/8 in	3 3/8 in	0.125	3P-7566
5/8 in	3 1/2 in	0.063	6P-9784
5/8 in	4 3/8 in	0.094	2P-4498
5/8 in	4 1/2 in	0.125	9T-1676
<b>3/4 Inch</b>			
3/4 in	7/8 in	0.031	4T-2684
3/4 in	1 in	0.125	6F-4294
3/4 in	1 3/8 in	0.031	3N-7848
3/4 in	1 1/2 in	0.094	7M-3496
3/4 in	1 5/8 in	0.125	5F-2201
3/4 in	2 in	0.063	5F-9035
3/4 in	2 1/4 in	0.094	7G-5378
3/4 in	2 3/8 in	0.125	9S-8237
3/4 in	2 1/2 in	0.125	1K-4476
3/4 in	2 5/8 in	0.125	3D-2777
3/4 in	2 7/8 in	0.063	8F-3398
3/4 in	3 7/8 in	0.063	2H-6117
3/4 in	4 in	0.125	1S-5646
3/4 in	4 1/2 in	0.031	9T-8208
3/4 in	4 7/8 in	0.094	2S-6538
<b>7/8 Inch</b>			
7/8 in	7/16 in	0.063	3P-8042
7/8 in	15/16 in	0.063	9P-9211
7/8 in	2 in	0.094	9S-8632
7/8 in	2 7/8 in	0.125	1W-9860

## Springs/Compression (Cont'd.)

A	B	C	Part Number
Outside Diameter	Length	Wire Diameter	
7/8 in	3 in	0.125	5N-3015
7/8 in	3 1/8 in	0.125	3P-0246
7/8 in	3 3/8 in	0.125	1W-2208
7/8 in	3 1/2 in	0.125	9L-9243
7/8 in	4 5/8 in	0.125	6B-8809
7/8 in	5 3/8 in	0.156	4D-7637
<b>1 Inch</b>			
1 in	5/8 in	0.063	9T-1699
1 in	7/8 in	0.125	7W-2110
1 in	1 in	0.094	7V-0444
1 in	1 1/8 in	0.094	9P-8308
1 in	1 1/4 in	0.094	6T-7221
1 in	1 3/8 in	0.094	7J-0736
1 in	1 1/2 in	0.125	1P-0620
1 in	1 5/8 in	0.063	4N-5663
1 in	1 3/4 in	0.125	1S-7592
1 in	1 7/8 in	0.063	9F-1993

A	B	C	Part Number
Outside Diameter	Length	Wire Diameter	
1 in	2 in	0.094	2S-8398
1 in	2 1/8 in	0.125	9T-2168
1 in	2 1/4 in	0.156	8H-9488
1 in	2 3/8 in	0.094	2J-0075
1 in	2 5/8 in	0.125	3V-5498
1 in	2 3/4 in	0.094	8J-3819
1 in	3 in	0.094	4J-7066
1 in	3 1/8 in	0.094	5J-3719
1 in	3 1/4 in	0.094	8J-1705
1 in	3 1/2 in	0.156	9T-1848
1 in	3 3/4 in	0.094	5J-3419
1 in	4 in	0.063	4B-4910
1 in	4 3/4 in	0.094	8J-6728
1 in	5 in	0.063	3L-4521
1 in	5 1/4 in	0.094	8J-5839
1 in	5 1/2 in	0.188	6N-1320
1 in	6 1/8 in	0.156	2S-2760

## Springs/Extension



A	B	C	Part Number
Outside Diameter	Length	Wire Diameter	
<b>5/16 Inch</b>			
5/16 in	1 1/4 in	0.035 in	7F-7613
5/16 in	1 7/16 in	0.031 in	1A-3540
<b>3/8 Inch</b>			
3/8 in	1 1/2 in	0.063 in	1A-1376
3/8 in	4 9/32 in	0.047 in	5H-4291
<b>1/2 Inch</b>			
1/2 in	1 1/4 in	0.063 in	8L-8491
1/2 in	2 in	0.063 in	1A-0302
<b>9/16 Inch</b>			
9/16 in	1 5/8 in	0.063 in	5M-9708
<b>11/16 Inch</b>			
11/16 in	4 in	0.094 in	1D-1313
11/16 in	6 in	0.094 in	7D-5289

A	B	C	Part Number
Outside Diameter	Length	Wire Diameter	
<b>3/4 Inch</b>			
3/4 in	2 5/32 in	0.063 in	1A-8189
<b>25/32 Inch</b>			
25/32 in	3 3/4 in	0.094 in	1F-4449
<b>7/8 Inch</b>			
7/8 in	3 1/4 in	0.094 in	8Y-4581
7/8 in	4 in	0.125 in	7G-1251
<b>1 Inch</b>			
1 in	4 in	0.094 in	009-2445
<b>1 3/6 Inch</b>			
1 3/6 in	5 5/32 in	0.156 in	9P-9185

# Springs

## Springs Extension/Crossover Loop

Outside Diameter	Length	Wire Diameter	End Configuration	Spring End Orientation	Part Number
3/4 in	4 17/64 in	0.091 in	Crossover Loop	360	1M-0437
49/64 in	8 29/64 in	0.091 in	Crossover Loop	180	4M-4014
1 in	7 1/7 in	0.120 in	Crossover Loop	90	4B-6493
1 1/16 in	8 3/4 in	0.105 in	Crossover Loop	360	9H-6700
1 3/32 in	5 13/32 in	0.091 in	Crossover Loop	360	5K-5697
1 1/2 in	7 in	0.148 in	Crossover Loop	360	119-0952

## Springs Extension/Machine Hook

Outside Diameter	Length	Wire Diameter	End Configuration	Spring End Orientation	Part Number
15/32 in	2 1/16 in	0.047 in	Machine Hook	180	9D-1058
15/32 in	2 5/8 in	0.048 in	Machine Hook	90	4F-6123
31/64 in	1 1/4 in	0.059 in	Machine Hook	180	8L-8491
1/2 in	2 3/4 in	0.048 in	Machine Hook	90	3W-6485
1/2 in	2 61/64 in	0.072 in	Machine Hook	360	1S-6889
1/2 in	5 29/64 in	0.058 in	Machine Hook	360	9L-6626
17/32 in	1 9/16 in	0.047 in	Machine Hook	90	8P-2290
9/16 in	1 5/8 in	0.072 in	Machine Hook	180	5M-9708
9/16 in	2 1/8 in	0.076 in	Machine Hook	90	2G-3765
9/16 in	2 11/32 in	0.072 in	Machine Hook	360	2P-3682
9/16 in	3 in	0.062 in	Machine Hook	90	9L-7372
9/16 in	3 7/8 in	0.055 in	Machine Hook	180	203-7559
9/16 in	4 1/4 in	0.063 in	Machine Hook	180	106-0070
37/64 in	2 9/16 in	0.098 in	Machine Hook	360	4M-8799
5/8 in	2 19/64 in	0.091 in	Machine Hook	180	2S-1381
21/32 in	3 5/16 in	0.120 in	Machine Hook	90	6W-5817
11/16 in	1 43/64 in	0.062 in	Machine Hook	180	3B-9762
11/16 in	2 in	0.076 in	Machine Hook	360	8M-1019
11/16 in	2 in	0.078 in	Machine Hook	360	8C-3442
11/16 in	3 15/16 in	0.091 in	Machine Hook	180	1D-1313
11/16 in	4 3/4 in	0.091 in	Machine Hook	90	8D-8456
11/16 in	6 in	0.091 in	Machine Hook	180	7D-5289
45/64 in	1 29/32 in	0.063 in	Machine Hook	90	3Y-2806
23/32 in	2 9/32 in	0.080 in	Machine Hook	90	1U-1648
3/4 in	3 15/32 in	0.079 in	Machine Hook	180	159-9875
3/4 in	7 1/2 in	0.331 in	Machine Hook	90	7G-6942
25/32 in	3 13/64 in	0.024 in	Machine Hook	180	8Y-4581
51/64 in	3 7/64 in	0.207 in	Machine Hook	180	8W-2823
13/16 in	2 23/64 in	0.069 in	Machine Hook	180	176-2447
7/8 in	2 61/64 in	0.135 in	Machine Hook	360	318-9461
7/8 in	4 1/8 in	0.120 in	Machine Hook	180	7G-1251
7/8 in	5 1/4 in	0.120 in	Machine Hook	360	1H-2348
15/16 in	3 27/32 in	0.438 in	Machine Hook	360	3W-4324
1 in	5 17/64 in	0.120 in	Machine Hook	360	9R-1587
1 in	5 1/2 in	0.115 in	Machine Hook	180	141-6343
1 3/32 in	3 in	0.091 in	Machine Hook	180	6K-1898
1 3/32 in	3 1/8 in	0.160 in	Machine Hook	360	194-7034
1 1/8 in	4 7/8 in	0.148 in	Machine Hook	360	9D-2641
1 1/8 in	11 in	0.135 in	Machine Hook	90	6K-1961
1 5/32 in	4 59/64 in	0.157 in	Machine Hook	90	090-8612

## Springs Extension/Machine Hook (Cont'd.)

Outside Diameter	Length	Wire Diameter	End Configuration	Spring End Orientation	Part Number
1 5/32 in	5 5/32 in	0.162 in	Machine Hook	180	9P-9185
1 3/16 in	5 11/32 in	0.138 in	Machine Hook	180	296-5446
1 1/4 in	5 1/2 in	0.162 in	Machine Hook	180	149-2065
1 1/4 in	6 5/16 in	0.162 in	Machine Hook	360	2J-2664
1 19/64 in	2 25/32 in	0.156 in	Machine Hook	360	111-3780
1 19/64 in	6 1/64 in	0.234 in	Machine Hook	360	103-4867
1 11/32 in	6 3/4 in	0.162 in	Machine Hook	360	7B-5594
1 13/32 in	12 1/2 in	0.156 in	Machine Hook	90	5H-6044
1 5/8 in	5 27/32 in	0.207 in	Machine Hook	360	4E-8340
1 5/8 in	10 3/16 in	0.187 in	Machine Hook	90	4F-2943
2 in	11 33/64 in	0.263 in	Machine Hook	360	125-5071
2 1/8 in	13 in	0.283 in	Machine Hook	180	344-6306
2 1/2 in	9 1/16 in	0.225 in	Machine Hook	180	6G-0254
3 in	19 11/16 in	0.394 in	Machine Hook	90	229-0108

## Springs Extension/Machine Loop

Outside Diameter	Length	Wire Diameter	End Configuration	Spring End Orientation	Part Number
1/2 in	1 39/64 in	0.062 in	Machine Loop	90	4H-3521
1/2 in	2 in	0.062 in	Machine Loop	180	1A-0302
5/8 in	3 3/4 in	0.080 in	Machine Loop	360	4M-1768
5/8 in	4 1/16 in	0.080 in	Machine Loop	360	4S-8569
21/32 in	5 13/32 in	0.072 in	Machine Loop	360	5N-5291
3/4 in	5 1/4 in	0.080 in	Machine Loop	90	7D-9722
1 5/32 in	4 29/32 in	0.157 in	Machine Loop	90	419-9829

# Kits

## Hardware Bin Kits

Two different Hardware Bin Kits are available for customers who want to stock hardware bins for their service departments and/or service vehicles with various quantities of popular sizes of Cat bolts, nuts and washers. Kits available:

### 3E-6640 - Inch - Coarse Hardware Bin Kit

- Include frequently used o-ring sizes, reducing the need to order individual seals
- Ideal for filling a bin solution in a service shop or on a service truck.
- Exceed SAE and other seal specifications, ensuring longer life and lower costs per hour

Part Number	Thread	Coating	Contains	Pieces	Bolt Head
3E-6640	Inch - Coarse	Phosphate and Oil	59 Part Numbers	1735	Hex

3E-6640 Kit Contents		
Part Number	Description	Qty.
0S-0509	Bolt	25
0S-1587	Bolt-Hex Head	15
0S-1589	Bolt	10
0S-1592	Bolt	10
0S-1594	Bolt-Hex Head	25
0S-1595	Bolt	15
0S-1615	Bolt	25
0S-1616	Bolt	25
0S-1617	Bolt	25
0S-1618	Bolt	25
0T-0318	Bolt	25
0T-0319	Bolt	25
0T-0320	Bolt	25
0T-0772	Bolt	25
0V-0375	Bolt	10
1A-0458	Bolt	5
1A-5822	Bolt	15
1A-8537	Bolt	10
1A-9579	Bolt	25
1B-2714	Bolt	25
1B-7182	Bolt	25
1D-4538	Bolt	25
1D-4585	Bolt	10
1D-4608	Bolt	5
1D-4610	Bolt	5
1D-4638	Bolt	5
1D-4639	Bolt	5
1D-4703	Bolt	15
1F-7958	Nut-Hex	50
2A-1538	Bolt	5

3E-6640 Kit Contents		
Part Number	Description	Qty.
2B-0947	Bolt-Hex Head	15
2B-2694	Bolt	25
2J-3506	Nut-Hex	25
2J-3507	Nut-Hex	20
3S-1546	Nut-Hex	50
4F-5192	Bolt	15
4K-0367	Nut-Hex	25
5M-2894	Washer-Hard	100
5P-0537	Washer-Hard	100
5P-8244	Washer-Hard	100
5P-8245	Washer-Hard	50
5P-8247	Washer-Hard	25
5P-8248	Washer-Hard	25
5P-8250	Washer-Hard	20
5S-0003	Nut-Hex	100
6I-6371	Bolt-Hex Head	5
7B-2742	Bolt	25
7F-5227	Bolt	5
7Y-1136	Bolt	5
8B-2377	Bolt	25
8S-9092	Bolt-Hex Head	10
9F-7022	Bolt	25
9M-1974	Washer-Hard	100
9S-8750	Nut-Hex	100
9S-8752	Nut-Hex	100
165-3928	Bolt-Hex Head	25
165-3929	Bolt-Hex Head	25
165-3932	Bolt-Hex Head	25
261-5615	Bolt-Hex Head	25

### 3E-9422 - Metric - Coarse Hardware Bin Kit

- Include frequently used o-ring sizes, reducing the need to order individual seals
- Come in individual compartments with a rugged Steel container that latches shut for protection
- Exceed SAE and other seal specifications, ensuring longer life and lower costs per hour

Part Number	Thread	Coating	Contains	Pieces	Bolt Head
3E-9422	Metric - Coarse	Phosphate and Oil	38 Part Numbers	1580	Hex

3E-9422 Kit Contents		
Part Number	Description	Qty.
2Y-5829	Nut-Hex	50
5P-7970	Nut-Hex	50
5P-8245	Washer-Hard	100
6V-1820	Bolt	25
6V-2317	Bolt-Hex Head	25
6V-3531	Bolt-Hex Head	10
6V-3668	Bolt	15
6V-3669	Bolt	10
6V-3823	Bolt-Hex Head	15
6V-3940	Bolt-Hex Head	25
6V-4248	Bolt	25
6V-4249	Bolt-Hex Head	25
6V-4429	Bolt-Hex Head	15
6V-5217	Bolt-Hex Head	25
6V-5219	Bolt-Hex Head	25
6V-5230	Bolt-Hex Head	25
6V-5696	Bolt	15
6V-5839	Bolt-Hex Head	200
6V-6317	Bolt	25

3E-9422 Kit Contents		
Part Number	Description	Qty.
6V-7673	Bolt-Hex Head	15
6V-7742	Nut-Hex (Full)	15
6V-8149	Nut-Hex	25
6V-8197	Bolt-Hex Head	15
6V-8214	Bolt-Hex Head	25
6V-8225	Nut-Hex	50
6V-8837	Bolt-Hex Head	25
6V-9667	Bolt-Hex Head	10
8T-0207	Bolt	15
8T-0281	Bolt-Hex Head	15
8T-0639	Bolt-Hex Head	25
8T-0640	Bolt-Hex Head	25
8T-1757	Nut-Hex	25
8T-3282	Washer-Hard	50
9M-1974	Washer-Hard	200
9X-8267	Washer-Hard	200
9X-8268	Washer-Hard	100
178-3707	Bolt-Hex Head	15

### 606-0849 Washer Kit (M6-M12)



- Include frequently used Fasteners sizes ( )
- Come in individual compartments with a rugged plastic container that latches shut for protection.
- Exceed SAE and other seal specifications, ensuring longer life and lower costs per hour.

Part Number	Thread	Coating	Contains	Pieces
606-0849	All	Zinc Flake	9 Part Numbers	150

606-0849 Kit Contents		
Part Number	Description	Qty.
5P-1076	Washer-Hard	15
5P-4116	Washer-Hard	20
7X-7729	Washer-Hard	15
8T-4121	Washer-Hard	15
8T-4223	Washer-Hard	15

606-0849 Kit Contents		
Part Number	Description	Qty.
8T-4224	Washer-Hard	20
9X-8256	Washer-Hard	20
198-4777	Washer-Hard	4
198-4778	Washer-Hard	4



# Kits

## 606-0855 Flat Washer Kit (M12-M30)



- Include frequently used o-ring sizes, reducing the need to order individual seals.
- Come in individual compartments with a rugged plastic container that latches shut for protection.
- Exceed SAE and other seal specifications, ensuring longer life and lower costs per hour.

Part Number	Thread	Coating	Contains	Pieces
606-0855	All	Zinc Flake	10 Part Numbers	150

606-0855 Kit Contents		
Part Number	Description	Qty.
5P-1076	Washer-Hard	15
8T-4123	Washer-Hard	15
8T-4167	Washer-Hard	15
8T-4223	Washer-Hard	15
9X-8257	Washer-Hard	15

606-0855 Kit Contents		
Part Number	Description	Qty.
9X-8258	Washer-Hard	15
198-4778	Washer-Hard	4
198-4780	Washer-Hard	4
198-4781	Washer-Hard	4
267-3507	Washer-Hard	4

## Hardware Shop and Field Kits

Five different Hardware Shop/Field Kits are available for small repair shops or field service vehicles. Kits contain assortments of popular sizes of Cat bolts with matching washers and nuts, in phosphate and oil coatings. The hardware is packaged in a rugged metal box with hinged metal cover and latch. Inch Hardware Kits come in two sizes, small and large, depending on the quantity of hardware in the kit.

Kits available:

Part Number	Thread	Coating	Size	Contains	Pieces
178-2207	Inch - Fine	Phosphate and oil	Large	24 Part Numbers	476
178-2209	Inch - Coarse	Phosphate and oil	Small	27 Part Numbers	502
178-2210	Inch - Coarse	Phosphate and oil	Large	34 Part Numbers	936
178-2211	Metric - Coarse	Phosphate and oil	Small	32 Part Numbers	630



- Quickly identifies hardware thread diameter and pitch
- Four holes on mounting base for easy attachment to retail parts counter, service shop tool crib, or field service truck

<b>Dimensions (L x H x W)</b>	<b>609 mm (24 in) x 101 mm (4 in) x 76 mm (3 in)</b>
Metric:	
Media literature number	250-6866
Range	16 mm-2.0 to 4 mm-0.7
No. of bolt sizes	15
Inch:	
Media literature number	250-6865
Range	3/4-16 to #6-32
No. of bolt sizes	21
Sheet metal/wood screw sizes	5

