

FASTENERS FOR EARTHMOVING



**PRODUCTS INGEPA, HELP YOU
MAINTAIN YOUR INVESTMENTS**



PLOW BOLTS



HIGH TENSILE BOLTS



TRACK BOLTS



SPLIT LINK BOLTS



SPROCKET / SEGMENT BOLT

EARTHMOVING FASTENERS

CATERPILLAR / FIAT ALLIS – CNH –NEW HOLLAND
KOMATSU / VOLVO / JOHN DEERE / LIEBHERR

PLOW BOLTS

INGEPAL manufacture an extensive range of plow bolts that meet and exceed the OEM requirements for cutting edges in Brazil for the earthmoving industry

TRACK BOLTS

INGEPAL manufacture an extensive range of both Imperial and Metric Track / Segment and Split link bolts and nuts (over 7/8" diameter) that meet and exceed the OEM requirements in Brazil for the earthmoving industry.

Heat treatment is a critical process on all earthmoving fasteners and is statistically controlled throughout INGEPALExtensive in-house heat treatment facilities. All Heat treated parts are continuous belt controlled and tested through INGEPALE full laboratory.

- INGEPALE earthmoving products are manufactured from only high grade quality alloy steel for the added toughness and durability in service .
- Superior fatigue resistance in all bolt products is achieved by the cold forged head and generous fillet radius and also the roll-formed threads. All steel micro structures are fully analysed prior to commencement of production to ensure no material defects exist.

INGEPAL

BEST QUALITY IN FASTENERS
56 YEARS - 2016

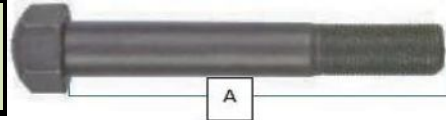
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TRACK BOLTS & NUTS



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Track Bolts Inch



Thread Size (in-TPI)	A	Part Number CAT	Part Number BERCO
	Bolt Length		
1/2 - 20	35 mm (1.38 in)	102-8072	
1/2 - 20	38.1 mm (1.50 in)	3A-9605	
1/2 - 20	38.1 mm (1.50 in)	8H-7504	IN2760
9/16 - 18	41.4 mm (1.63 in)	4K-7038	CR4595
9/16 - 18	50.8 mm (2 in)	8S-4745	CR429
5/8 - 18	51 mm (2.01 in)	7H-3597	CR1251
5/8 - 18	55.1 mm (2.17 in)	9G-3110	AC226

Thread Size (in-TPI)	A	Part Number CAT	Part Number BERCO
	Bolt Length		
3/4 - 16	54.8 mm (2.16 in)	1S-1859	CR1105
3/4 - 16	60.9 mm (2.40 in)	6V-1792	CR4441
3/4 - 16	61.2 mm (2.41 in)	7H-3598	CR2221
7/8 - 14	67.5 mm (2.66 in)	7H-3599	CR1000
7/8 - 14	71.1 mm (2.80 in)	5P-4028	
7/8 - 14	87.1 mm (3.43 in)	6V-1723	CR4135
1-14	74.6 mm (2.94 in)	2M-5657	CR1269
1-14	78.9 mm (3.11 in)	3T-6308	-
1-14	89.9 mm (3.54 in)	6T-2638	CR4670
1-14	96.7 mm (3.81 in)	6V-1726	CR4036
1 1/8 - 12	96 mm (3.78 in)	7T-1000	CR5167
1 1/8 - 12	106.9 mm (4.21 in)	5P-3868	
1 1/8 - 12	133.0 mm (5.1/4")	7T-0999	CR5258
1 1/8 - 12	164.0 mm (6.1/2")	7T-0998	CR5257
1 3/8 - 12	109.2 mm (4.30 in)	6T-8853	CR5637
1 3/8 - 12	120.1 mm (4.73 in)	6I-8648	
1 3/8 - 12	154.0 mm (6" in)	6T-8521	CR5640
1 3/8 - 12	184.0 mm (7.1/4 in)	6T-8520	CR5639



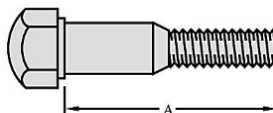
NUTS			
Thread Size (in-TPI)	A	Part Number CAT	Part Number BERCO
	Nut Diameter		
7/8"	7/8" SQUARE	2S-2140	CR1969
7/8"	7/8" SQ heavy duty cone	7G-6442	CR4136
1.1/8 NUT	1.1/8 SQ heavy duty cone	5P-8221	cr3835
1.3/8 - 12	1.3/8" SQ heavy duty cone	3T-6292	CR5638



All names, descriptions, numbers and symbols are used for reference purposes only



Track Bolts Inch Self Cleaning Shoes



Thread Size (in-TPI)	A	Part Number CAT	Part Number BERCO
	Bolt Length		
9/16 - 18	41.4 mm (1.63 in)	4K-7038	CR4595
9/16 - 18	76.2 mm (3 in)	5A-3187	CR4746 /VA551
5/8 - 18	51 mm (2.3/32 in)	7H-3597	CR1251
5/8 - 18	55.1 mm (2.5/32 in)	9G-3110	AC226
5/8 - 18	84 mm (3.31 in)	5A-4104	
5/8 - 18	89.9 mm (3.54 in)	3T-3884	
3/4 - 16	54.8 mm (2.16 in)	1S-1859	CR1105
3/4 - 16	60.9 mm (2.40 in)	6V-1792	CR4441
3/4 - 16	61.2 mm (2.41 in)	7H-3598	CR2221
3/4 - 16	91.9 mm (3.62 in)	107-0718	
3/4 - 16	99 mm (3.90 in)	5A-7524	ID1295
3/4 - 16	104.1 mm (4.10 in)	5P-1028	
3/4 - 16	104.9 mm (4.13 in)	6T-2162	
7/8 - 14	67.5 mm (2.66 in)	7H-3599	CR1000
7/8 - 14	109.9 mm (4.33 in)	116-8145	

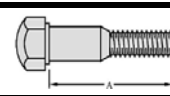


Track Bolts / Metric



Thread Size (in-TPI)	A	Part Number CAT	Part Number BERCO
	Bolt Length		
M14 × 1.50	35 mm	136-2401	OK20
M16 × 1.50	46 mm	4I-7538	
M16 × 1.50	55 mm	096-1043	KM1654
M18 × 1.50	58 mm	093-0262	FT981
M20 × 1.50	55 mm	9W-3619	CR5437
M20 × 1.50	63 mm	093-0266	SI431
M20 × 1.50	70 mm	093-0265	
M22 × 1.50	67 mm	6Y-9024	CR9024
M22 × 1.50	73 mm	143-4891	
M22 × 1.50	78 mm	093-0268	
M24 × 1.50	67 mm	150-4741	CR6603
M24 × 1.50	81 mm	093-0271	
M27 × 2.00	78 mm	144-0805	
M27 × 2.00	90 mm	6Y-7432	CR6361
M30 X 2,00	96 mm	174-0221	KM1362 KM1999
M30 X 2,00	167 mm	X	KM1361 KM2000
M30 X 2,00	38,5 mm	174-0222	KM1998
M33 X 2,00	167 mm	X	KM3193
M33 X 2,00	42,5 mm	X	KM2029

Track Bolts / Metric Self Cleaning Shoes



Thread Size (in- TPI)	A	Part Number CAT	Part Number BERCO
	Bolt Length		
M16 × 1.50	68 mm	093-0259	
M16 × 1.50	108 mm	093-0261	
M18 × 1.50	90 mm	093-0264	
M20 × 1.50	55 mm	9W-3619	CR5437
M20 × 1.50	63 mm	6Y-0846	KM3414/CR5496
M20 × 1.50	80 mm	8E-9349	
M20 × 1.50	108 mm	096-0551	
M20 × 1.50	110 mm	6Y-5686	
M22 × 1.50	67 mm	6Y-0924	
M22 × 1.50	110 mm	5Q-3253	



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NUTS : Heavy Duty Cone



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Split Master Bolts Inch

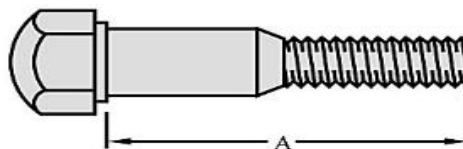


Thread Size (in-TPI)	A	Part Number CAT	Part Number BERCO
	Bolt Length		
9/16 - 18	76.2 mm (3 in)	5A-3187	CR4746 VA551
9/16 - 18	88.9 mm (3.50 in)	8S-4747	
5/8 - 18	67 mm (2.64 in)	3T-8601	CR4357
5/8 - 18	83 mm (3.27 in)	9G-8592	CR5573
3/4 - 16	74 mm (2.91 in)	106-1642	
3/4 - 16	99 mm (3.90 in)	107-0719	
3/4 - 16	105 mm (4.13 in)	9S-1838	CR3326
3/4 - 16	113 mm (4.45 in)	2P-9670	CR3119
7/8 - 14	116 mm (4.57 in)	9W-9058	
3/4 - 16	80 mm (3.15 in)	6V-1793	CR4440

Thread Size (in-TPI)	A	Part Number CAT	Part Number BERCO
	Bolt Length		
5/8 - 18	88.9 mm (3.50 in)	3P-2274	CR3570
5/8 - 18	91 mm (3.58 in)	3T-8580	CR3570
7/8 - 14	123 mm (4.84 in)	8S-0395	CR2709
7/8 - 14	87.1 mm (3.43 in)	6V-1723	CR4135
7/8 - 14	96 mm (3.78 in)	6V-1724	CR4132
7/8 - 14	129 mm (5.08 in)	6V-1725	CR4133
1-14	123 mm (4.84 in)	7T-2283	CR4669
1-14	87 mm (3.43 in)	8S-1723	CR2669
1-14	148 mm (5.83 in)	6V-1728	
1 1/8 - 12	134 mm (5.28 in)	7T-0999	CR5258
1 1/8 - 12	164 mm (6.46 in)	7T-0998	CR5257
1 1/8 - 12	168 mm (6.61 in)	5P-8222	
1 3/8 - 12	183 mm (7.20 in)	6T-8520	CR5639
1 3/8 - 12	153 mm (6.02 in)	6T-8521	CR5640

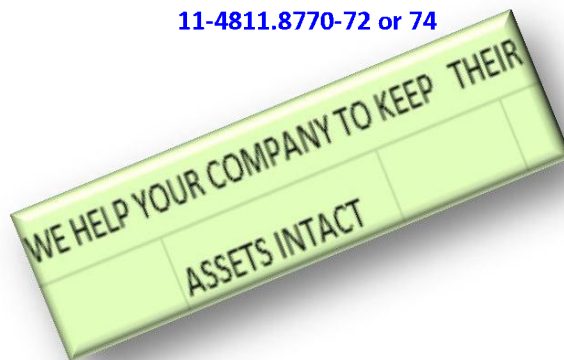
Split Master Link Bolts - Inch Self Cleaning Shoes

Thread Size (in-TPI)	A	Part Number CAT	Part Number BERCO
	Bolt Length		
9/16 - 18	76.2 mm (3 in)	5A-3187	CR4746 VA551
9/16 - 18	109 mm (4.29 in)	5P-4683	
5/8 - 18	83 mm (3.27 in)	9G-8592	CR5573
5/8 - 18	88.9 mm (3.50 in)	3P-2274	CR3570
5/8 - 18	91 mm (3.58 in)	3T-8580	CR3570
5/8 - 18	102 mm (4.02 in)	3T-3889	
5/8 - 18	117.5 mm (4.63 in)	5P-0569	
3/4 - 16	109 mm (4.29 in)	107-0717	
3/4 - 16	99 mm (3.90 in)	107-0719	
3/4 - 16	105 mm (4.13 in)	9S-1838	CR3326
3/4 - 16	113 mm (4.45 in)	2P-9670	CR3119
3/4 - 16	125 mm (4.92 in)	6T-1441	
3/4 - 16	139 mm (5.47 in)	3P-1111	CR3326
7/8 - 14	129 mm (5.08 in)	6V-1725	CR4133
7/8 - 14	116 mm (4.57 in)	9W-9058	



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BEST QUALITY IN FASTENERS

UNDERCARRIAGE HARDWARE

HELPING YOU MAINTAIN YOUR INVESTMENTS

HARDWARE

- Full range on metric and inch/imperial Track bolts, Sprocket/Segment bolts, Roller bolts, are current manufactured for aftermarket under OEM specs and norms, special nuts over 1" – 24 mm, too.
- Track bolts, Segment bolts and Split Master bolts are manufactured and controlled for 12.9 grade
- Roller Bolts and Sprocket bolts are 10I9 grade.
- All hardware is forged from alloy steels and heat treated to the specifications of OEM



TRACK BOLTS



SPROCKET /SEGMENT BOLTS



SPLIT MASTER LINK BOLTS



ROLLER BOLTS

Notes : (For applications)

- Remove all paint and scale from points of connections;
- Clean bolt holes from all grease and foreign materials;
- Align parts together and thread bolts in by hand before applying torque setting;
- Bolt torque setting shown are for West-Trak hardware only and with standard tube conditions;
- Install self-interlocking track nuts with rounded corners against the link;
- Tighten **All** bolts 70% of torque rating before applying the total torque value;
- It is recommended to use OEM torque settings for all roller and sprocket bolts.



BEST QUALITY IN FASTENERS

UNDERCARRIAGE HARDWARE

HELPING YOU MAINTAIN YOUR INVESTMENTS

Split Master Link **TORQUE SETTINGS**

Method A – Conventional Method by Final Torque Setting

METRIC THREAD-STRENGTH CLASS 12.9			UNF THREAD-STRENGTH CLASS 12.9		
Bolt Size	Torque ft-lb	Torque - Nm	Bolt Size	Torque ft-lb	Torque - Nm
M12x1,00	118 $\pm$ 5	160 $\pm$ 8	1/2"- 20 UNF	132 $\pm$ 6	180 $\pm$ 9
M14X1,25	184 $\pm$ 7	250 $\pm$ 10	9/16"-18UNF	191 $\pm$ 7	260 $\pm$ 10
M16X1,50	272 $\pm$ 14	370 $\pm$ 20	5/8"-18UNF	265 $\pm$ 14	360 $\pm$ 20
M19X1,50	480 $\pm$ 30	650 $\pm$ 30	3/4"-16UNF	472 $\pm$ 22	640 $\pm$ 30
M20X1,50	480 $\pm$ 30	650 $\pm$ 30	7/8"-14UNF	752 $\pm$ 36	1020 $\pm$ 50
M22X1,50	553 $\pm$ 29	750 $\pm$ 40	1" - 12UNF	1121 $\pm$ 59	1520 $\pm$ 80
M24X2,00	936 $\pm$ 44	1270 $\pm$ 60	1.1/8"-12UNF	1630 $\pm$ 81	2210 $\pm$ 110
M27X2,00	1371 $\pm$ 66	1860 $\pm$ 90	1.1/4"-12UNF	2197 $\pm$ 110	2980 $\pm$ 150
M30X2,00	1917 $\pm$ 95	2600 $\pm$ 95	1.3/8"-12UNF	3053 $\pm$ 154	4140 $\pm$ 210
M33X2,00	2574 $\pm$ 125	3490 $\pm$ 170			

Method B – Alternative Method by Pre - Torque Plus Additional Part Turn

METRIC THREAD-STRENGTH CLASS 12.9				UNF THREAD-STRENGTH CLASS 12.9			
Bolt Size	Pré Torque ft-lb	Pré Torque Nm	Final Torque Turn	Bolt Size	Pré Torque ft-lb	Pré Torque Nm	Final Torque Turn
M16X1,50	130	175	(+) 1/3 Turn	5/8"	130	175	(+) 1/2 Turn
M19X1,50	300	405	(+) 1/3 Turn	3/4"	300	405	(+) 1/3 Turn
M20X1,50	320	430	(+) 1/3 Turn	7/8"D7N,R,T)	250	340	(+) 1/3 Turn
M22X1,50	370	500	(+) 1/3 Turn	7/8"(D8N,R,T)	480	650	(+) 1/3 Turn
M24X2,00	380	515	(+) 1/3 Turn	1"	650	880	(+) 1/3 Turn
M27X2,00	400	540	(+) 1/3 Turn	1.1/8"	650	880	(+) 1/2 Turn
M30X2,00	675	940	(+) 1/3 Turn	1.3/8"	1100	1500	(+) 1/2 Turn

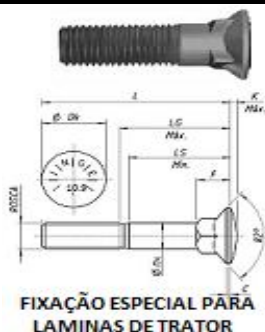
NOTES : These torques settings are a guide only. Some older machines may have a lower torque setting, Please refer to your machine manual.

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PLOW BOLTS



Cutting Edge Plow Bolts inch/Coarse Thread						
Thread Size (in-TPI)	A	B	C	D	Part Number komatsu.	Part Number CAT.
	Bolt Length	Head Height	Head Width	Grip Length		
Thread Size (in-TPI) 3/8-16						
3/8 - 16	2 in	0.31 in	0.67 in	1.00 in		4F-4048
Thread Size (in-TPI) 1/2-13						
1/2 - 13	1 1/2 in	0.44 in	0.89 in	0.63 in		4F-3646
1/2 - 13	1 1/4 in	0.44 in	0.89 in	0.50 in		4F-3647
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 1/4 in	0.44 in	0.89 in	1.00 in		4F-3650
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
Thread Size (in-TPI) 5/8-11						
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	02090-11050	4F-3654
5/8 - 11	2 1/4 in	0.54 in	1.04 in	1.25 in	232-70-12450	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	232-70-12460	4F-3657
5/8 - 11	3 in	0.54 in	1.04 in	1.50 in	02090-11080	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
Thread Size (in-TPI) 3/4-10						
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	02090-11265	5J-4773
3/4 - 10	2 2/4 in	0.63 in	1.20 in	1.19 in	02090-11270	5J-4771
3/4 - 10	3 in	0.63 in	1.20 in	1.38 in	02090-11275	4F-0138
3/4 - 10	3 1/8 in	0.63 in	1.20 in	1.38 in	175-70-11170	1J-6762
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	02091-11210	1J-0962
3/4 - 10	4 5/8 in	0.63 in	1.20 in	2.88 in		1J-6761



Cutting Edge Plow Bolts inch/Coarse Thread						
Thread Size (in-TPI)	A	B	C	D	Part Number komatsu.	Part Number CAT.
	Bolt Length	Head Height	Head Width	Grip Length		
Thread Size (in-TPI) 7/8-9						
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	175-71-11454	5J-2409
7/8 - 9	3 1/4 in	0.74 in	1.41 in	2.44 in	175-71-11450	8J-2935
7/8 - 9	3 1/2 in	0.74 in	1.41 in	1.75 in	175-71-11463	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
Thread Size (in-TPI) 1-8						
1-8	1 3/4 in	0.81 in	1.60 in	2.69 in		8J-2928
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
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	short thread	8J-2928
1-8	3 3/4 in	0.81 in	1.60 in	1.50 in	195-71-11542	1J-4948
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
Thread Size (in-TPI) 1 1/4-7						
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	4.15/16 in	1.06 in	2.03 in	2.28 in		5P-8361
1 1/4 - 7	4 1/2 in	1.06 in	2.03 in	2.28 in	02091-12020	6V-8360



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56 YEARS - 2016

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Cutting Edge Plow Bolts milimeters / Coarse Thread		
Thread Size (milimeters)	Bolt Length	Part Number Volvo
M16 x 2,00	45	930914
M16 x 2,00	55	930787
M16 x 2,00	65	928819
M16 x 2,00	75	928920
M16 x 2,00	90	928921
M20 x 2,50	55	11142572
M20 x 2,50	65	11081027
M20 x 2,50	75	11108128
M24 x 3,00	65	1114257
M24 x 3,00	70	11081071
M24 x 3,00	80	11081070

HELPING YOU
MAINTAIN YOUR
INVESTMENTS



Strength Classification

Strength Classification	Diameter Range	Minimum Tensile Stress	Minimum Yield Stress	Proof Stress Hardness (Rockwell - HRC)	Hardness (Rockwell - HRC)
SAE Grade 9	5/8" to 1 3/8"	170000 PSI 1172 MPa	150000 PSI 1034 MPa	136000 PSI 938 MPa	36 to 42 HRC

INGEPAL Plow Bolts are manufactured in BRAZIL from medium carbon alloy steel, quenched and tempered.

Suggested Tightening Torque Values

Torques given in the following table are indicative only. •
Torque has an approximately up to +35% error on desired tension depending on many joint related parameters. •
Torque has been estimated using a nut factor of 0.19 which generally represents Blackened surface with light oil (mostly as delivered lubrication condition) .

Torque has been estimated to achieve 65% of the proof load.

Thread Diameter (in)	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 3/8"
UNC Torque (lb.ft)	200	355	571	857	1214	1711	2245
UNC Torque (Nm)	271	481	775	1161	1647	2320	3043

HIGH PERFORMANCE PLOW EDGE CUTTING
BOLTS

Avoid Expensive Damage On Heavy Equipments

Using INGEPAL Products



PN: 321-5144 / M33-3,50 X 110 Cl. Res. 12.9 RP

Truck Off Road



PN: 8X0274 / M24-3,00X117,3 Cl. Res. 10.9

Wheel Loaders



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WHEEL STUD AND BOLTS



Wheel Bolts Suitable for Caterpillar & others					
Thread Size (in-TPI)	A	B	C	FINISH SURFACE	Part Number
	Bolt Length	Thread	Grade	FINISH SURFACE	OEM
Thread Size 9/16"-18					
9/16" - 18	41,3	UNF	8	ZINC PLATED	1595772
Thread Size 3/4-16					
3/4 - 16	119,0	UNF	8	PLAIN	3K1865
3/4 - 16	68,0	UNF	8	ZINC PLATED	9R5219
3/4 - 16	63,5	UNF	8	ZINC PLATED	1307047 1V3323
3/4 - 16	63,5	UNF	8	PLAIN	3V4045
3/4 - 16	62,0	UNF	8	ZINC PLATED	1309424
3/4 - 16	54,0	UNF	8	PLAIN	1V1983
3/4 - 16	53,9	UNF	8	ZINC PLATED	8T6653
Thread Size 3/4-10					
3/4"-10	100,0	UNC	8	PLAIN	9K7807
Thread Size 7/8"					
7/8" - 9	164	UNC	8	PLAIN	4V1529
7/8" - 14	57	UNF	9	PLAIN	7D0053
Thread Size 1.5/16"-18					
1.5/16" - 12	101,6	UNF	8	PLAIN	4D8695
Thread Size M24"-3,00					
M24-3,00	117,3	UNC	12,9	OXIDED	8X0274
Thread Size M33"-3,50					
M33-3,50	110	UNC	12,9	OXIDED	3215144



PN 321-5144



M24 UP TO M36
WHEEL LOADERS BOLTS

WHEEL LOADERS BOLTS
M24 UP TO M36

4D-8695: BOLT WHEEL



Grip Length (mm): 57.2 // Head Diameter (mm): 51 // Head Thickness (mm): 12.7 // Length (mm): 102.6 // Thread Size (mm): 1.312

OHT

773E, 771D, 777E, 775F, 773D, 769D, 777D, 777F, 775B, 775D,
773B, 770, 771C, 773F, 772, 769C, 777C, 776D, 775E, 776C



8X-0274 Special / 321-5244 Wheel

185-6133 Bolts



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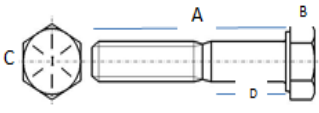


SPECIALTY & TWELVE POINT BOLTS

HIGH HEAD BOLTS



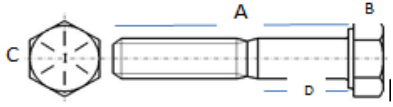
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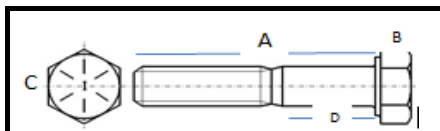
						HEX HEAD BOLTS - INCH COARSE THREAD UNC PHOSPHATE & OIL COATED					
Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number	Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (in-TPI) 1/2 -13						Thread Size (in-TPI) 9/16 -12					
1/2 -13	1/2 in	0.39 in	0.75 in	0.06 in	1K -6705	9/16 -12	1 3/8 in	0.43 in	0.87 in	0.17 in	4B-8519
1/2 -13	3/4 in	0.39 in	0.75 in	0.13 in	0S -1620	9/16 -12	2 1/2 in	0.43 in	0.87 in	1.13 in	8S-4735
1/2 -13	7/8 in	0.39 in	0.75 in	0.28 in	2H -3855	9/16 -12	3 in	0.43 in	0.87 in	1.63 in	8S-4736
1/2 -13	1 in	0.39 in	0.75 in	0.13 in	0S -1621	9/16 -12	3 1/2 in	0.43 in	0.87 in	2.13 in	8S-4737
1/2 -13	1 1/8 in	0.39 in	0.75 in	0.13 in	6H -1717	9/16 -12	4 in	0.43 in	0.87 in	2.63 in	8S-4738
1/2 -13	1 1/4 in	0.39 in	0.75 in	0.31 in	0S -1595	9/16 -12	4 1/2 in	0.43 in	0.87 in	3.13 in	8S-4739
1/2 -13	1 3/8 in	0.39 in	0.75 in	0.44 in	7B -3235	9/16 -12	5 in	0.43 in	0.87 in	3.63 in	8S-4740
1/2 -13	1 1/2 in	0.39 in	0.75 in	0.25 in	0S -1585	9/16 -12	5 1/2 in	0.43 in	0.87 in	4.13 in	8S-4741
1/2 -13	1 3/4 in	0.39 in	0.75 in	0.44 in	0S -1587	9/16 -12	6 in	0.43 in	0.87 in	4.63 in	8S-4742
1/2 -13	2 in	0.39 in	0.75 in	0.75 in	1A -1460	9/16 -12	8in	0.43 in	0.87 in	6.38 in	9H-9129
1/2 -13	2 1/4 in	0.39 in	0.75 in	1.00 in	2B -0947	Thread Size (in-TPI) 5/8 -11					
1/2 -13	2 1/4 in	0.39 in	0.75 in	1.00 in	9X -8873	5/8 -11	3/4 in	0.48 in	0.94 in	0.06 in	1H-9456
1/2 -13	2 1/2 in	0.39 in	0.75 in	1.25 in	9S -1366	5/8 -11	1 1/2 in	0.48 in	0.94 in	0.19 in	0S-1566
1/2 -13	2 3/4 in	0.39 in	0.75 in	1.50 in	1A -5822	5/8 -11	1 1/4 in	0.48 in	0.94 in	0.19 in	0S-1592
1/2 -13	3 in	0.39 in	0.75 in	1.75 in	0L -1329	5/8 -11	1 in	0.48 in	0.94 in	0.19 in	0S-1624
1/2 -13	3 in	0.39 in	0.75 in	1.75 in	9X -8874	5/8 -11	1 3/8 in	0.48 in	0.94 in	0.19 in	4B-4043
1/2 -13	11 1/2 in	0.39 in	0.75 in	10.00 in	5P -5421	5/8 -11	1 3/4 in	0.48 in	0.94 in	0.25 in	0S-1589
1/2 -13	13 in	0.39 in	0.75 in	11.50 in	8S -6212	5/8 -11	1 1/8 in	0.48 in	0.94 in	0.28 in	7S-9372
1/2 -13	14 in 1	0.39 in	0.75 in	12.50 in	5M -7900	5/8 -11	2 in 1	0.48 in	0.94 in	0.50 in	1A-1135
1/2 -13	3 1/4 in	0.39 in	0.75 in	2.00 in	0V -0375	5/8 -11	2 in	0.48 in	0.94 in	0.50 in	9X-8880
1/2 -13	3 1/2 in1	0.39 in	0.75 in	2.25 in	1D -4566	5/8 -11	2 1/2 in	0.48 in	0.94 in	0.63 in	9X-8882
1/2 -13	3 1/2 in	0.39 in	0.75 in	2.25 in	9X -8875	5/8 -11	2 1/2 in 1	0.48 in	0.94 in	0.63 in	0S-1625
1/2 -13	3 3/4 in	0.39 in	0.75 in	2.50 in	1B -2886	5/8 -11	2 1/4 in	0.48 in	0.94 in	0.75 in	9X-8881
1/2 -13	4 in	0.39 in	0.75 in	2.75 in	0S -1573	5/8 -11	2 1/4 in 1	0.48 in	0.94 in	0.75 in	8S-9092
1/2 -13	4 1/4 in	0.39 in	0.75 in	3.00 in	1D -4569	5/8 -11	2 3/4 in 1	0.48 in	0.94 in	1.25 in	1A-8537
1/2 -13	4 1/2 in	0.39 in	0.75 in	3.25 in	8S -9089	5/8 -11	2 3/4 in	0.48 in	0.94 in	1.25 in	9x-8883
1/2 -13	4 3/4 in 1	0.39 in	0.75 in	3.50 in	2B -2006	5/8 -11	3 in	0.48 in	0.94 in	1.50 in	1B-4367
1/2 -13	4 3/4 in	0.39 in	0.75 in	3.50 in	9X -8876	5/8 -11	3 1/4 in	0.48 in	0.94 in	1.75 in	1D-4585
1/2 -13	5 in 1	0.39 in	0.75 in	3.75 in	2H -6488	5/8 -11	3 1/2 in	0.48 in	0.94 in	2.00 in	1D-4586
1/2 -13	5 in	0.39 in	0.75 in	3.75 in	9X -8877	5/8 -11	3 3/4 in	0.48 in	0.94 in	2.25 in	0L-1169
1/2 -13	5 1/4 in	0.39 in	0.75 in	4.00 in	9X -8878	5/8 -11	4 in	0.48 in	0.94 in	2.50 in	0S-1569
1/2 -13	5 1/4 in 1	0.39 in	0.75 in	4.00 in	6F -5282	5/8 -11	4 1/4 in	0.48 in	0.94 in	2.75 in	1D-4588
1/2 -13	5 1/2 in	0.39 in	0.75 in	4.25 in	9X -8879	5/8 -11	4 1/2 in	0.48 in	0.94 in	3.00 in	1A-8651
1/2 -13	5 1/2 in	0.39 in	0.75 in	4.25 in	1D -4572	5/8 -11	4 3/4 in	0.48 in	0.94 in	3.25 in	1D-4590
1/2 -13	5 3/4 in	0.39 in	0.75 in	4.25 in	8F -8804	5/8 -11	5 in	0.48 in	0.94 in	3.50 in	1A-5405
1/2 -13	6 in	0.39 in	0.75 in	4.75 in	1D -4574	5/8 -11	5 1/4 in 1	0.48 in	0.94 in	3.75 in	7S-3224
1/2 -13	6 1/4 in	0.39 in	0.75 in	4.75 in	9H -8260	5/8 -11	5 1/4 in	0.48 in	0.94 in	3.75 in	9x-8884
1/2 -13	6 1/2 in	0.39 in	0.75 in	5.00 in	2A -1531	5/8 -11	5 1/2 in	0.48 in	0.94 in	4.00 in	1D-4593
1/2 -13	7 in	0.39 in	0.75 in	5.50 in	1A -7669	5/8 -11	6 1/4 in	0.48 in	0.94 in	4.50 in	5D-9514
1/2 -13	7 1/2 in	0.39 in	0.75 in	6.00 in	1A -0168	5/8 -11	6 in	0.48 in	0.94 in	4.50 in	1D-4595
1/2 -13	8 in	0.39 in	0.75 in	6.50 in	9S -1374	5/8 -11	6 1/2 in	0.48 in	0.94 in	4.75 in	1D-4597
1/2 -13	8 1/2 in	0.39 in	0.75 in	7.00 in	1B -3573	5/8 -11	7 in	0.48 in	0.94 in	5.25 in	1D-4599
1/2 -13	9 in	0.39 in	0.75 in	7.50 in	6M -9613	5/8 -11	7 1/2 in	0.48 in	0.94 in	5.75 in	1D-4600
1/2 -13	10 in	0.39 in	0.75 in	8.50 in	6F -5281	5/8 -11	8 in	0.48 in	0.94 in	6.25 in	1B-7709
1/2 -13	10 1/2 in	0.39 in	0.75 in	9.00 in	8M -0139	5/8 -11	8 1/2 in	0.48 in	0.94 in	6.75 in	1D-4601
1/2 -13	11 in	0.39 in	0.75 in	9.50 in	8S-3887	5/8 -11	9 in	0.48 in	0.94 in	7.25 in	2H-3756
Thread Size (in-TPI) 9/16 -12						5/8 -11	9 1/2 in	0.48 in	0.94 in	7.75 in	1D-4602
9/16 -12	1 in	0.43 in	0.87 in	0.12 in	3K-3379	5/8 -11	11 1/2 in	0.48 in	0.94 in	9.75 in	5P-4624
9/16 -12	1 1/2 in	0.43 in	0.87 in	0.16 in	8S-4733	Thread Size (in-TPI) 3/4 -10					
9/16 -12	1 1/4 in	0.43 in	0.87 in	0.16 in	8S-4732	3/4 -10	1 1/2 in	0.58 in	1.13 in	0.31 in	0S-1626

HEX HEAD BOLTS - INCH THREAD UNC COARSE PHOSPHATE & OIL COATED					
Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (in-TPI) 3/4 - 10					
3/4 - 10	1 1/4 in	0.58 in	1.13 in	0.31 in	0S-1583
3/4 - 10	1 3/4 in	0.58 in	1.13 in	0.31 in	1A-0458
3/4 - 10	1 in	0.58 in	1.13 in	0.31 in	7H-2069
3/4 - 10	2 in	0.58 in	1.13 in	0.31 in	0L-1178
3/4 - 10	2 1/4 in	0.58 in	1.13 in	0.50 in	9X-8885
3/4 - 10	2 1/4 in 1	0.58 in	1.13 in	0.50 in	2A-1538
3/4 - 10	2 1/2 in	0.58 in	1.13 in	0.75 in	1A-8063
3/4 - 10	2 3/4 in	0.58 in	1.13 in	1.00 in	9X-8886
3/4 - 10	2 3/4 in 1	0.58 in	1.13 in	1.00 in	1D-4608
3/4 - 10	3 in 1	0.58 in	1.13 in	1.25 in	1D-4609
3/4 - 10	3 in 1	0.58 in	1.13 in	1.25 in	9X-8887
3/4 - 10	3 1/4 in	0.58 in	1.13 in	1.50 in	9X-8888
3/4 - 10	3 1/4 in 1	0.58 in	1.13 in	1.50 in	1D-4610
3/4 - 10	3 1/2 in 1	0.58 in	1.13 in	1.75 in	3B-2968
3/4 - 10	3 1/2 in	0.58 in	1.13 in	1.75 in	9X-8889
3/4 - 10	13 in	0.58 in	1.13 in	11.00 in	031-9099
3/4 - 10	3 3/4 in	0.58 in	1.13 in	2.00 in	7F-5227
3/4 - 10	4 in	0.58 in	1.13 in	2.25 in	1D-4612
3/4 - 10	4 1/4 in	0.58 in	1.13 in	2.50 in	0S-1756
3/4 - 10	4 1/2 in	0.58 in	1.13 in	2.75 in	0S-1627
3/4 - 10	4 3/4 in	0.58 in	1.13 in	3.00 in	3B-6753
3/4 - 10	5 in	0.58 in	1.13 in	3.25 in	1D-4614
3/4 - 10	5 1/4 in	0.58 in	1.13 in	3.50 in	6V-8199
3/4 - 10	5 1/2 in	0.58 in	1.13 in	3.75 in	1D-4615
3/4 - 10	5 3/4 in	0.58 in	1.13 in	4.00 in	6K-1330
3/4 - 10	6 1/4 in	0.58 in	1.13 in	4.25 in	1D-4617
3/4 - 10	6 in	0.58 in	1.13 in	4.25 in	1D-4616
3/4 - 10	6 1/2 in	0.58 in	1.13 in	4.50 in	2B-1015
3/4 - 10	7 in	0.58 in	1.13 in	5.00 in	1D-4620
3/4 - 10	7 1/2 in	0.58 in	1.13 in	5.50 in	1D-4621
3/4 - 10	8 in	0.58 in	1.13 in	6.00 in	1D-4622
3/4 - 10	8 1/2 in	0.58 in	1.13 in	6.50 in	1D-4623
3/4 - 10	9 in	0.58 in	1.13 in	7.00 in	1D-4624
3/4 - 10	9 1/2 in	0.58 in	1.13 in	7.50 in	5J-1702
3/4 - 10	10 in	0.58 in	1.13 in	8.00 in	8F-4225
3/4 - 10	11 1/2 in	0.58 in	1.13 in	9.50 in	4J-7945
Thread Size (in-TPI) 7/8 - 9					
7/8 - 9	1 1/2 in	0.67 in	1.31 in	0.25 in	0T-0690
7/8 - 9	1 3/4 in	0.67 in	1.31 in	0.37 in	2H-3757
7/8 - 9	2 in	0.67 in	1.31 in	0.37 in	9X-8890
7/8 - 9	2 1/4 in	0.67 in	1.31 in	0.37 in	9F-9522
7/8 - 9	2 in 1	0.67 in	1.31 in	0.37 in	0S-1973
7/8 - 9	2 1/2 in	0.67 in	1.31 in	0.50 in	1D-4625
7/8 - 9	2 3/4 in 1	0.67 in	1.31 in	0.75 in	1D-4626
7/8 - 9	2 3/4 in	0.67 in	1.31 in	0.75 in	9X-8891
7/8 - 9	3 in	0.67 in	1.31 in	1.00 in	1D-4627
7/8 - 9	3 1/4 in 1	0.67 in	1.31 in	1.25 in	1D-4628
7/8 - 9	3 1/4 in	0.67 in	1.31 in	1.25 in	9X-8892
7/8 - 9	3 1/2 in	0.67 in	1.31 in	1.50 in	9X-8893
7/8 - 9	3 1/2 in 1	0.67 in	1.31 in	1.50 in	1D-4629
Thread Size (in-TPI) 7/8 - 9					
7/8 - 9	3 3/4 in 1	0.67 in	1.31 in	1.75 in	2H-3856
7/8 - 9	3 3/4 in	0.67 in	1.31 in	1.75 in	9X-8894
7/8 - 9	12 1/2 in	0.67 in	1.31 in	10.25 in	4D-8317
7/8 - 9	14 in	0.67 in	1.31 in	11.75 in	3K-0581
7/8 - 9	15 in	0.67 in	1.31 in	12.75 in	3K-3183
7/8 - 9	16 in	0.67 in	1.31 in	13.75 in	3K-6552
7/8 - 9	4 in 1	0.67 in	1.31 in	2.00 in	1D-4630
7/8 - 9	4 in	0.67 in	1.31 in	2.00 in	9X-8895
7/8 - 9	4 1/4 in	0.67 in	1.31 in	2.25 in	1D-4631
7/8 - 9	9 4 1/2 in	0.67 in	1.31 in	2.50 in	1A-5576
7/8 - 9	9 4 3/4 in	0.67 in	1.31 in	2.75 in	4J-8622
7/8 - 9	5 in	0.67 in	1.31 in	3.00 in	9S-1351
7/8 - 9	5 1/2 in	0.67 in	1.31 in	3.50 in	1D-4634
7/8 - 9	6 in	0.67 in	1.31 in	3.75 in	9S-1322
7/8 - 9	6 1/2 in	0.67 in	1.31 in	4.25 in	6J-1536
7/8 - 9	7 in	0.67 in	1.31 in	4.75 in	1D-5976
7/8 - 9	7 1/2 in	0.67 in	1.31 in	5.25 in	1K-9422
7/8 - 9	8 in	0.67 in	1.31 in	5.75 in	1D-6259
7/8 - 9	8 1/2 in	0.67 in	1.31 in	6.25 in	3K-7127
7/8 - 9	9 in	0.67 in	1.31 in	6.75 in	6K-8739
7/8 - 9	9 1/2 in	0.67 in	1.31 in	7.25 in	1D-6260
7/8 - 9	10 in	0.67 in	1.31 in	7.75 in	2B-2391
7/8 - 9	11 in	0.67 in	1.31 in	8.75 in	3K-3112
Thread Size (in-TPI) 1 - 8					
1-8	2 1/4 in	0.71 in	1.50 in	0.25 in	8S-9093
1-8	1 1/4 in	0.71 in	1.50 in	0.31 in	8S-4767
1-8	1 1/2 in	0.71 in	1.50 in	0.31 in	0V-0450
1-8	1 3/4 in	0.71 in	1.50 in	0.37 in	1J-7370
1-8	2 1/2 in	0.71 in	1.50 in	0.50 in	1D-4635
1-8	2 3/4 in	0.71 in	1.50 in	0.50 in	9S-1363
1-8	3 in	0.71 in	1.50 in	0.75 in	1D-4709
1-8	2 in	0.71 in	1.50 in	0.75 in	1J-5257
1-8	3 1/4 in	0.71 in	1.50 in	1.00 in	1D-4637
1-8	3 1/2 in	0.71 in	1.50 in	1.25 in	1D-4638
1-8	3 3/4 in	0.71 in	1.50 in	1.50 in	8H-5772
1-8	4 in	0.71 in	1.50 in	1.75 in	9X-8896
1-8	4 in 1	0.71 in	1.50 in	1.75 in	1D-4639
1-8	14 in	0.71 in	1.50 in	0.50 in	6M-2001
1-8	13 in	0.71 in	1.50 in	0.50 in	6J-4081
1-8	12 in	0.71 in	1.50 in	0.50 in	2H-4010
1-8	15 in	0.71 in	1.50 in	3.50 in	2H-4011
1-8	16 in	0.71 in	1.50 in	4.00 in	6M-1029
1-8	4 1/4 in	0.71 in	1.50 in	2.00 in	9X-8897
1-8	4 1/4 in 1	0.71 in	1.50 in	2.00 in	1D-4640
1-8	4 1/2 in	0.71 in	1.50 in	2.25 in	1D-4641
1-8	4 3/4 in	0.71 in	1.50 in	2.50 in	2A-1420
1-8	5 in	0.71 in	1.50 in	2.75 in	9X-8898
1-8	5 in 1	0.71 in	1.50 in	2.75 in	1D-4642
1-8	5 1/2 in	0.71 in	1.50 in	3.25 in	1D-4643
1-8	6 in	0.71 in	1.50 in	3.75 in	9F-6936

						HEX HEAD BOLTS - INCH THREAD UNC COATED(CONTINUED)						COARSE PHOSPHATE & OIL					
Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number	Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number	Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (in-TPI) 1 - 8						Thread Size (in-TPI) 1 1/2 - 6											
1-8	6 1/2 in	0.71 in	1.50 in	4 in	5B-5473	1 1/2 - 6	3 1/2 in	0.97 in	2.25 in	0.40 in	3J-1805	1 1/2 - 6	4 in	0.97 in	2.25 in	0.50 in	6V-8970
1-8	7 in	0.71 in	1.50 in	4.50 in	5F-9338	1 1/2 - 6	4 in	0.97 in	2.25 in	0.50 in	6V-8970	1 1/2 - 6	4 1/2 in	0.97 in	2.25 in	1.00 in	6V-8536
1-8	7 1/2 in	0.71 in	1.50 in	5.00 in	2B-7218	1 1/2 - 6	4 1/2 in	0.97 in	2.25 in	1.00 in	6V-8536	1 1/2 - 6	4 1/2 in	0.97 in	2.25 in	1.25 in	38-8455
1-8	8 in	0.71 in	1.50 in	5.50 in	1D-4644	1 1/2 - 6	5 in	0.97 in	2.25 in	1.75 in	1K-9414	1 1/2 - 6	6 in	0.97 in	2.25 in	2.50 in	31-2627
1-8	8 1/2 in	0.71 in	1.50 in	6.00 in	1D-4645	1 1/2 - 6	6 in	0.97 in	2.25 in	2.50 in	31-2627	1 1/2 - 6	7 in	0.97 in	2.25 in	2.50 in	4R-9112
1-8	9 in	0.71 in	1.50 in	6.50 in	1D-4646	1 1/2 - 6	7 in	0.97 in	2.25 in	2.50 in	4R-9112	1 1/2 - 6	9 in	0.97 in	2.25 in	5.50 in	6V-7977
1-8	9 1/2 in	0.71 in	1.50 in	7.00 in	1D-4647	1 1/2 - 6	9 in	0.97 in	2.25 in	5.50 in	6V-7977	1 1/2 - 6	11 1/2 in	0.97 in	2.25 in	7.50 in	6V-0659
1-8	10 in	0.71 in	1.50 in	7.50 in	2J-8348	1 1/2 - 6	11 1/2 in	0.97 in	2.25 in	7.50 in	6V-0659	1 1/2 - 6	12 1/2 in	0.97 in	2.25 in	9.00 in	127-4840
1-8	10 1/2 in	0.71 in	1.50 in	8.00 in	8F-6453	Thread Size (in-TPI) 1 1/8 - 7											
1-8	11 in	0.71 in	1.50 in	8.50 in	8K-5130	1 1/8 - 7	2 in	0.81 in	1.87 in	0.25 in	3J-8281						
1-8	11 1/2 in	0.71 in	1.50 in	9.00 in	7K-4363	1 1/8 - 7	2 3/4 in	0.72 in	1.69 in	0.44 in	2K-2037						
Thread Size (in-TPI) 1 1/8 - 7						1 1/8 - 7	3 in	0.72 in	1.69 in	0.50 in	1J-2814						
1 1/8 - 7	2 in	0.81 in	1.87 in	0.25 in	3J-8281	1 1/8 - 7	4 in	0.72 in	1.69 in	0.63 in	3N-1614						
1 1/8 - 7	2 3/4 in	0.72 in	1.69 in	0.44 in	2K-2037	1 1/8 - 7	2 1/2 in	0.72 in	1.69 in	1.00 in	7J-7222						
1 1/8 - 7	3 in	0.72 in	1.69 in	0.50 in	1J-2814	1 1/8 - 7	3 1/2 in	0.72 in	1.69 in	1.00 in	1J-2175						
1 1/8 - 7	4 in	0.72 in	1.69 in	0.63 in	3N-1614	1 1/8 - 7	4 1/4 in	0.72 in	1.69 in	1.75 in	5J-1572						
1 1/8 - 7	2 1/2 in	0.72 in	1.69 in	1.00 in	7J-7222	1 1/8 - 7	4 1/2 in	0.72 in	1.69 in	2.00 in	5M-0544						
1 1/8 - 7	3 1/2 in	0.72 in	1.69 in	1.00 in	1J-2175	1 1/8 - 7	5 1/4 in	0.72 in	1.69 in	3.00 in	6J-1551						
1 1/8 - 7	4 1/4 in	0.72 in	1.69 in	1.75 in	5J-1572	1 1/8 - 7	6 in	0.72 in	1.69 in	3.50 in	8H-5727						
1 1/8 - 7	4 1/2 in	0.72 in	1.69 in	2.00 in	5M-0544	1 1/8 - 7	6 1/2 in	0.72 in	1.69 in	3.75 in	8F-4486						
1 1/8 - 7	5 1/4 in	0.72 in	1.69 in	3.00 in	6J-1551	Thread Size (in-TPI) 1 1/4 - 7											
1 1/8 - 7	6 in	0.72 in	1.69 in	3.50 in	8H-5727	1 1/4 - 7	3 in	0.81 in	1.87 in	0.44 in	3R-2299						
1 1/8 - 7	6 1/2 in	0.72 in	1.69 in	3.75 in	8F-4486	1 1/4 - 7	2 1/2 in	0.81 in	1.87 in	0.44 in	3F-6353						
Thread Size (in-TPI) 1 1/4 - 7						1 1/4 - 7	3 1/4 in	0.81 in	1.87 in	0.50 in	1J-5484						
1 1/4 - 7	3 in	0.81 in	1.87 in	0.44 in	3R-2299	1 1/4 - 7	3 1/2 in	0.81 in	1.87 in	0.75 in	2B-1955						
1 1/4 - 7	2 1/2 in	0.81 in	1.87 in	0.44 in	3F-6353	1 1/4 - 7	4 in	0.81 in	1.87 in	1.25 in	2H-3758						
1 1/4 - 7	3 1/4 in	0.81 in	1.87 in	0.50 in	1J-5484	1 1/4 - 7	4 1/4 in	0.81 in	1.87 in	1.50 in	1S-6560						
1 1/4 - 7	3 1/2 in	0.81 in	1.87 in	0.75 in	2B-1955	1 1/4 - 7	4 1/2 in	0.81 in	1.87 in	1.75 in	3R-2300						
1 1/4 - 7	4 in	0.81 in	1.87 in	1.25 in	2H-3758	1 1/4 - 7	13 in	0.81 in	1.87 in	10.50 in	1K-4378						
1 1/4 - 7	4 1/4 in	0.81 in	1.87 in	1.50 in	1S-6560	1 1/4 - 7	14 in	0.81 in	1.87 in	11.00 in	6V-1734						
1 1/4 - 7	4 1/2 in	0.81 in	1.87 in	1.75 in	3R-2300	1 1/4 - 7	15 in	0.81 in	1.87 in	12.00 in	31-0213						
1 1/4 - 7	13 in	0.81 in	1.87 in	10.50 in	1K-4378	1 1/4 - 7	4 3/4 in	0.81 in	1.87 in	2.00 in	8F-1156						
1 1/4 - 7	14 in	0.81 in	1.87 in	11.00 in	6V-1734	1 1/4 - 7	5 in	0.81 in	1.87 in	2.25 in	2H-1618						
1 1/4 - 7	15 in	0.81 in	1.87 in	12.00 in	31-0213	1 1/4 - 7	5 1/2 in	0.81 in	1.87 in	2.75 in	1B-2721						
1 1/4 - 7	4 3/4 in	0.81 in	1.87 in	2.00 in	8F-1156	1 1/4 - 7	6 in	0.81 in	1.87 in	3.25 in	2H-1537						
1 1/4 - 7	5 in	0.81 in	1.87 in	2.25 in	2H-1618	1 1/4 - 7	6 1/2 in	0.81 in	1.87 in	3.50 in	6H-1628						
1 1/4 - 7	5 1/2 in	0.81 in	1.87 in	2.75 in	1B-2721	1 1/4 - 7	7 in	0.81 in	1.87 in	4.00 in	6V-2624						
1 1/4 - 7	6 in	0.81 in	1.87 in	3.25 in	2H-1537	1 1/4 - 7	8 in	0.81 in	1.87 in	5.00 in	3F-9025						
1 1/4 - 7	6 1/2 in	0.81 in	1.87 in	3.50 in	6H-1628	1 1/4 - 7	8 1/2 in	0.81 in	1.87 in	5.50 in	1J-6775						
1 1/4 - 7	7 in	0.81 in	1.87 in	4.00 in	6V-2624	1 1/4 - 7	9 in	0.81 in	1.87 in	6.00 in	1K-9418						
1 1/4 - 7	8 in	0.81 in	1.87 in	5.00 in	3F-9025	1 1/4 - 7	9 1/2 in	0.81 in	1.87 in	6.50 in	1K-9420						
1 1/4 - 7	8 1/2 in	0.81 in	1.87 in	5.50 in	1J-6775	1 1/4 - 7	10 in	0.81 in	1.87 in	7.00 in	1D-4649						
1 1/4 - 7	9 in	0.81 in	1.87 in	6.00 in	1K-9418	1 1/4 - 7	10 1/2 in	0.81 in	1.87 in	7.50 in	6B-0388						
1 1/4 - 7	9 1/2 in	0.81 in	1.87 in	6.50 in	1K-9420	1 1/4 - 7	11 in	0.81 in	1.87 in	8.25 in	1K-9415						
1 1/4 - 7	10 in	0.81 in	1.87 in	7.00 in	1D-4649												
1 1/4 - 7	10 1/2 in	0.81 in	1.87 in	7.50 in	6B-0388												
1 1/4 - 7	11 in	0.81 in	1.87 in	8.25 in	1K-9415												



						HEX HEAD BOLTS - INCH FINE THREAD - UNF PHOSPHATE & OIL COATED					
Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number	Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (in-TPI) 1 1/2 - 20						Thread Size (in-TPI) 5/8 - 18					
1/2 - 20	1 in	0.39 in	0.75 in	0.13 in	0S-1629	5/8 - 18	2 1/2 in	0.48 in	0.94 in	1.00 in	0S-1600
1/2 - 20	3/4 in	0.39 in	0.75 in	0.13 in	6F-7032	5/8 - 18	2 3/4 in	0.48 in	0.94 in	1.25 in	0S-1601
1/2 - 20	7/8 in	0.39 in	0.75 in	0.13 in	0T-0598	5/8 - 18	3 in	0.48 in	0.94 in	1.50 in	8B-5144
1/2 - 20	1 1/2 in	0.39 in	0.75 in	0.25 in	0S-1603	5/8 - 18	3 1/4 in	0.48 in	0.94 in	1.75 in	0S-2318
1/2 - 20	1 3/4 in	0.39 in	0.75 in	0.50 in	0S-1584	5/8 - 18	12 in	0.48 in	0.94 in	10.25 in	6K-0953
1/2 - 20	2 in	0.39 in	0.75 in	0.75 in	0S-1579	5/8 - 18	3 1/2 in	0.48 in	0.94 in	2.00 in	0S-1602
1/2 - 20	2 1/4 in	0.39 in	0.75 in	1.00 in	0S-0484	5/8 - 18	3 3/4 in	0.48 in	0.94 in	2.25 in	0S-2353
1/2 - 20	2 1/2 in	0.39 in	0.75 in	1.25 in	0S-1604	5/8 - 18	4 in	0.48 in	0.94 in	2.50 in	0V-0459
1/2 - 20	2 3/4 in	0.39 in	0.75 in	1.50 in	0S-1599	5/8 - 18	4 1/4 in	0.48 in	0.94 in	2.75 in	0V-0523
1/2 - 20	3 in	0.39 in	0.75 in	1.75 in	0L-1732	5/8 - 18	4 1/2 in	0.48 in	0.94 in	3.00 in	0T-0857
1/2 - 20	3 1/4 in	0.39 in	0.75 in	2.00 in	0L-1558	5/8 - 18	4 3/4 in	0.48 in	0.94 in	3.25 in	1A-3203
1/2 - 20	3 1/2 in	0.39 in	0.75 in	2.25 in	0L-2315	5/8 - 18	5 in	0.48 in	0.94 in	3.50 in	6F-7024
1/2 - 20	3 3/4 in	0.39 in	0.75 in	2.50 in	1A-1952	5/8 - 18	5 1/2 in	0.48 in	0.94 in	4.00 in	2A-2814
1/2 - 20	4 in	0.39 in	0.75 in	2.75 in	0L-1559	5/8 - 18	5 3/4 in	0.48 in	0.94 in	4.25 in	1B-7538
1/2 - 20	4 1/4 in	0.39 in	0.75 in	3.00 in	6F-7033	5/8 - 18	6 in	0.48 in	0.94 in	4.50 in	2B-6030
1/2 - 20	4 1/2 in	0.39 in	0.75 in	3.25 in	1A-3046	5/8 - 18	7 in	0.48 in	0.94 in	5.25 in	1B-3623
1/2 - 20	7 in	0.39 in	0.75 in	3.37 in	3H-1930	5/8 - 18	7 1/2 in	0.48 in	0.94 in	5.75 in	7H-5569
1/2 - 20	4 3/4 in	0.39 in	0.75 in	3.50 in	0L-0557	5/8 - 18	8 in	0.48 in	0.94 in	6.25 in	8S-4753
1/2 - 20	5 in	0.39 in	0.75 in	3.75 in	1B-1422	5/8 - 18	8 1/2 in	0.48 in	0.94 in	6.75 in	6V-1873
1/2 - 20	5 1/2 in	0.39 in	0.75 in	4.25 in	3H-1097	5/8 - 18	11 in	0.48 in	0.94 in	9.25 in	5K-7144
1/2 - 20	5 3/4 in	0.39 in	0.75 in	4.50 in	5M-9979	5/8 - 18	1 1/2 in	0.48 in	0.94 in	0.19 in	2L-1701
1/2 - 20	6 in	0.39 in	0.75 in	4.75 in	9F-1595	5/8 - 18	1 1/4 in	0.48 in	0.94 in	0.19 in	1A-4273
1/2 - 20	6 1/2 in	0.39 in	0.75 in	5.00 in	2H-3747	Thread Size (in-TPI) 3/4 - 16					
1/2 - 20	7 1/2 in	0.39 in	0.75 in	6.00 in	2H-3748	3/4 - 16	3 in	0.58 in	1.13 in	1.25 in	0S-1575
1/2 - 20	8 in	0.39 in	0.75 in	6.50 in	1A-3967	3/4 - 16	3 1/4 in	0.58 in	1.13 in	1.50 in	6B-5310
1/2 - 20	1 1/4 in	0.39 in	0.75 in	0.13 in	0S-1593	3/4 - 16	3 1/2 in	0.58 in	1.13 in	1.75 in	9S-1364
1/2 - 20	1 3/8 in	0.39 in	0.75 in	0.13 in	4K-7502	3/4 - 16	3 3/4 in	0.58 in	1.13 in	2.00 in	1A-3103
Thread Size (in-TPI) 9/16 - 18						3/4 - 16	4 in	0.58 in	1.13 in	2.25 in	0L-1328
9/16 - 18	1 3/8 in	0.43 in	0.87 in	0.13 in	8S-4761	3/4 - 16	4 1/4 in	0.58 in	1.13 in	2.50 in	1D-3419
9/16 - 18	1 3/4 in	0.43 in	0.87 in	0.38 in	8S-4762	3/4 - 16	4 3/4 in	0.58 in	1.13 in	3.00 in	7B-5163
9/16 - 18	2 in	0.43 in	0.87 in	0.63 in	8S-4745	3/4 - 16	5 in	0.58 in	1.13 in	3.25 in	0S-1607
9/16 - 18	2 1/4 in	0.43 in	0.87 in	0.88 in	8S-4763	3/4 - 16	5 1/2 in	0.58 in	1.13 in	3.75 in	8F-6123
9/16 - 18	2 1/2 in	0.43 in	0.87 in	1.13 in	8S-4746	3/4 - 16	6 in	0.58 in	1.13 in	4.25 in	7B-4436
9/16 - 18	2 3/4 in	0.43 in	0.87 in	1.38 in	8S-4764	3/4 - 16	6 1/2 in	0.58 in	1.13 in	4.50 in	6F-7901
9/16 - 18	3 in	0.43 in	0.87 in	1.38 in	6S-0753	3/4 - 16	7 in	0.58 in	1.13 in	5.00 in	2H-3749
9/16 - 18	3 1/2 in	0.43 in	0.87 in	2.13 in	8S-4747	3/4 - 16	8 in	0.58 in	1.13 in	6.00 in	4F-0925
9/16 - 18	3 3/4 in	0.43 in	0.87 in	2.38 in	2S-1216	3/4 - 16	8 1/2 in	0.58 in	1.13 in	6.50 in	8S-4766
9/16 - 18	4 in	0.43 in	0.87 in	2.63 in	8S-4748	3/4 - 16	9 in	0.58 in	1.13 in	7.00 in	7F-1926
9/16 - 18	4 1/2 in	0.43 in	0.87 in	3.13 in	8S-4749	3/4 - 16	9 1/2 in	0.58 in	1.13 in	7.50 in	8B-7943
9/16 - 18	5 in	0.43 in	0.87 in	3.63 in	8S-4750	3/4 - 16	10 in	0.58 in	1.13 in	8.00 in	2K-2813
9/16 - 18	5 1/2 in	0.43 in	0.87 in	4.13 in	8S-4751	3/4 - 16	11 in	0.58 in	1.13 in	9.00 in	5P-8288
9/16 - 18	6 in	0.43 in	0.87 in	4.63 in	8S-4752	3/4 - 16	11 1/2 in	0.58 in	1.13 in	9.50 in	2P-9845
9/16 - 18	1 1/2 in	0.43 in	0.87 in	0.13 in	8S-4744	3/4 - 16	1 1/2 in	0.58 in	1.13 in	0.19 in	2H-3725
9/16 - 18	1 1/4 in	0.43 in	0.87 in	0.13 in	8S-4743	3/4 - 16	1 1/4 in	0.58 in	1.13 in	0.19 in	2H-3740
Thread Size (in-TPI) 5/8 - 18						3/4 - 16	1 3/4 in	0.58 in	1.13 in	0.19 in	1A-0075
5/8 - 18	1 3/8 in	0.48 in	0.94 in	0.19 in	4H-4033	3/4 - 16	2 in	0.58 in	1.13 in	0.25 in	9S-1362
5/8 - 18	1 in	0.48 in	0.94 in	0.19 in	6F-7316	3/4 - 16	2 1/4 in	0.58 in	1.13 in	0.50 in	0S-1897
5/8 - 18	1 3/4 in	0.48 in	0.94 in	0.25 in	5B-0841	3/4 - 16	7 1/2 in	0.58 in	1.13 in	5.50 in	2H-3750
5/8 - 18	2 in	0.48 in	0.94 in	0.50 in	0S-1576	3/4 - 16	2 1/2 in	0.58 in	1.13 in	0.75 in	0T-0856
5/8 - 18	2 1/4 in	0.48 in	0.94 in	0.75 in	0S-1577	3/4 - 16	2 3/4 in	0.58 in	1.13 in	1.00 in	8F-3152



HEX HEAD BOLTS - INCH

FINE THREAD - UNF

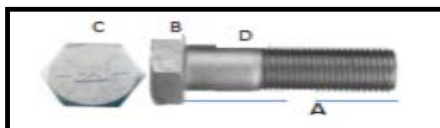
PHOSPHATE & OIL COATED

Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (in-TPI) 7/8 - 14					
7/8 - 14	2 1/4 in	0.67 in	1.31 in	0.25 in	6F-7035
7/8 - 14	2 1/2 in	0.67 in	1.31 in	0.50 in	1D-5873
7/8 - 14	2 3/4 in	0.67 in	1.31 in	0.75 in	0S-1596
7/8 - 14	3 in	0.67 in	1.31 in	1.00 in	6F-7036
7/8 - 14	3 1/4 in	0.67 in	1.31 in	1.25 in	2H-3741
7/8 - 14	3 1/2 in	0.67 in	1.31 in	1.50 in	1A-0224
7/8 - 14	3 3/4 in	0.67 in	1.31 in	1.75 in	0L-2090
7/8 - 14	4 1/4 in	0.67 in	1.31 in	2.25 in	1D-3848
7/8 - 14	5 in	0.67 in	1.31 in	3.00 in	1D-6089
7/8 - 14	5 1/2 in	0.67 in	1.31 in	3.50 in	0S-1606
7/8 - 14	1 1/2 in	0.67 in	1.31 in	0.25 in	8S-4754
7/8 - 14	1 3/4 in	0.67 in	1.31 in	0.25 in	8F-7496
7/8 - 14	6 in	0.67 in	1.31 in	4.00 in	7F-6100
7/8 - 14	6 1/2 in	0.67 in	1.31 in	4.25 in	6F-4991
7/8 - 14	7 in	0.67 in	1.31 in	4.75 in	4F-6426
7/8 - 14	7 1/2 in	0.67 in	1.31 in	5.25 in	2K-1747
7/8 - 14	9 in	0.67 in	1.31 in	6.75 in	2L-1091
7/8 - 14	11 in	0.67 in	1.31 in	8.75 in	3B-4978
7/8 - 14	11 1/2 in	0.67 in	1.31 in	9.25 in	4B-7572
7/8 - 14	2 in	0.67 in	1.31 in	0.25 in	2H-3854
7/8 - 14	4 in	0.67 in	1.31 in	2.00 in	0T-0603
7/8 - 14	4 1/2 in	0.67 in	1.31 in	2.50 in	4H-8340
7/8 - 14	8 in	0.67 in	1.31 in	5.75 in	7F-0479
Thread Size (in-TPI) 1 - 14					
1-14	2 1/2 in	0.71 in	1.50 in	0.25 in	5B-9385
1-14	4 in	0.71 in	1.50 in	1.75 in	1F-7464
1-14	2 in	0.71 in	1.50 in	0.25 in	2H-3743
1-14	2 3/4 in	0.71 in	1.50 in	0.50 in	2H-3745
1-14	3 in	0.71 in	1.50 in	0.75 in	6B-9194
1-14	3 1/4 in	0.71 in	1.50 in	1.00 in	6F-7037
1-14	1 1/2 in	0.71 in	1.50 in	0.13 in	8S-4755
1-14	1 3/4 in	0.71 in	1.50 in	0.13 in	8S-4756
1-14	3 1/2 in	0.71 in	1.50 in	1.25 in	9S-1368
1-14	3 3/4 in	0.71 in	1.50 in	1.50 in	9S-1367
1-14	4 1/2 in	0.71 in	1.50 in	2.25 in	0V-0269
1-14	4 3/4 in	0.71 in	1.50 in	2.50 in	7B-7181
1-14	5 in	0.71 in	1.50 in	2.75 in	2H-3746
1-14	5 1/2 in	0.71 in	1.50 in	3.25 in	8F-6124
1-14	6 in	0.71 in	1.50 in	3.75 in	3F-6645
1-14	6 1/2 in	0.71 in	1.50 in	4.00 in	7F-4283
1-14	7 in	0.71 in	1.50 in	4.50 in	5F-6932
1-14	7 1/2 in	0.71 in	1.50 in	5.00 in	2H-0637
1-14	8 in	0.71 in	1.50 in	5.50 in	8S-4757
1-14	8 1/2 in	0.71 in	1.50 in	6.00 in	3J-5981
1-14	9 in	0.71 in	1.50 in	6.50 in	9F-8122
1-14	9 1/2 in	1.50 in	0.39 in	7.00 in	5F-7136
1-14	10 in	0.71 in	1.50 in	7.50 in	1L-8586
1-14	2 1/4 in	0.71 in	1.50 in	0.25 in	2H-3744

Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (in-TPI) 1 1/8 - 12					
1 1/8 - 12	2 1/4 in	0.72 in	1.69 in	0.31 in	1A-2208
1 1/8 - 12	6 1/2 in	0.72 in	1.69 in	3.75 in	3B-5752
1 1/8 - 12	4 in	0.72 in	1.69 in	1.50 in	8F-3895
1 1/8 - 12	3 1/4 in	0.72 in	1.69 in	2.00 in	8B-0477
1 1/8 - 12	4 1/2 in	0.72 in	1.69 in	2.00 in	8H-4040
1 1/8 - 12	5 in	0.72 in	1.69 in	2.50 in	7B-9215
1 1/8 - 12	5 1/2 in	0.72 in	1.69 in	3.00 in	4B-5219
1 1/8 - 12	6 in	0.72 in	1.69 in	3.50 in	2D-3424
1 1/8 - 12	7 in	0.72 in	1.69 in	4.25 in	2D-8930
1 1/8 - 12	7 1/2 in	0.72 in	1.69 in	4.75 in	9M-3742
1 1/8 - 12	8 in	0.72 in	1.69 in	5.25 in	1S-3647
1 1/8 - 12	9 in	0.72 in	1.69 in	6.25 in	2M-3530
1 1/8 - 12	2 1/2 in	0.72 in	1.69 in	0.50 in	2H-3751
Thread Size (in-TPI) 1 1/4 - 12					
1 1/4 - 12	2 1/4 in	0.81 in	1.87 in	0.25 in	7B-2289
1 1/4 - 12	3 in	0.81 in	1.87 in	0.25 in	7F-6112
1 1/4 - 12	3 1/2 in	0.81 in	1.87 in	0.75 in	2K-0439
1 1/4 - 12	4 in	0.81 in	1.87 in	1.25 in	5P-2663
1 1/4 - 12	13 in	0.81 in	1.87 in	10.88 in	4H-2400
1 1/4 - 12	4 3/4 in	0.81 in	1.87 in	2.00 in	7B-8791
1 1/4 - 12	5 1/2 in	0.81 in	1.87 in	2.75 in	2J-2555
1 1/4 - 12	6 in	0.81 in	1.87 in	3.25 in	5H-1649
1 1/4 - 12	6 1/2 in	0.81 in	1.87 in	3.50 in	4H-6511
1 1/4 - 12	7 1/2 in	0.81 in	1.87 in	4.50 in	7F-9464
1 1/4 - 12	8 in	0.81 in	1.87 in	5.00 in	4J-0924
1 1/4 - 12	8 1/2 in	0.81 in	1.87 in	5.50 in	5F-9339
1 1/4 - 12	9 1/2 in	0.81 in	1.87 in	6.50 in	3S-7079
1 1/4 - 12	10 in	0.81 in	1.87 in	7.00 in	4H-8009
1 1/4 - 12	11 1/2 in	0.81 in	1.87 in	8.38 in	6F-4438
1 1/4 - 12	12 in	0.81 in	1.87 in	9.00 in	7H-3579
Thread Size (in-TPI) 1 1/2 - 12					
1 1/2 - 12	3 in	0.97 in	2.25 in	0.25 in	7X-3305
1 1/2 - 12	3 3/4 in	0.97 in	2.25 in	0.50 in	1J-2921
1 1/2 - 12	4 in	0.97 in	2.25 in	0.75 in	8F-5535
1 1/2 - 12	4 1/2 in	0.97 in	2.25 in	1.25 in	1F-6762
1 1/2 - 12	5 in	0.97 in	2.25 in	1.75 in	5P-9402
1 1/2 - 12	6 in	0.97 in	2.25 in	2.75 in	5F-9891
1 1/2 - 12	7 in	0.97 in	2.25 in	3.50 in	8F-1692
1 1/2 - 12	8 in	0.97 in	2.25 in	4.50 in	2D-7687
1 1/2 - 12	9 in	0.97 in	2.25 in	5.50 in	5F-3492
1 1/2 - 12	10 in	0.97 in	2.25 in	7.48 in	5P-9384
Thread Size (in-TPI) 2 - 12					
2-12	8 in	0.97 in	3.00 in	1.75 in	5R-8907



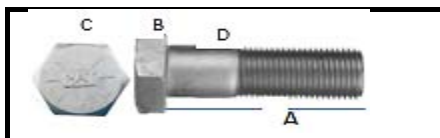
						HEX HEAD BOLTS - INCH COARSE THREAD UNC ZINC PLATED					
Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number	Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (in-TPI) 1/4- 20						Thread Size (in-TPI) 3/8- 16					
1/4 - 20	1 1/2 in	0.19 in	0.44 in	0.25 in	4M-5282	3/8 - 16	1 1/4 in	0.29 in	0.56 in	0.25 in	9B-7237
1/4 - 20	1 1/4 in	0.19 in	0.44 in	0.13 in	7X-2501	3/8 - 16	1 1/8 in	0.29 in	0.56 in	0.31 in	8T-2502
1/4 - 20	1 1/8 in	0.19 in	0.44 in	0.37 in	6D-2928	3/8 - 16	1 3/4 in	0.29 in	0.56 in	0.75 in	5S-7383
1/4 - 20	1 3/4 in	0.19 in	0.44 in	1.00 in	5P-2675	3/8 - 16	1/2 in	0.29 in	0.56 in	0.09 in	8T-9371
1/4 - 20	1 in	0.19 in	0.44 in	0.13 in	8T-8908	3/8 - 16	2 1/4 in	0.29 in	0.56 in	1.25 in	8T-9377
1/4 - 20	1/2 in	0.19 in	0.44 in	0.06 in	5S-7349	3/8 - 16	2 3/4 in	0.29 in	0.56 in	1.75 in	8T-9101
1/4 - 20	2 1/2 in	0.19 in	0.44 in	1.75 in	7X-0264	3/8 - 16	2 in	0.29 in	0.56 in	1.00 in	8T-2501
1/4 - 20	2 1/4 in	0.19 in	0.44 in	1.37 in	8T-9368	3/8 - 16	3 1/2 in	0.29 in	0.56 in	2.50 in	7X-0290
1/4 - 20	2 3/4 in	0.19 in	0.44 in	2.00 in	7X-0265	3/8 - 16	3 1/4 in	0.29 in	0.56 in	2.25 in	8T-8915
1/4 - 20	2 in	0.19 in	0.44 in	1.13 in	8T-9367	3/8 - 16	3 3/4 in	0.29 in	0.56 in	2.50 in	7X-0291
1/4 - 20	3 1/2 in	0.19 in	0.44 in	2.75 in	7X-0268	3/8 - 16	3 in	0.29 in	0.56 in	2.00 in	8T-7008
1/4 - 20	3 1/4 in	0.19 in	0.44 in	2.50 in	7X-0267	3/8 - 16	4 1/2 in	0.29 in	0.56 in	3.25 in	7X-0292
1/4 - 20	3 3/4 in	0.19 in	0.44 in	3.00 in	8C-3793	3/8 - 16	4 1/4 in	0.29 in	0.56 in	3.25 in	8T-9379
1/4 - 20	3 in	0.19 in	0.44 in	2.00 in	7X-0266	3/8 - 16	4 3/4 in	0.29 in	0.56 in	3.75 in	7X-0293
1/4 - 20	3/4 in	0.19 in	0.44 in	0.13 in	4M-5281	3/8 - 16	4 in	0.29 in	0.56 in	3.00 in	8T-9378
1/4 - 20	4 in	0.19 in	0.44 in	3.25 in	7X-0269	3/8 - 16	5 1/2 in	0.29 in	0.56 in	4.50 in	7X-0296
1/4 - 20	5 1/2 in	0.19 in	0.44 in	4.50 in	7X-0271	3/8 - 16	5 1/4 in	0.29 in	0.56 in	4.25 in	7X-0295
1/4 - 20	5 in	0.19 in	0.44 in	4.25 in	8T-8909	3/8 - 16	5 in	0.29 in	0.56 in	4.00 in	7X-0294
1/4 - 20	5/8 in	0.19 in	0.44 in	0.13 in	8T-9364	3/8 - 16	5/8 in	0.29 in	0.56 in	0.09 in	5P-8167
1/4 - 20	7/8 in	0.19 in	0.44 in	0.13 in	1H-3337	3/8 - 16	6 1/2 in	0.29 in	0.56 in	5.25 in	7X-0300
Thread Size (in-TPI) 5/16- 18						3/8 - 16	6 in	0.29 in	0.56 in	4.87 in	8C-7323
5/16 - 18	1 1/2 in	0.24 in	0.50 in	0.09 in	8C-3121	3/8 - 16	7 1/2 in	0.29 in	0.56 in	6.25 in	7X-0302
5/16 - 18	1 1/4 in	0.24 in	0.50 in	0.37 in	6V-8918	3/8 - 16	7 in	0.29 in	0.56 in	5.75 in	7X-0301
5/16 - 18	1 1/8 in	0.24 in	0.50 in	0.25 in	6V-5782	3/8 - 16	7/8 in	0.29 in	0.56 in	0.13 in	5S-7379
5/16 - 18	1 3/4 in	0.24 in	0.50 in	0.87 in	7X-0440	3/8 - 16	8 1/2 in	0.29 in	0.56 in	7.25 in	7X-0304
5/16 - 18	1 in	0.24 in	0.50 in	0.13 in	4M-6425	3/8 - 16	8 in	0.29 in	0.56 in	6.75 in	7X-0303
5/16 - 18	1/2 in	0.24 in	0.50 in	0.06 in	8T-5391	3/8 - 16	9 in	0.29 in	0.56 in	7.75 in	7X-0305
5/16 - 18	2 1/2 in	0.24 in	0.50 in	1.63 in	5P-2955	Thread Size (in-TPI) 7/16 - 14					
5/16 - 18	2 1/4 in	0.24 in	0.50 in	1.37 in	8T-8912	7/16 - 14	1 1/2 in	0.34 in	0.69 in	0.37 in	8T-8916
5/16 - 18	2 3/4 in	0.24 in	0.50 in	1.87 in	7X-0274	7/16 - 14	1 1/4 in	0.34 in	0.69 in	0.13 in	8T-9382
5/16 - 18	2 in	0.24 in	0.50 in	1.13 in	8T-8911	7/16 - 14	1 1/8 in	0.34 in	0.69 in	0.13 in	8T-6973
5/16 - 18	3 1/2 in	0.24 in	0.50 in	2.63 in	7X-0276	7/16 - 14	1 3/4 in	0.34 in	0.69 in	0.63 in	8C-6877
5/16 - 18	3 1/4 in	0.24 in	0.50 in	2.25 in	7X-0275	7/16 - 14	1 in	0.34 in	0.69 in	0.13 in	8T-9380
5/16 - 18	3 3/4 in	0.24 in	0.50 in	2.75 in	7X-0277	7/16 - 14	2 1/2 in	0.34 in	0.69 in	1.37 in	7X-0312
5/16 - 18	3 in	0.24 in	0.50 in	2.13 in	4M-6424	7/16 - 14	2 1/4 in	0.34 in	0.69 in	1.13 in	7X-0311
5/16 - 18	3/4 in	0.24 in	0.50 in	0.13 in	4M-0061	7/16 - 14	2 3/4 in	0.34 in	0.69 in	1.63 in	7X-0313
5/16 - 18	4 3/4 in	0.24 in	0.50 in	3.87 in	7X-0279	7/16 - 14	2 in	0.34 in	0.69 in	0.87 in	7X-0310
5/16 - 18	4 in	0.24 in	0.50 in	3.00 in	7X-0278	7/16 - 14	3 1/2 in	0.34 in	0.69 in	2.37 in	7X-0316
5/16 - 18	5 1/2 in	0.24 in	0.50 in	4.63 in	7X-0281	7/16 - 14	3 1/4 in	0.34 in	0.69 in	2.13 in	7X-0315
5/16 - 18	5 in	0.24 in	0.50 in	4.13 in	7X-0280	7/16 - 14	3 3/4 in	0.34 in	0.69 in	2.63 in	7X-0317
5/16 - 18	5/8 in	0.24 in	0.50 in	0.13 in	5K-0906	7/16 - 14	3 in	0.34 in	0.69 in	1.87 in	7X-0314
5/16 - 18	6 1/2 in	0.24 in	0.50 in	5.37 in	7X-0282	7/16 - 14	3/4 in	0.34 in	0.69 in	0.19 in	7X-0307
5/16 - 18	7/8 in	0.24 in	0.50 in	0.13 in	8T-9043	7/16 - 14	4 1/4 in	0.34 in	0.69 in	3.13 in	7X-0319
Thread Size (in-TPI) 3/8- 16						7/16 - 14	4 3/4 in	0.34 in	0.69 in	3.63 in	7H-3472
3/8 - 16	1 1/2 in	0.29 in	0.56 in	0.37 in	4L-9337	7/16 - 14	4 in	0.34 in	0.69 in	2.87 in	7X-0318
3/8 - 16	1 in	0.29 in	0.56 in	0.13 in	4L-6454	7/16 - 14	5 1/2 in	0.34 in	0.69 in	4.37 in	7X-0321
3/8 - 16	2 1/2 in	0.29 in	0.56 in	1.50 in	4L-6459	7/16 - 14	5 in	0.34 in	0.69 in	3.75 in	7X-0320
3/8 - 16	3/4 in	0.29 in	0.56 in	0.13 in	5M-3062	7/16 - 14	6 in	0.34 in	0.69 in	4.87 in	7X-0322
3/8 - 16	5 3/4 in	0.29 in	0.56 in	4.75 in	7X-0297	7/16 - 14	7/8 in	0.34 in	0.69 in	0.13 in	7X-0272
3/8 - 16	9 1/2 in	0.29 in	0.56 in	8.25 in	4H-3283						



**HEX HEAD BOLTS - INCH
COARSE THREAD UNC
ZINC PLATED (continued)**

Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (in-TPI) 1/2- 13					
1/2 - 13	1 1/2 in	0.39 in	0.75 in	0.25 in	5P-2566
1/2 - 13	1 1/4 in	0.39 in	0.75 in	0.31 in	8T-8917
1/2 - 13	1 1/8 in	0.39 in	0.75 in	0.13 in	5C-6565
1/2 - 13	1 3/4 in	0.39 in	0.75 in	0.44 in	8T-8919
1/2 - 13	1 in	0.39 in	0.75 in	0.13 in	5P-2228
1/2 - 13	2 1/2 in	0.39 in	0.75 in	1.25 in	7X-0325
1/2 - 13	2 1/4 in	0.39 in	0.75 in	1.00 in	5P-2424
1/2 - 13	2 3/4 in	0.39 in	0.75 in	1.50 in	8T-9389
1/2 - 13	2 in	0.39 in	0.75 in	0.75 in	8T-4835
1/2 - 13	3 1/2 in	0.39 in	0.75 in	2.25 in	7X-0328
1/2 - 13	3 1/4 in	0.39 in	0.75 in	2.00 in	8T-8920
1/2 - 13	3 3/4 in	0.39 in	0.75 in	2.50 in	8T-9391
1/2 - 13	3 in	0.39 in	0.75 in	1.75 in	7X-0326
1/2 - 13	3/4 in	0.39 in	0.75 in	0.13 in	8T-9383
1/2 - 13	4 1/2 in	0.39 in	0.75 in	3.25 in	7X-0332
1/2 - 13	4 1/4 in	0.39 in	0.75 in	3.00 in	7X-0331
1/2 - 13	4 3/4 in	0.39 in	0.75 in	3.50 in	7X-0333
1/2 - 13	4 in	0.39 in	0.75 in	2.75 in	6V-4432
1/2 - 13	5 1/2 in	0.39 in	0.75 in	4.25 in	7X-0336
1/2 - 13	5 1/4 in	0.39 in	0.75 in	4.00 in	7X-0335
1/2 - 13	5 3/4 in	0.39 in	0.75 in	4.50 in	7X-0337
1/2 - 13	5 in	0.39 in	0.75 in	3.75 in	7X-0334
1/2 - 13	6 1/2 in	0.39 in	0.75 in	5.00 in	7X-0340
1/2 - 13	6 in	0.39 in	0.75 in	4.75 in	7X-0338
1/2 - 13	7 1/2 in	0.39 in	0.75 in	6.00 in	8T-9392
1/2 - 13	7/8 in	0.39 in	0.75 in	0.28 in	8T-9384
1/2 - 13	8 1/2 in	0.39 in	0.75 in	7.00 in	7X-0471
Thread Size (in-TPI) 9/16- 12					
9/16 - 12	2 in	0.43 in	0.87 in	0.63 in	8S-4734
Thread Size (in-TPI) 5/8- 11					
5/8 - 11	1 1/4 in	0.48 in	0.94 in	0.19 in	7X-0343
5/8 - 11	1 3/4 in	0.48 in	0.94 in	0.25 in	7X-0345
5/8 - 11	1 in	0.48 in	0.94 in	0.19 in	5C-6266
5/8 - 11	2 1/4 in	0.48 in	0.94 in	0.75 in	7X-0347
5/8 - 11	2 3/4 in	0.48 in	0.94 in	1.25 in	8C-6362
5/8 - 11	3 1/2 in	0.48 in	0.94 in	2.00 in	7X-0350
5/8 - 11	3 in	0.48 in	0.94 in	1.50 in	7X-0349
5/8 - 11	4 1/2 in	0.48 in	0.94 in	3.00 in	7X-0354
5/8 - 11	4 1/4 in	0.48 in	0.94 in	2.75 in	7X-0353
5/8 - 11	4 3/4 in	0.48 in	0.94 in	3.25 in	7X-0355
5/8 - 11	4 in	0.48 in	0.94 in	2.50 in	7X-0352
5/8 - 11	5 1/2 in	0.48 in	0.94 in	4.00 in	7X-0358
5/8 - 11	5 1/4 in	0.48 in	0.94 in	3.75 in	7X-0357
5/8 - 11	5 in	0.48 in	0.94 in	3.50 in	7X-0356
5/8 - 11	6 1/2 in	0.48 in	0.94 in	4.75 in	7X-0361
5/8 - 11	6 in	0.48 in	0.94 in	4.50 in	7X-0359
5/8 - 11	7 in	0.48 in	0.94 in	5.25 in	7X-0362
5/8 - 11	8 1/2 in	0.48 in	0.94 in	6.75 in	7X-0364
5/8 - 11	8 in	0.48 in	0.94 in	6.25 in	7X-0363
5/8 - 11	9 1/2 in	0.48 in	0.94 in	7.75 in	7X-7890

Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (in-TPI) 5/8- 11					
5/8 - 11	1 1/2 in	0.48 in	0.94 in	0.19 in	8T-9393
5/8 - 11	2 1/2 in	0.48 in	0.94 in	0.63 in	8T-6871
5/8 - 11	3 1/4 in	0.48 in	0.94 in	1.75 in	8T-9396
5/8 - 11	3 3/4 in	0.48 in	0.94 in	2.25 in	7X-0351
Thread Size (in-TPI) 3/4- 10					
3/4 - 10	1 1/2 in	0.58 in	1.13 in	0.31 in	7X-0365
3/4 - 10	1 1/4 in	0.58 in	1.13 in	0.31 in	8T-9397
3/4 - 10	1 3/4 in	0.58 in	1.13 in	0.31 in	8T-9398
3/4 - 10	10 in	0.58 in	1.13 in	8.00 in	8F-4225
3/4 - 10	2 1/2 in	0.58 in	1.13 in	0.75 in	8T-8924
3/4 - 10	2 1/4 in	0.58 in	1.13 in	0.50 in	8T-9399
3/4 - 10	2 3/4 in	0.58 in	1.13 in	1.00 in	8C-6857
3/4 - 10	2 in	0.58 in	1.13 in	0.31 in	7X-0366
3/4 - 10	3 1/2 in	0.58 in	1.13 in	1.75 in	7X-0370
3/4 - 10	3 1/4 in	0.58 in	1.13 in	1.50 in	7X-0369
3/4 - 10	3 3/4 in	0.58 in	1.13 in	2.00 in	7X-0371
3/4 - 10	3 in	0.58 in	1.13 in	1.25 in	7X-0368
3/4 - 10	4 1/2 in	0.58 in	1.13 in	2.75 in	8T-9311
3/4 - 10	4 1/4 in	0.58 in	1.13 in	2.50 in	7X-0372
3/4 - 10	4 3/4 in	0.58 in	1.13 in	3.00 in	8T-8925
3/4 - 10	4 in	0.58 in	1.13 in	2.25 in	8C-8842
3/4 - 10	5 1/2 in	0.58 in	1.13 in	3.75 in	7X-0373
3/4 - 10	5 3/4 in	0.58 in	1.13 in	4.00 in	7X-0374
3/4 - 10	5 in	0.58 in	1.13 in	3.25 in	7X-0375
3/4 - 10	6 1/2 in	0.58 in	1.13 in	4.50 in	7X-0377
3/4 - 10	6 in	0.58 in	1.13 in	4.25 in	8T-9312
3/4 - 10	7 1/2 in	0.58 in	1.13 in	5.50 in	1J-8930
3/4 - 10	7 in	0.58 in	1.13 in	5.00 in	8T-9313
3/4 - 10	8 1/2 in	0.58 in	1.13 in	6.50 in	7X-0378
3/4 - 10	8 in	0.58 in	1.13 in	6.00 in	5P-4135
3/4 - 10	9 in	0.58 in	1.13 in	7.00 in	7X-3179
Thread Size (in-TPI) 7/8- 9					
7/8 - 9	1 1/2 in	0.67 in	1.31 in	0.25 in	7X-0379
7/8 - 9	1 3/4 in	0.67 in	1.31 in	0.37 in	7X-0380
7/8 - 9	2 1/4 in	0.67 in	1.31 in	0.37 in	7X-0382
7/8 - 9	2 3/4 in	0.67 in	1.31 in	0.75 in	7X-0383
7/8 - 9	2 in	0.67 in	1.31 in	0.37 in	7X-0381
7/8 - 9	3 1/2 in	0.67 in	1.31 in	1.50 in	7X-0386
7/8 - 9	3 1/4 in	0.67 in	1.31 in	1.25 in	7X-0385
7/8 - 9	3 in	0.67 in	1.31 in	1.00 in	7X-0384
7/8 - 9	4 1/2 in	0.67 in	1.31 in	2.50 in	7X-0388
7/8 - 9	4 3/4 in	0.67 in	1.31 in	2.75 in	7X-0389
7/8 - 9	4 in	0.67 in	1.31 in	2.00 in	7X-0387
7/8 - 9	5 1/2 in	0.67 in	1.31 in	3.50 in	7X-0391
7/8 - 9	5 in	0.67 in	1.31 in	3.00 in	7X-0390
7/8 - 9	6 1/2 in	0.67 in	1.31 in	4.25 in	7X-0393
7/8 - 9	6 in	0.67 in	1.31 in	3.75 in	7X-0392
7/8 - 9	7 in	0.67 in	1.31 in	4.75 in	7X-0394
7/8 - 9	8 in	0.67 in	1.31 in	5.75 in	7X-0395
7/8 - 9	8 1/2 in	0.67 in	1.31 in	6.25 in	7X-0396



HEX HEAD BOLTS - INCH COARSE THREAD UNC ZINC PLATED (continued)

Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (in-TPI) 7/8- 9					
7/8 - 9	10 in	0.67 in	1.31 in	7.75 in	7X-0398
7/8 - 9	2 1/2 in	0.67 in	1.31 in	0.50 in	8T-9400
7/8 - 9	3 3/4 in	0.67 in	1.31 in	1.75 in	7X-0453
7/8 - 9	4 1/4 in	0.67 in	1.31 in	2.25 in	7X-0455
7/8 - 9	9 in	0.67 in	1.31 in	6.75 in	7X-0397
Thread Size (in-TPI) 1-8					
1-8	1 1/2 in	0.71 in	1.50 in	0.31 in	7X-0400
1-8	1 1/4 in	0.71 in	1.50 in	0.31 in	7X-0399
1-8	1 3/4 in	0.71 in	1.50 in	0.37 in	7X-0401
1-8	10 in	0.71 in	1.50 in	7.50 in	7X-0419
1-8	2 1/4 in	0.71 in	1.50 in	0.25 in	7X-0403
1-8	2 3/4 in	0.71 in	1.50 in	0.50 in	7X-0405
1-8	2 in	0.71 in	1.50 in	0.75 in	7X-0402
1-8	3 1/2 in	0.71 in	1.50 in	1.25 in	7X-0408
1-8	3 1/4 in	0.71 in	1.50 in	1.00 in	7X-0407
1-8	3 3/4 in	0.71 in	1.50 in	1.50 in	8T-8927
1-8	3 in	0.71 in	1.50 in	0.75 in	7X-0406
1-8	4 1/2 in	0.71 in	1.50 in	2.25 in	8C-8843
1-8	4 1/4 in	0.71 in	1.50 in	2.00 in	7X-0411
1-8	4 3/4 in	0.71 in	1.50 in	2.50 in	7X-0412
1-8	4 in	0.71 in	1.50 in	1.75 in	7X-0410
1-8	5 1/2 in	0.71 in	1.50 in	3.25 in	7X-0443
1-8	5 in	0.71 in	1.50 in	2.75 in	8C-8844
1-8	6 1/2 in	0.71 in	1.50 in	4.00 in	7X-0444
1-8	6 in	0.71 in	1.50 in	3.75 in	1J-5929
1-8	7 1/2 in	0.71 in	1.50 in	5.00 in	7X-0414
1-8	7 in	0.71 in	1.50 in	4.50 in	7X-0413
1-8	8 1/2 in	0.71 in	1.50 in	6.00 in	7X-0416
1-8	8 in	0.71 in	1.50 in	5.50 in	7X-0415
1-8	9 1/2 in	0.71 in	1.50 in	7.00 in	7X-0418
1-8	9 in	0.71 in	1.50 in	6.50 in	7X-0417
Thread Size (in-TPI) 1/8 - 7					
1 1/8 - 7	2 in	0.72 in	1.69 in	0.25 in	7X-0420
1 1/8 - 7	3 1/2 in	0.72 in	1.69 in	1.00 in	7X-0422
1 1/8 - 7	3 in	0.72 in	1.69 in	0.50 in	7X-0421
1 1/8 - 7	4 1/2 in	0.72 in	1.69 in	2.00 in	7X-0423
1 1/8 - 7	5 1/4 in	0.72 in	1.69 in	3.00 in	7X-0424
1 1/8 - 7	6 1/2 in	0.72 in	1.69 in	3.75 in	7X-0426
1 1/8 - 7	6 in	0.72 in	1.69 in	3.50 in	7X-0425

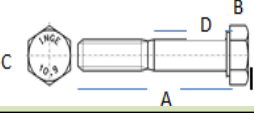
Thread Size (in-TPI)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (in-TPI) 1 1/4 - 7					
1 1/4 - 7	3 1/2 in	0.81	1.87	0.75 in	7X-0427
1 1/4 - 7	4 1/2 in	0.81	1.87	1.75 in	7X-0429
1 1/4 - 7	4 in	0.81	1.87	1.25 in	7X-0428
1 1/4 - 7	5 1/2 in	0.81	1.87	2.75 in	7X-0430
1 1/4 - 7	6 1/2 in	0.81	1.87	3.50 in	7X-0432
1 1/4 - 7	6 in	0.81	1.87	3.25 in	7X-0431
1 1/4 - 7	7 in	0.81	1.87	4.00 in	7X-0433
1 1/4 - 7	8 1/2 in	0.81	1.87	5.50 in	7X-0435
1 1/4 - 7	8 in	0.81	1.87	5.00 in	7X-0434
1 1/4 - 7	9 1/2 in	0.81	1.87	6.50 in	7X-0437
1 1/4 - 7	9 in	0.81	1.87	6.00 in	7X-0436
1 1/4 - 7	5 in	0.81	1.87	2.25 in	7X-0445
Thread Size (in-TPI) 1 1/2 - 6					
1 1/2 - 6	3 1/2 in	0.97 in	2.25 in	0.40 in	7X-0438
1 1/2 - 6	4 1/2 in	0.97 in	2.25 in	1.25 in	138-8455
1 1/2 - 6	5 in	0.97 in	2.25 in	1.75 in	7X-0439
1 1/2 - 6	6 in	0.97 in	2.25 in	2.50 in	131-2627

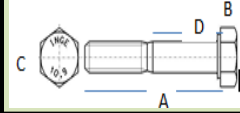


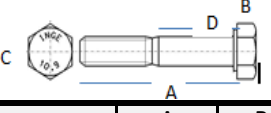
HIGH HEAD BOLTS



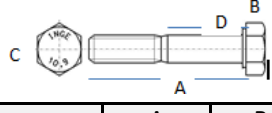
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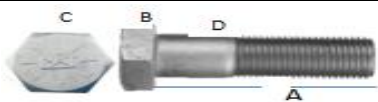
 HEX HEAD BOLTS- METRIC COARSE THREAD UNC PHOSPHATE & OIL COATED					
Thread Size (dia x pitch)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (dia x pitch) M12x1.75					
M12 × 1.75	25 mm	8 mm	18 mm	5 mm	6A-5591
M12 × 1.75	30 mm	8 mm	18 mm	5 mm	6V-3668
M12 × 1.75	35 mm	8 mm	18 mm	5 mm	6V-8675
M12 × 1.75	40 mm	8 mm	18 mm	5 mm	6V-8197
M12 × 1.75	45 mm	8 mm	18 mm	15 mm	6V-5684
M12 × 1.75	50 mm	8 mm	18 mm	20 mm	6V-7673
M12 × 1.75	60 mm	8 mm	18 mm	30 mm	6V-3823
M12 × 1.75	70 mm	8 mm	18 mm	40 mm	6V-8336
M12 × 1.75	80 mm	8 mm	18 mm	50 mm	6V-5696
M12 × 1.75	90 mm	8 mm	18 mm	60 mm	8T-0372
M12 × 1.75	100 mm	8 mm	18 mm	70 mm	8T-0106
M12 × 1.75	110 mm	8mm	18mm	80 mm	8T-0646
M12 × 1.75	120 mm	8 mm	18 mm	90 mm	6V-8004
M12 × 1.75	140 mm	8 mm	18 mm	104 mm	7X-0909
M12 × 1.75	150 mm	8 mm	18 mm	114 mm	8T-5044
M12 × 1.75	160 mm	8 mm	18 mm	124 mm	8T-0162
M12 × 1.75	180 mm	8 mm	18 mm	144 mm	8T-6991
M12 × 1.75	200 mm	8 mm	18 mm	147 mm	8C-3226
Thread Size (dia x pitch) M14x2.00					
M14 × 2.00	50 mm	9mm	21mm	16 mm	6V-5685
M14 × 2.00	35 mm	9mm	21mm	6 mm	6V-8550
M14 × 2.00	90 mm	9mm	21mm	56 mm	8C-0537
M14 × 2.00	45 mm	9mm	21mm	6 mm	8T-0226
M14 × 2.00	25 mm	9mm	21mm	6 mm	8T-0296
M14 × 2.00	30 mm	9mm	21mm	6 mm	8T-0297
M14 × 2.00	100 mm	9mm	21mm	66 mm	8T-0298
M14 × 2.00	20 mm	9mm	21mm	6 mm	8T-0373
M14 × 2.00	80 mm	9mm	21mm	46 mm	8T-3653
M14 × 2.00	60 mm	9mm	21mm	26 mm	8T-3666
Thread Size (dia x pitch) M16x2.00					
M16 × 2.00	25 mm	10mm	24mm	4 mm	6V-5224
M16 × 2.00	30 mm	10mm	24mm	3 mm	8T-0299
M16 × 2.00	35 mm	10mm	24mm	4 mm	6V-5844
M16 × 2.00	40 mm	10mm	24mm	5 mm	6V-4429
M16 × 2.00	45 mm	10mm	24mm	5 mm	8T-0375
M16 × 2.00	50 mm	10mm	24mm	12 mm	6V-5686
M16 × 2.00	60 mm	10mm	24mm	22 mm	6V-3303
M16 × 2.00	70 mm	10mm	24mm	32 mm	8T-0357
M16 × 2.00	80 mm	10mm	24mm	42 mm	8T-0281
M16 × 2.00	90 mm	10mm	24mm	52 mm	8T-0358
M16 × 2.00	100 mm	10mm	24mm	62 mm	8T-0207
M16 × 2.00	110 mm	10mm	24mm	72 mm	8T-0649
M16 × 2.00	120 mm	10mm	24mm	82 mm	8T-0282
M16 × 2.00	130 mm	10mm	24mm	86 mm	8T-0359
M16 × 2.00	140 mm	10mm	24mm	96 mm	6V-7675
M16 × 2.00	150 mm	10mm	24mm	106 mm	6V-8154
M16 × 2.00	160 mm	10mm	24mm	116 mm	8T-0650
M16 × 2.00	180 mm	10mm	24mm	136 mm	8T-5002

 HEX HEAD BOLTS- METRIC COARSE THREAD UNC PHOSPHATE & OIL COATED					
Thread Size (dia x pitch)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (dia x pitch) M20x2.50					
M20 × 2.50	30 mm	13mm	30mm	4 mm	8T-0651
M20 × 2.50	35 mm	13mm	30mm	4 mm	8T-0300
M20 × 2.50	40 mm	13mm	30mm	5mm	6V-7729
M20 × 2.50	45 mm	13mm	30mm	6 mm	8T-0652
M20 × 2.50	50 mm	13mm	30mm	4 mm	6V-3531
M20 × 2.50	60 mm	13mm	30mm	14 mm	6V-3532
M20 × 2.50	70mm	13mm	30mm	24 mm	6V-5845
M20 × 2.50	80 mm	13mm	30mm	34 mm	6V-3669
M20 × 2.50	90 mm	13mm	30mm	44 mm	8T-0360
M20 × 2.50	100 mm	13mm	30mm	54 mm	6V-9667
M20 × 2.50	110 mm	13mm	30mm	64 mm	8T-0362
M20 × 2.50	120 mm	13mm	30mm	74 mm	8T-0070
M20 × 2.50	130 mm	13mm	30mm	78 mm	8T-0655
M20 × 2.50	140 mm	13mm	30mm	88 mm	6V-9167
M20 × 2.50	150 mm	13mm	30mm	98 mm	8T-0656
M20 × 2.50	160 mm	13mm	30mm	108 mm	8T-0657
M20 × 2.50	180 mm	13mm	30mm	128 mm	8T-0658
M20 × 2.50	200 mm	13mm	30mm	148 mm	6V-8569
Thread Size (dia x pitch) M24x3.00					
M24 × 3.00	40 mm	15mm	36mm	8 mm	8T-0661
M24 × 3.00	50 mm	15mm	36mm	8 mm	6V-9199
M24 × 3.00	80 mm	15mm	36mm	26 mm	6V-8133
M24 × 3.00	120 mm	15mm	36mm	66 mm	6V-8132
M24 × 3.00	200 mm	15mm	36mm	140 mm	6V-8198
M24 × 3.00	35 mm	15mm	36mm	8 mm	8T-0662
M24 × 3.00	45 mm	15mm	36mm	8 mm	8T-0663
M24 × 3.00	70 mm	15mm	36mm	8 mm	8T-0664
M24 × 3.00	90 mm	15mm	36mm	36 mm	8T-0666
M24 × 3.00	100 mm	15mm	36mm	46 mm	8T-0667
M24 × 3.00	110 mm	15mm	36mm	56 mm	8T-0668
M24 × 3.00	130 mm	15mm	36mm	70 mm	8T-0669
M24 × 3.00	140 mm	15mm	36mm	80 mm	8T-0670
M24 × 3.00	150 mm	15mm	36mm	90 mm	8T-0671
M24 × 3.00	160 mm	15mm	36mm	100 mm	8T-0672
M24 × 3.00	180 mm	15mm	36mm	120 mm	8T-0674
Thread Size (dia x pitch) M30x3.50					
M30 × 3.50	80 mm	19mm	46mm	14 mm	8C-3222
M30 × 3.50	90 mm	19mm	46mm	24 mm	8C-3411
M30 × 3.50	100 mm	19mm	46mm	34 mm	8T-0368
M30 × 3.50	110 mm	19mm	46mm	44 mm	8T-0283
M30 × 3.50	120 mm	19mm	46mm	54 mm	8T-0369
M30 × 3.50	140 mm	19mm	46mm	68 mm	8T-0370
M30 × 3.50	160 mm	19mm	46mm	88 mm	8C-3236
M30 × 3.50	180 mm	19mm	46mm	108 mm	8T-6624

 HEX HEAD BOLTS- METRIC COARSE THREAD UNC ZINC PLATED					
Thread Size (dia x pitch)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (dia x pitch) M12x1.75					
M12 × 1.75	16 mm	8mm	18mm	5 mm	7X-2548
M12 × 1.75	20 mm	8mm	18mm	5 mm	8T-4179
M12 × 1.75	200 mm	8mm	18mm	147 mm	7X-2551
M12 × 1.75	25 mm	8mm	18mm	5 mm	8T-4192
M12 × 1.75	30 mm	8mm	18mm	5 mm	8T-4139
M12 × 1.75	35 mm	8mm	18mm	5 mm	8T-4956
M12 × 1.75	40 mm	8mm	18mm	5 mm	8T-4183
M12 × 1.75	45 mm	8mm	18mm	15 mm	8T-4184
M12 × 1.75	50 mm	8mm	18mm	20 mm	8T-4194
M12 × 1.75	60 mm	8mm	18mm	30 mm	8T-4910
M12 × 1.75	70 mm	8mm	18mm	40 mm	8T-4648
M12 × 1.75	80 mm	8mm	18mm	50 mm	8T-6868
M12 × 1.75	90 mm	8mm	18mm	60 mm	8T-4176
M12 × 1.75	100 mm	8mm	18mm	70 mm	7X-2549
M12 × 1.75	110 mm	8mm	18mm	80 mm	7X-2550
M12 × 1.75	120 mm	8mm	18mm	90 mm	8T-5041
M12 × 1.75	130 mm	8mm	18mm	94 mm	8T-5001
M12 × 1.75	140 mm	8mm	18mm	104 mm	8T-5412
M12 × 1.75	150 mm	8mm	18mm	114 mm	8T-5092
M12 × 1.75	160 mm	8mm	18mm	124 mm	8T-7930
M12 × 1.75	180 mm	8mm	18mm	144 mm	8T-7929
Thread Size (dia x pitch) M16x2.00					
M16 × 2.00	25 mm	10mm	24mm	4 mm	8T-4190
M16 × 2.00	30 mm	10mm	24mm	3 mm	7X-2552
M16 × 2.00	35 mm	10mm	24mm	4 mm	8T-4779
M16 × 2.00	40 mm	10mm	24mm	5 mm	7X-2553
M16 × 2.00	45 mm	10mm	24mm	5 mm	8T-7338
M16 × 2.00	50 mm	10mm	24mm	12 mm	8T-4193
M16 × 2.00	60 mm	10mm	24mm	22 mm	8T-4140
M16 × 2.00	70 mm	10mm	24mm	32 mm	7X-2554
M16 × 2.00	80 mm	10mm	24mm	42 mm	7X-2555
M16 × 2.00	90 mm	10mm	24mm	52 mm	8T-4175
M16 × 2.00	100 mm	10mm	24mm	56 mm	7X-2556
M16 × 2.00	110 mm	10mm	24mm	72 mm	8T-4173
M16 × 2.00	120 mm	10mm	24mm	82 mm	8T-4174
M16 × 2.00	130 mm	10mm	24mm	86 mm	7X-2475
M16 × 2.00	140 mm	10mm	24mm	96 mm	7X-2557
M16 × 2.00	150 mm	10mm	24mm	106 mm	7X-2558
M16 × 2.00	160 mm	10mm	24mm	116 mm	7X-2559
M16 × 2.00	180 mm	10mm	24mm	136 mm	8T-6385
M16 × 2.00	200 mm	10mm	24mm	156 mm	8T-6383



 HEX HEAD BOLTS- METRIC COARSE THREAD UNC ZINC PLATED					
Thread Size (dia x pitch)	A Bolt Length	B Head Height	C Head Width	D Grip Length	Part Number
Thread Size (dia x pitch) M20x2.50					
M20 × 2.50	30 mm	13mm	30mm	4 mm	8T-4780
M20 × 2.50	35 mm	13mm	30mm	4 mm	7X-2561
M20 × 2.50	40 mm	13mm	30mm	5 mm	8T-5460
M20 × 2.50	45 mm	13mm	30mm	6 mm	7X-2562
M20 × 2.50	50 mm	13mm	30mm	4 mm	8T-6430
M20 × 2.50	60 mm	13mm	30mm	14 mm	7X-2563
M20 × 2.50	70 mm	13mm	30mm	24 mm	8T-4141
M20 × 2.50	80 mm	13mm	30mm	34 mm	8T-4187
M20 × 2.50	90 mm	13mm	30mm	44 mm	7X-2564
M20 × 2.50	100 mm	13mm	30mm	54 mm	7X-2565
M20 × 2.50	110 mm	13mm	30mm	64 mm	7X-2566
M20 × 2.50	120 mm	13mm	30mm	74 mm	8T-6381
M20 × 2.50	130mm	13mm	30mm	78 mm	7X-2532
M20 × 2.50	140 mm	13mm	30mm	88 mm	8C-8478
M20 × 2.50	150 mm	13mm	30mm	98 mm	8T-4170
M20 × 2.50	160mm	13mm	30mm	108 mm	7X-2488
M20 × 2.50	180 mm	13mm	30mm	128 mm	7X-2568
M20 × 2.50	200mm	13mm	30mm	148 mm	7X-2569
Thread Size (dia x pitch) M24x3.00					
M24 × 3.00	35 mm	15mm	36mm	8 mm	7X-2572
M24 × 3.00	40 mm	15mm	36mm	8 mm	7X-2573
M24 × 3.00	45 mm	15mm	36mm	8 mm	7X-2574
M24 × 3.00	50 mm	15mm	36mm	8 mm	8T-5379
M24 × 3.00	60 mm	15mm	36mm	8 mm	7X-2575
M24 × 3.00	70 mm	15mm	36mm	8 mm	7X-2576
M24 × 3.00	80 mm	15mm	36mm	26 mm	8T-5878
M24 × 3.00	90 mm	15mm	36mm	36 mm	7X-2577
M24 × 3.00	100 mm	15mm	36mm	46 mm	7X-2489
M24 × 3.00	110 mm	15mm	36mm	56 mm	7X-2454
M24 × 3.00	120 mm	15mm	36mm	66 mm	8T-0363
M24 × 3.00	130 mm	15mm	36mm	70 mm	8T-6380
M24 × 3.00	140 mm	15mm	36mm	80 mm	8T-4649
M24 × 3.00	150 mm	15mm	36mm	90 mm	8C-3290
M24 × 3.00	160 mm	15mm	36mm	100 mm	7X-2567
M24 × 3.00	180 mm	15mm	36mm	120 mm	7X-2465
M24 × 3.00	200 mm	15mm	36mm	140 mm	7X-2578
Thread Size (dia x pitch) M30x3.50					
M30 × 3.50	50 mm	19mm	46mm	9 mm	9X-2199
M30 × 3.50	80 mm	19mm	46mm	14 mm	8C-8723
M30 × 3.50	90 mm	19mm	46mm	24 mm	7X-2580
M30 × 3.50	100 mm	19mm	46mm	34 mm	7X-2581
M30 × 3.50	110 mm	19mm	46mm	44 mm	7X-2582
M30 × 3.50	120 mm	19mm	46mm	54 mm	7X-2583
M30 × 3.50	140 mm	19mm	46mm	68 mm	7X-2584
M30 × 3.50	160 mm	19mm	46mm	88 mm	7X-2585
M30 × 3.50	180 mm	19mm	46mm	108 mm	7X-2586

		Self-Locking Bolts- INCH Coarse Thread UNC	
Self-Locking Bolts/Inch/Coarse Thread UNC			
Thread Size (in-TPI)	A	D	Part Number
	Bolt Length	Grip Length	
Thread Size (in-TPI) 1/2-13			
1/2 - 13	3/4 in	0.13 in	031-0221
1/2 - 13	7/8 in	0.13 in	6K-5718
1/2 - 13	1 in	0.13 in	6K-7917
1/2 - 13	1 1/4 in	0.31 in	030-8538
1/2 - 13	1 1/8 in	0.13 in	5K-8454
1/2 - 13	1 1/2 in	0.25 in	5K-7143
1/2 - 13	1 3/4 in	0.44 in	031-0223
1/2 - 13	2 1/4 in	1.00 in	030-9620
1/2 - 13	2 3/4 in	1.50 in	034-0172
1/2 - 13	2 in	0.75 in	6V-0314
1/2 - 13	3 1/4 in	2.00 in	5P-8091
Thread Size (in-TPI) 5/8-11			
5/8 - 11	1 in	0.19 in	5K-7138
5/8 - 11	1 1/4 in	0.13 in	6K-0138
5/8 - 11	1 1/2 in	0.19 in	030-7335
5/8 - 11	1 3/4 in	0.25 in	7K-4370
5/8 - 11	2 in	0.50 in	6K-0137
5/8 - 11	2 1/4 in	0.75 in	5P-7034
5/8 - 11	2 1/2 in	0.63 in	5P-9118
5/8 - 11	2 3/4 in	1.25 in	6V-1997
5/8 - 11	3 in	1.50 in	032-0676
5/8 - 11	3 3/4 in	2.25 in	5P-7782
Thread Size (in-TPI) 3/4-10			
3/4 - 10	1 1/4 in	0.31 in	031-2712
3/4 - 10	1 1/2 in	0.31 in	031-9253
3/4 - 10	1 3/4 in	0.31 in	031-0224
3/4 - 10	2 in	0.31 in	031-0225
3/4 - 10	2 1/4 in	0.50 in	5P-3882
3/4 - 10	2 1/2 in	0.75 in	6K-1304
3/4 - 10	3 in	1.25 in	5P-6712
3/4 - 10	3 1/2 in	1.75 in	6V-1684
3/4 - 10	4 1/2 in	2.75 in	5P-1910
Thread Size (in-TPI) 7/8-9			
7/8 - 9	2 1/2 in	0.50 in	5P-7688
Thread Size (in-TPI) 1-8			
1-8	2 3/4 in	0.50 in	5P-7783
1-8	3 1/2 in	1.25 in	7K-9272
1-8	5 1/2 in	3.25 in	032-0679
Thread Size (in-TPI) 1 1/8 -7			
1 1/8 - 7	3 1/2 in	1.00 in	7J-9897



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and hardness to support
strength work



We are Here, with technical and hardness Fasteners



BEST QUALITY IN FASTENERS

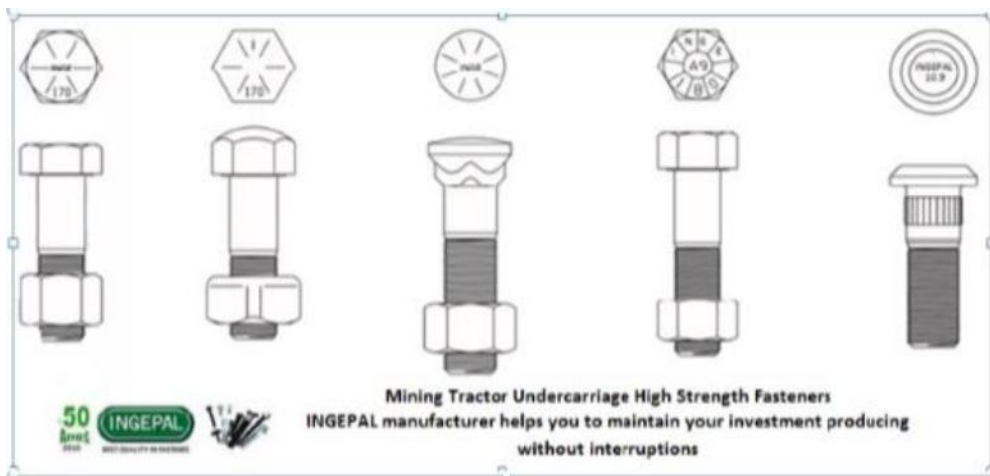
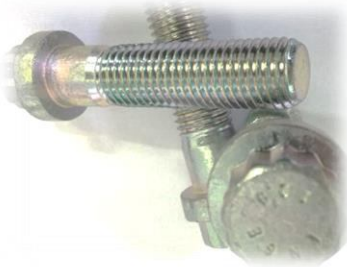
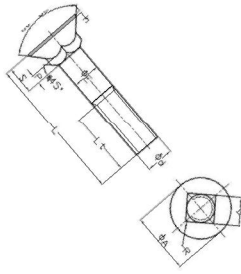
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*High Strength Fasteners , INGEPAL first one manufacture in bolts & nuts
for mining equipment and tractors*



INGEPAL**HEAT TREATMENT**

INGEPAL - TRATAMENTO TÉRMICO



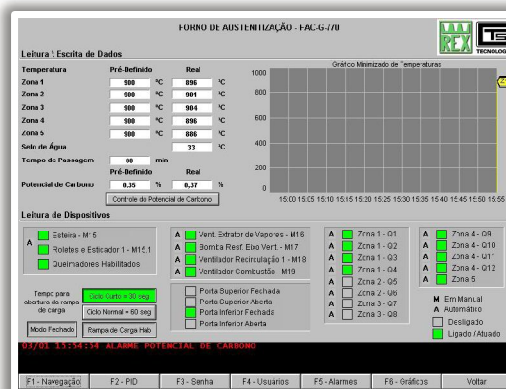
A INGEPAL possui 3 linhas de tratamento térmico de fornos contínuos, com capacidade instalada de 2.350 Kg/h perfazendo uma capacidade mensal de 1.656 Toneladas. Para essa capacidade um houve rigoroso cuidado e preocupação com a qualidade, culminando na homologação da certificação CQI-9, por diversos clientes, tais como: GM, Ford, Dana e Caterpillar, adicionalmente a INGEPAL possui certificação de terceira parte, onde o processo de tratamento é auditado e validade conforme os requisitos da IATF 16949

Prestamos serviços de tratamento térmico para vários segmentos, como os de linha branca, automotivo, duas rodas, aeroespacial, petróleo e gás, entre outros.

A INGEPAL conta com um sofisticado laboratório, autossuficiente para qualificar peças e processos, possui Técnicos e Engenheiros de áreas complementares, com larga experiência e competência no segmento de Tratamento Térmico.

Serviços

Tempera / Revenimento / Enegrecimento / Alívio de Tensão



Sistema Supervisório com receitas pré montadas pela Engenharia de Tratamento Térmico.



Alta produtividade e Qualidade



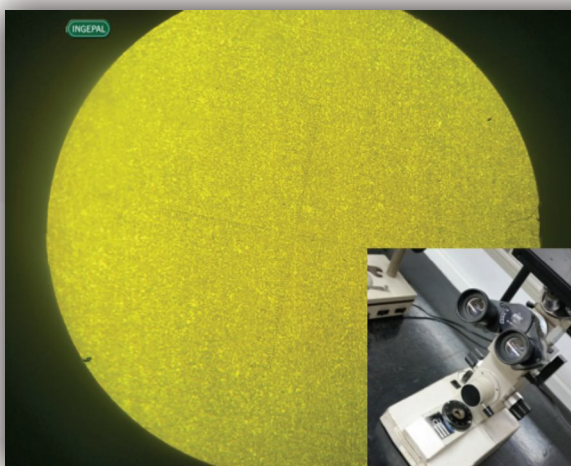
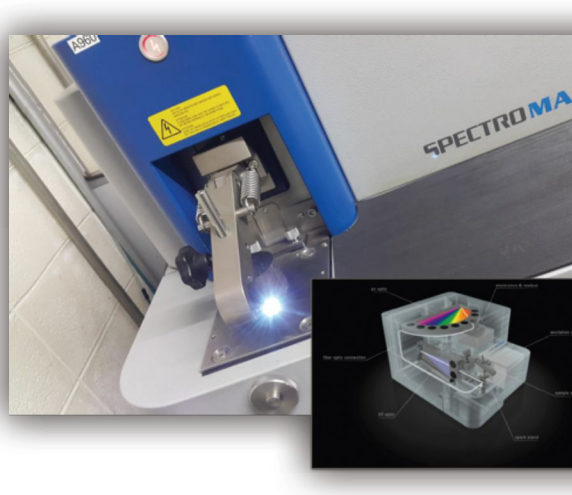
Análise de atmosfera – Carbon/Sulfur Analysis

A Análise de Carbono por combustão é usado para medir a quantidade de carbono no metal. Garante que a atmosfera do forno está adequada quanto a indicação de carbono na sonda. Além de uma Sonda instalada no forno onde é feita a medição em tempo real, validamos diariamente através do analisar de carbono o potencial de carbono nas atmosferas dos fornos, adicionalmente realizamos análises com ponto de orvalho, sempre para garantir uma atmosfera adequada para o tratamento.

Análise de composição química do Material – Espectrômetro de emissão óptica

Análise de todos importantes elementos requeridos no metal podem ser determinados com esse analisador, incluindo traços de carbono,

Fósforo e Enxofre, garante uma correta parametrização do forno de acordo com o material a ser tratado



Análises micrográficas

Realizamos diversas análises micrográficas de acordo com normas aplicáveis, visando avaliar transformação, carbonetação ou descarbonetação, ferrita delta ou ferrita livre, entre outras análises.

Quando necessário as peças são lavadas em banhos de desengraxante ou desfosfatizante, antes do processo de Tratamento Térmico, afim de evitar problemas de ferrita delta, por exemplo.

Ensaio por correntes parasitas

As peças são testadas em máquinas que realizam separação de materiais ferromagnéticos misturadas em termos de composição química (ligas), dureza, condição de tratamento térmico, decarbonetação superficial e estrutura.

Possuímos quatro aparelhos para seleção manual e duas máquinas automáticas



Dureza / Microdureza / Tração

Realizamos diversos ensaios comprobatórios de qualidade. Durezas em todas escalas mais usadas, HRC, HRB, HRA, HV, HR15N, HB ao todo são 4 durômetros digitais e 4 mecânicos - Todos com certificados RBC (Rede Brasileira de Calibração). Ensaio de Tração - 3 Máquinas com capacidades de 15Ton / 50 Ton e 60 Ton





Certificate IATF 0339432
Certificate SGS BR08/4045

The management system of

Indústrias Gerais de Parafusos Ingepal Ltda.

Rua Gonçalves Luiz de Oliveira, s/nº,
Parque Industrial, Franco da Rocha, SP, 07859-360, Brazil

Has been assessed and certified as meeting the requirements of

IATF 16949:2016

Edition 1

For the following activities

Manufacturing of fasteners.
EXCLUSIONS: 8.3 Product Design

3 Year certification is valid from 16 October 2018 until 15 October 2021
and remains valid subject to satisfactory surveillance audits
Version no. 7 Current version updated 16 October 2018

Authorised by

Veto Power Authority

Contracted Office: SGS United Kingdom Ltd, Station Road, Oldbury, B69 4LN, UK.
e mail Neil.Hall@sgs.com

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Bolts Track Split Master Cutting Edge



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