

Fisher® Body-to-Bonnet Torque Values for Hot-Dipped Galvanized Fasteners

Fastening hot-dipped galvanized (HDG) studs and nuts needs to be done with extreme caution. The amount of torque needed to apply the correct force between the body and bonnet is approximately 75% of what is needed for lubricated fasteners. Tables 1 and 2 give the torque values for HDG body-to-bonnet bolting.

Bolt Torque Values for Bolt Materials with Yield Strength 6895 bar (100,000 psi) and Above

Bolt Materials:

SA 193-B7, SA 564-630 (H1150), SA 193-B16, SA 564-630 (H1150 DBL and FGS 20B7), SA 354-BD, SA 193-B8 Class 2 sizes up thru 3/4 inch, SA 564-630 (H1100) SA 637 (N07718)

Table 1. Bolt Torque Values for Bolt Materials with Yield Strength 100,000 psi and Above

BOLT TORQUE NOMINAL VALUES					
Bolt Size	Studs with Heavy Hex Nuts Heavy Hex Head Cap Screws		Studs with Standard Hex Nuts Standard Hex Head Cap Screws		Tolerances
	FFS3A19		FFS3A19		
	N•m	Lbf•ft	N•m	Lbf•ft	
1/4 - 20	8.54	6.3	8.13	6.0	± 15%
5/16 - 18	17.1	12.6	15.9	11.7	
3/8 - 16	29.7	21.9	27.9	20.6	
7/16 - 14	47.5	35	44.7	33	
1/2 - 13	67.8	50	65.1	48	
9/16 - 12	90.8	67	86.8	64	
5/8 - 11	119	88	114	84	
3/4 - 10	190	140	183	135	
7/8 - 9	281	207	273	201	
1 - 8	392	289	382	282	+15% / -5%
1 1/8 - 8	533	393	522	385	
1 1/4 - 8	705	520	687	507	
1 3/8 - 8	937	691	919	678	
1 1/2 - 8	1224	903	1204	888	
1 5/8 - 8	1566	1155	1542	1137	
1 3/4 - 8	1966	1450	1936	1428	
1 7/8 - 8	2428	1791	2394	1766	
2 - 8	2957	2181	2919	2153	
2 1/4 - 8	4236	3124	4185	3087	
2 1/2 - 8	5837	4305	5773	4258	
3 - 8	10151	7487	10059	7419	



Bolt Torque Values for Bolt Materials with Yield Strength from 80,000 to 92,000 psi

Bolt Materials:

SA 449 (Grade 5) sizes above 1 inch thru 1-1/2 inch, SA 193-B7M, SA 320-L7M, SA 453-660 A and B, SA 193-B8 Class 2 sizes above 3/4 inch thru 1 inch. SA 193-B8M Class 2 sizes above 3/4 inch thru 1 inch

Table 2. Bolt Torque Values for Bolt Materials with Yield Strength from 80,000 to 92,000 psi

BOLT TORQUE NOMINAL VALUES					
Bolt Size	Studs with Heavy Hex Nuts Heavy Hex Head Cap Screws		Studs with Standard Hex Nuts Standard Hex Head Cap Screws		Tolerances
	FFS3A19		FFS3A19		
	N•m	Lbf•ft	N•m	Lbf•ft	
1/4 - 20	7.59	5.6	7.19	5.3	+5% / -15%
5/16 - 18	15.6	11.5	14.5	10.7	
3/8 - 16	27.5	20.3	25.9	19.1	
7/16 - 14	43.4	32	42.0	31	
1/2 - 13	66.4	49	63.7	47	
9/16 - 12	96.3	71	86.8	64	
5/8 - 11	119	88	114	84	
3/4 - 10	190	140	183	135	
7/8 - 9	281	207	301	222	+10% / -15%

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