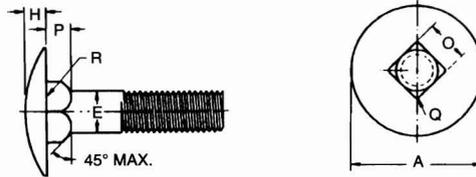


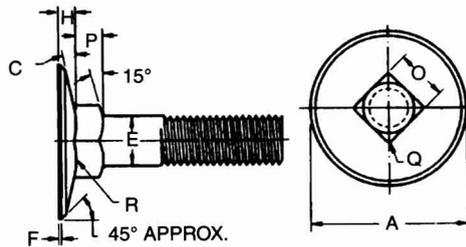
STEP BOLTS



Nominal Size ¹ or Basic Bolt Diameter	E		A		H		O		P		Q	R
	Body Diameter		Head Diameter		Head Height		Square Width		Square Depth		Corner Radius on Square	Fillet Radius
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Max
No.10	0.199	0.182	0.656	0.625	0.114	0.094	0.199	0.185	0.125	0.094	0.031	0.031
1/4	0.260	0.237	0.844	0.813	0.145	0.125	0.260	0.245	0.156	0.125	0.031	0.031
5/16	0.324	0.298	1.031	1.000	0.176	0.156	0.324	0.307	0.187	0.156	0.031	0.031
3/8	0.388	0.360	1.249	1.188	0.208	0.188	0.388	0.368	0.219	0.188	0.047	0.031
7/16	0.452	0.421	1.406	1.375	0.239	0.219	0.452	0.431	0.250	0.219	0.047	0.031
1/2	0.515	0.483	1.594	1.563	0.270	0.250	0.515	0.492	0.281	0.250	0.047	0.031

¹ Where specifying nominal size in decimals, zeros preceding decimal and in the fourth decimal place shall be omitted.

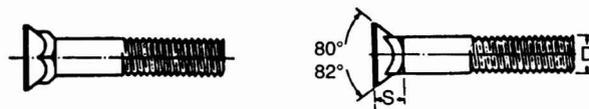
ELEVATOR BOLTS



Nominal Size ¹ or Basic Bolt Diameter	E		A			C	F	H		O		P		Q	R
	Body Diameter		Head Diameter			Head Angle	Flat on Min Dia. Head	Head Height		Square Width		Square Depth		Corner Radius On Square	Fillet Radius
	Max	Min	Max Edge Sharp	Min Edge Sharp	Min Edge Flat			Ref	Max	Max	Min	Max	Min		
No.10	0.199	0.182	0.790	0.750	0.740	9°	0.025	0.082	0.062	0.210	0.185	0.125	0.094	0.031	0.031
1/4	0.260	0.237	1.080	0.969	0.938	9°	0.035	0.098	0.078	0.280	0.245	0.219	0.188	0.031	0.031
5/16	0.324	0.298	1.227	1.188	1.157	9°	0.035	0.114	0.094	0.342	0.307	0.250	0.219	0.031	0.031
3/8	0.388	0.360	1.352	1.312	1.272	11°	0.040	0.145	0.125	0.405	0.368	0.250	0.219	0.047	0.031
7/16	0.452	0.421	1.477	1.438	1.397	13°	0.040	0.176	0.156	0.468	0.431	0.281	0.250	0.047	0.031
1/2	0.515	0.483	1.602	1.562	1.532	12°	0.040	0.176	0.156	0.530	0.492	0.281	0.250	0.047	0.031

¹ Where specifying nominal size in decimals, zeroes preceding decimal and in the fourth decimal place shall be omitted.

NO. 3 HEAD PLOW BOLTS



Nominal Diameter of Bolt	A			F	S		B	
	Diameter of Head			Feed Thickness	Depth of Square and Head		Width of Square	
	Max	Min Sharp	Abs. Min. With Flat	Max	Max	Min	Max	Min (Basic)
3/8	0.708	0.671	0.656	0.031	0.312	0.281	0.387	0.375
7/16	0.826	0.781	0.766	0.036	0.364	0.328	0.450	0.438
1/2	0.945	0.890	0.875	0.042	0.417	0.375	0.515	0.500
5/8	1.147	1.094	1.063	0.050	0.506	0.456	0.640	0.625

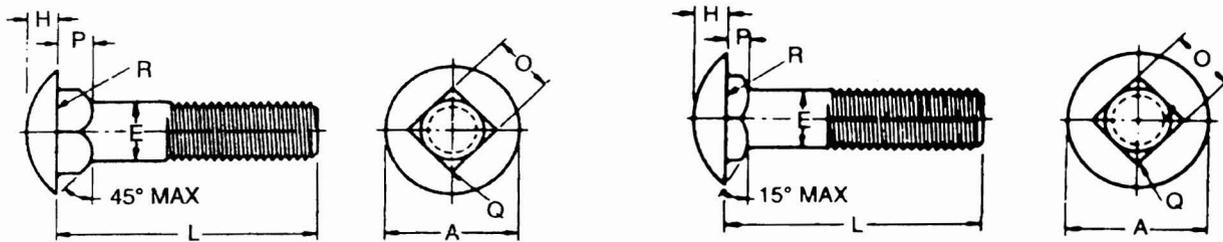
**CARRIAGE BOLTS
ASTM A307
Grade A**

Carriage bolts with UNRC-2A threads can be furnished in two different styles: square-neck carriage bolts in diameters from 1/4" to 3/4", inclusive and short square-neck carriage bolts in diameters from 1/4" to 5/8" inclusive.

Dimensional data for both styles are shown below.

MINIMUM THREAD LENGTH

The formula for determining thread length is, Bolts 6" and shorter, 2 diameters plus 1/4". Bolts over 6" 2 diameters plus 1/2". If bolts are too short to apply the formula, the thread will be extended as close to head as possible.



Square-neck carriage bolt dimensions (in.) ANSI B18.5

Nominal Size or Basic Bolt Diameter	Body Diameter		Head Diameter		Head Height		Square Width		Square Depth		Corner Radius on Square	Fillet Radius	
	E		A		H		O		P		Q	R	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Max	
	0.1900	0.199	0.182	0.469	0.438	0.144	0.094	0.199	0.185	0.125	0.094	0.031	0.031
1/4	0.2500	0.260	0.237	0.594	0.563	0.145	0.125	0.260	0.245	0.156	0.125	0.031	0.031
5/16	0.3125	0.324	0.298	0.719	0.688	0.176	0.156	0.324	0.307	0.187	0.156	0.031	0.031
3/8	0.3750	0.388	0.360	0.844	0.782	0.208	0.188	0.388	0.368	0.219	0.188	0.047	0.031
7/16	0.4375	0.452	0.421	0.969	0.907	0.239	0.219	0.452	0.431	0.250	0.219	0.047	0.031
1/2	0.5000	0.515	0.483	1.094	1.032	0.270	0.250	0.515	0.492	0.281	0.250	0.047	0.031
5/8	0.6250	0.642	0.605	1.344	1.219	0.344	0.313	0.642	0.616	0.344	0.313	0.078	0.062
3/4	0.7500	0.768	0.729	1.594	1.469	0.406	0.375	0.768	0.741	0.406	0.375	0.078	0.062

Full size body bolts are furnished unless user specifies undersize body bolts.

Short Square-neck carriage bolt dimensions (in.) ANSI B18.5

Nominal Size or Basic Bolt Diameter	Body Diameter		Head Diameter		Head Height		Square Width		Square Depth		Corner Radius on Square	Fillet Radius	
	E		A		H		O		P		Q	R	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Max	
1/4	0.2500	0.260	0.213	0.594	0.563	0.145	0.125	0.260	0.245	0.124	0.093	0.031	0.031
5/16	0.3125	0.324	0.272	0.719	0.688	0.176	0.156	0.324	0.307	0.124	0.093	0.031	0.031
3/8	0.3750	0.388	0.329	0.844	0.782	0.208	0.188	0.388	0.368	0.156	0.125	0.047	0.031
7/16	0.4375	0.452	0.385	0.969	0.907	0.239	0.219	0.452	0.431	0.156	0.125	0.047	0.031
1/2	0.5000	0.515	0.444	1.094	1.032	0.270	0.250	0.515	0.492	0.156	0.125	0.047	0.031
5/8	0.6250	0.642	0.559	1.344	1.219	0.344	0.313	0.642	0.616	0.218	0.187	0.078	0.062

Undersize body bolts are furnished unless user specifies full-size body bolts.