ALBANY COUNTY FASTENERS

Head Styles & Dimensions Guide

Complete Visual Reference for Fastener Head Types and Drive Styles

About This Guide: Head style determines bearing surface, profile, and flush/surface mount. Drive style determines tool required and affects torque transfer and security.

Drive Styles

Phillips
Cross recess. Self-centering, most common.

Slotted
Single slot. Traditional, simple.

Combo
Phillips + slotted in one.

Pozidriv
Enhanced Phillips, less cam-out.

Square (Robertson)
Excellent grip, no cam-out.

Star (Torx)
6-point star. High torque.

Pin-in Torx
Tamperproof security drive.

Hex Socket (Allen)
6-sided recess. Compact.

Pin-in Hex
Security hex with center pin.

External Hex
Wrench/socket driven.

One Way
Install only, no removal.

Spanner
Two-hole security drive.

Drive Selection Guide

Drive	Torque	Cam-Out	Security	Best For
Slotted	Low	Poor	None	Light duty, electrical
Phillips	Medium	Fair	None	General purpose
Pozidriv	Med-High	Good	None	Power driving
Square	High	Excellent	None	Woodworking, decking
Hex Socket	Very High	Excellent	Low	Machinery, automotive
Torx	Very High	Excellent	Low	Automotive, electronics
Pin-in Torx/Hex	Very High	Excellent	High	Tamper-resistant
One Way	Low	N/A	High	Permanent install

Head Types

Binding Head

Wide, low profile with undercut. Common in electrical applications.

Button Head

Low dome with hex socket drive. Decorative appearance.

Button Flange

Button head with integrated washer for larger bearing.

Socket Cap

Cylindrical head with hex drive. High torque in tight spaces.

Knurled Cap

Textured cylindrical head for hand tightening without tools.

Knurled Thumb

Wide knurled head for easy finger grip adjustment.

Flat Head

Countersunk, sits flush with surface. 82° (US) or 90° (metric).

Oval Head

Countersunk base with decorative dome top. Finish work.

Pan Head

Low dome with flat bearing surface. Most versatile style.

Round Head

Full dome shape. Traditional style, decorative applications.

Truss Head

Extra wide, low profile. Prevents pull-through in thin material.

Set Screw (No Head)

Headless fastener. Sits flush or below surface.

Hex Head

Six-sided head for wrench or socket. Standard bolt head.

Hex Washer Head

Hex head with built-in washer flange for wider bearing.

Hex Flange Head

Hex with serrated flange. Self-locking, vibration resistant.

Square Head

Four-sided head for wrench. Used on lag bolts and set screws.

Head Style Selection Guide

Application Need	Best Head Style	Why
Flush with surface	Flat Head, Oval Head	Countersinks into material for smooth finish
Decorative/visible	Button, Oval, Round	Smooth, attractive appearance
Maximum torque	Hex, Socket Cap	Large tool engagement area
Thin material	Truss, Washer Head	Wide bearing prevents pull-through
Tight spaces	Socket Cap, Button	Compact profile with internal drive
Hand adjustment	Knurled Thumb/Cap	Textured for tool-free tightening
Below surface	Set Screw	Headless, completely flush or recessed
General purpose	Pan, Hex	Versatile, widely available

Head Dimensions – Inch Series

Hex Bolt Heads

Size	Width (F)	Height (H)	Wrench
1/4"	0.438	0.188	7/16"
5/16"	0.500	0.235	1/2"
3/8"	0.562	0.268	9/16"
7/16"	0.625	0.316	5/8"
1/2"	0.750	0.364	3/4"
9/16"	0.812	0.412	13/16"
5/8"	0.938	0.444	15/16"
3/4"	1.125	0.524	1-1/8"
7/8"	1.312	0.604	1-5/16"
1"	1.500	0.700	1-1/2"

Socket Head Cap Screws

Size	Head Dia.	Height	Hex Key
#4	0.183	0.112	3/32"
#6	0.226	0.138	7/64"
#8	0.270	0.164	9/64"
#10	0.312	0.190	5/32"
1/4"	0.375	0.250	3/16"
5/16"	0.469	0.312	1/4"
3/8"	0.562	0.375	5/16"
1/2"	0.750	0.500	3/8"
5/8"	0.938	0.625	1/2"
3/4"	1.125	0.750	5/8"

Button Head Cap Screws

Size	Head Dia.	Height	Hex Key
#4	0.225	0.064	1/16"
#6	0.279	0.078	5/64"
#8	0.332	0.091	3/32"
#10	0.385	0.104	1/8"
1/4"	0.437	0.132	5/32"
5/16"	0.547	0.166	3/16"
3/8"	0.656	0.199	7/32"
1/2"	0.875	0.265	5/16"

Flat Head (82° Countersunk)

Size	Head Dia.	Height
#4	0.225	0.067
#6	0.279	0.083
#8	0.332	0.100
#10	0.385	0.116
1/4"	0.507	0.153
5/16"	0.635	0.191
3/8"	0.762	0.230
1/2"	1.000	0.306

Pan Head

Size	Head Dia.	Height
#4	0.219	0.097
#6	0.260	0.110
#8	0.309	0.131
#10	0.359	0.151
1/4"	0.492	0.194
5/16"	0.615	0.245
3/8"	0.740	0.293

Truss Head

Size	Head Dia.	Height
#6	0.375	0.080
#8	0.437	0.094
#10	0.500	0.109
1/4"	0.625	0.141
5/16"	0.750	0.172
3/8"	0.875	0.203

Head Dimensions – Metric Series

Hex Bolt Heads (Metric)

Size	Width (mm)	Height (mm)	Wrench
M3	5.5	2.0	5.5mm
M4	7.0	2.8	7mm
M5	8.0	3.5	8mm
M6	10.0	4.0	10mm
M8	13.0	5.3	13mm
M10	16.0	6.4	16mm
M12	18.0	7.5	18mm
M16	24.0	10.0	24mm
M20	30.0	12.5	30mm

Socket Cap Screws (Metric)

Size	Head Dia.	Height	Hex Key
M3	5.5mm	3.0mm	2.5mm
M4	7.0mm	4.0mm	3mm
M5	8.5mm	5.0mm	4mm
M6	10.0mm	6.0mm	5mm
M8	13.0mm	8.0mm	6mm
M10	16.0mm	10.0mm	8mm
M12	18.0mm	12.0mm	10mm
M16	24.0mm	16.0mm	14mm

Torx Sizes by Screw Size

Inch Size	#4	#6	#8	#10	1/4"	5/16"	3/8"	1/2"
Torx	T10	T15	T20	T25	T27/T30	T40	T45	T50
Metric Size	**M2**	**M2.5**	**M3**	**M4**	**M5**	**M6**	**M8**	**M10**
Torx	T8	T10	T15	T20	T25	T30	T40	T50

Button Head (Metric)

Size	Head Dia.	Height	Hex Key
M3	5.7mm	1.65mm	2mm
M4	7.6mm	2.2mm	2.5mm
M5	9.5mm	2.75mm	3mm
M6	10.5mm	3.3mm	4mm
M8	14.0mm	4.4mm	5mm
M10	17.5mm	5.5mm	6mm

Flat Head (Metric 90°)

Size	Head Dia.	Height
M3	6.0mm	1.7mm
M4	8.0mm	2.3mm
M5	10.0mm	2.8mm
M6	12.0mm	3.3mm
M8	16.0mm	4.4mm
M10	20.0mm	5.5mm

⚠ **Important Disclaimer:** This guide is for general reference only. Always follow manufacturer specifications and instructions for your specific application. Fastener performance depends on proper selection for material, load, and environmental conditions. Dimensions may vary by manufacturer and standard (ANSI, ISO, DIN). When in doubt, consult a qualified engineer. Albany County Fasteners assumes no liability for improper fastener selection or installation.