

2023 Road Components

SRAM
RED 

SRAM
RED 

SRAM
RED

SRAM
FORCE 

SRAM
FORCE

SRAM
FORCE1

SRAM
RIVAL 

SRAM
RIVAL

SRAM
RIVAL1

SRAM
APEX

SRAM
APEX1

S-Series

XPLR



FRAME FIT SPECIFICATIONS

General Notes

All dimensions are in millimeters unless otherwise noted.

Images in this document are not to scale.

Your product's appearance may vary slightly from the images in this document.

Information in this document is subject to change without prior notice.

If you have any questions please contact your SRAM representative.

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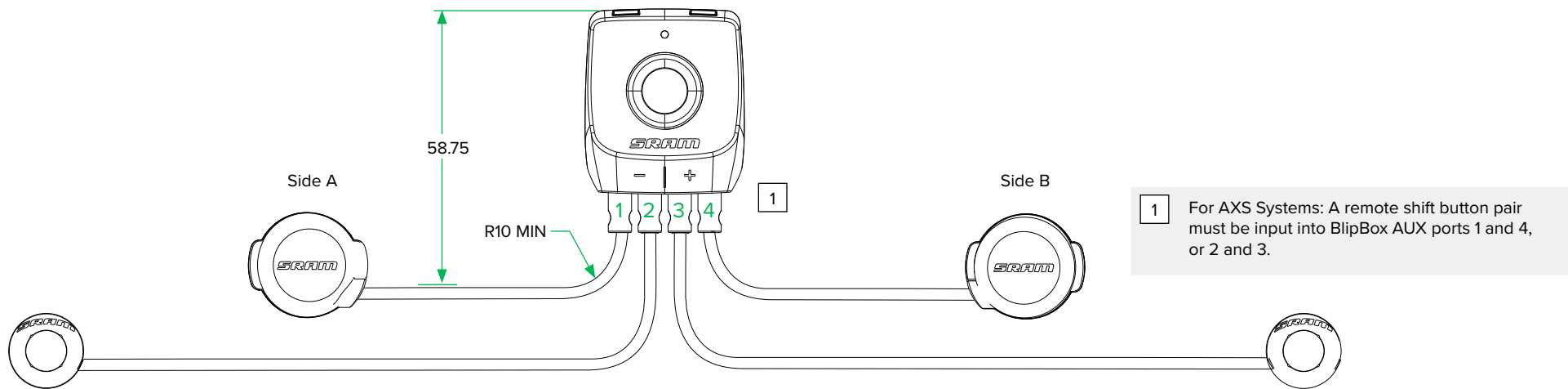
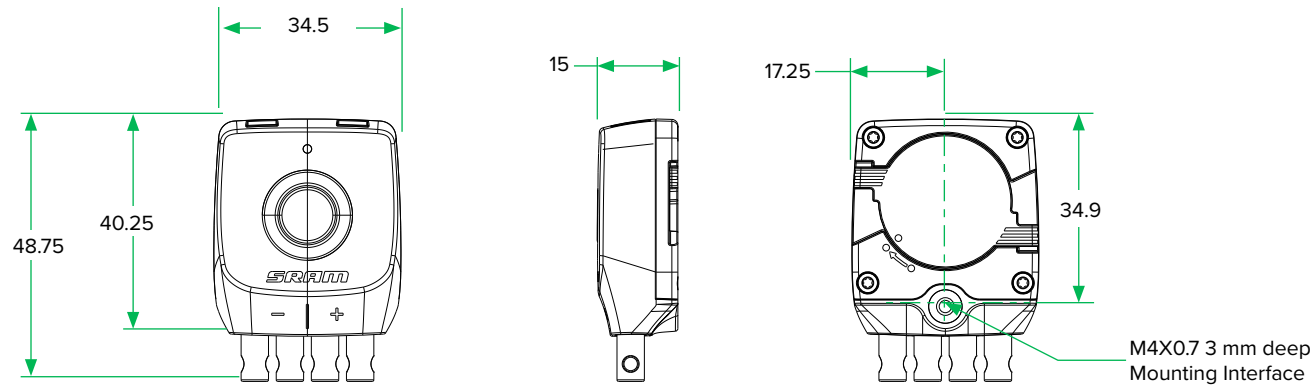
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Electronic Shifters

BlipBox

Dimensions without Elastic Band

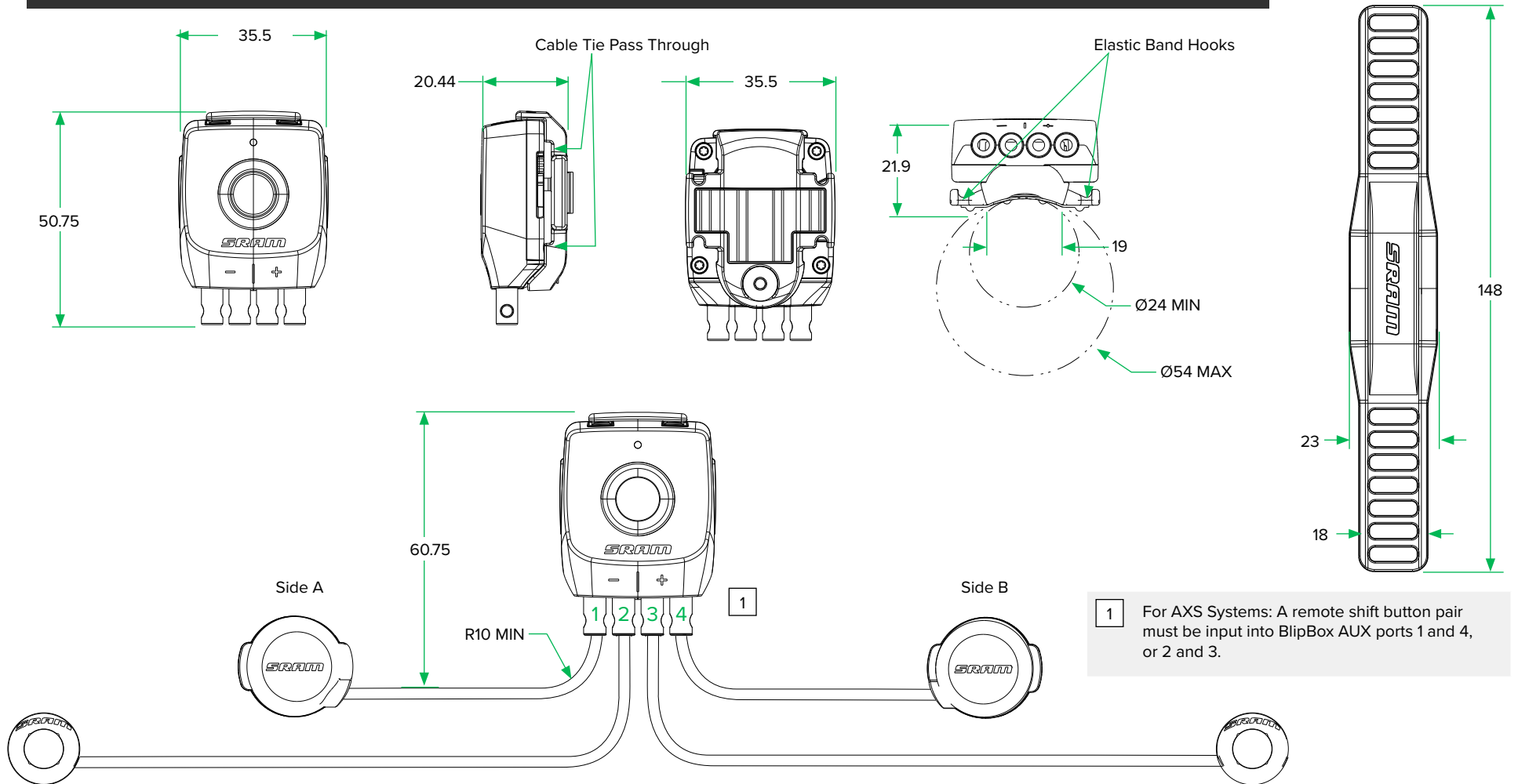
Custom Mounting without the Elastic Band Mounting Adapter



BlipBox

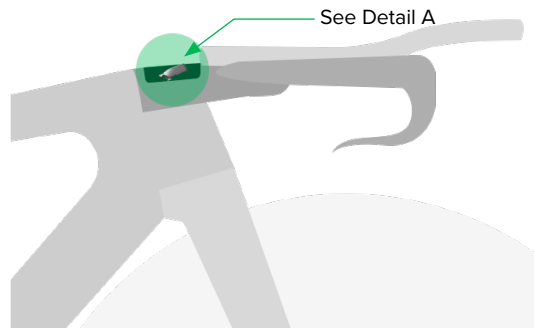
Dimensions with Elastic Band

Elastic Band Mounting Adapter for Mounting to Cylindrical or Flat Surfaces



BlipBox

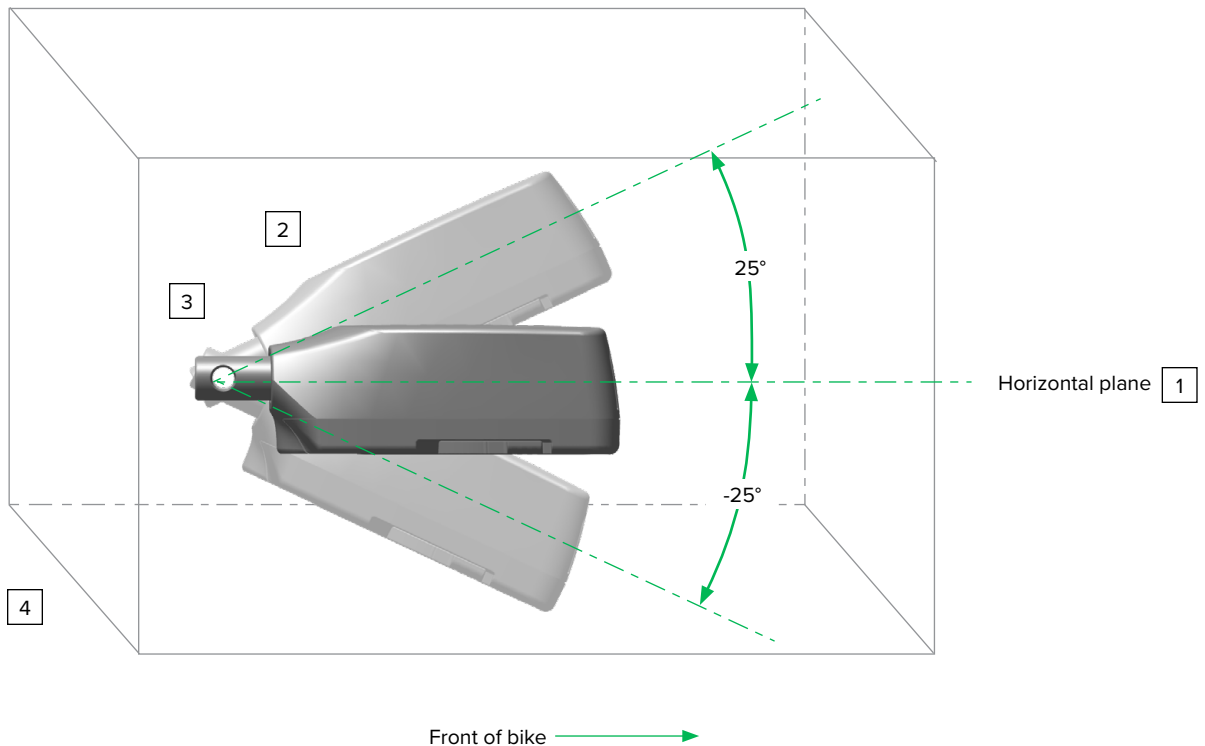
Enclosure Guidelines



BlipBox orientation for optimal performance in internal enclosure space:

- 1 Must be mounted within $\pm 25^\circ$ from the horizontal plane.
- 2 The button can face upward or downward.
- 3 The wire input ports can face forward or backward.
- 4 The enclosure should not be 3 or more sides of the following materials: carbon, carbon plastic, metal, or water-filled reservoir.

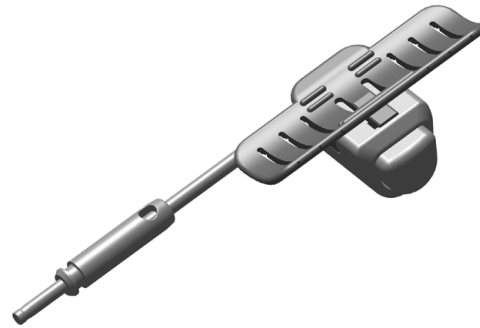
Detail A: Enclosure Guidelines and Mounting Angle



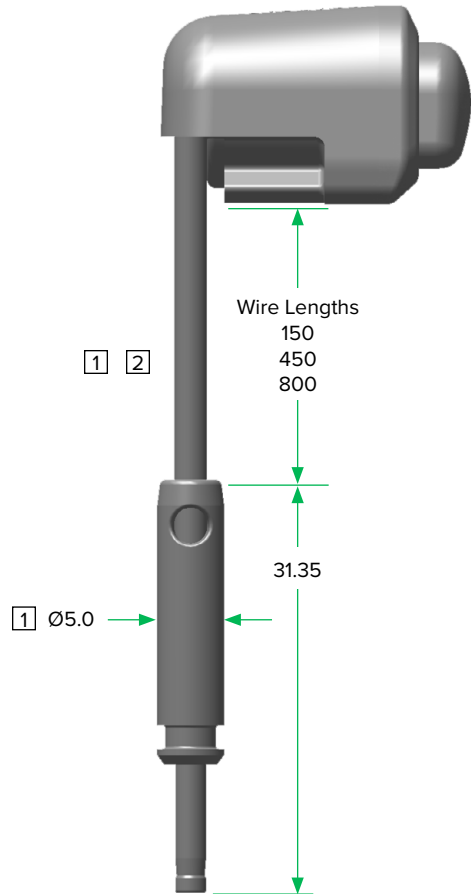
MultiClics

Remote Shift Buttons

MultiClics with Wing 3



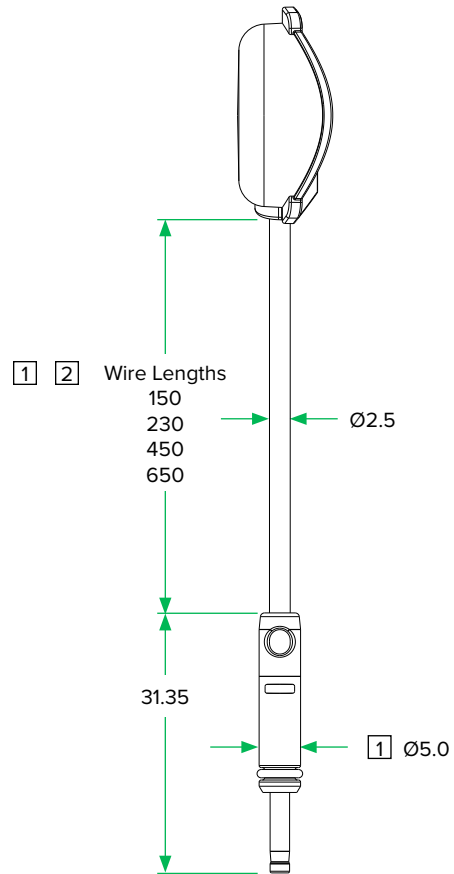
MultiClics with ClampClic for 24 mm Basebar 4



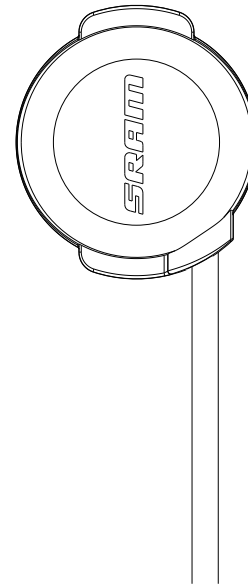
- 1 Consider the connector diameter and wire length when routing wires internally.
- 2 Choose the wire lengths based on application and desired location of the MultiClics.
- 3 Compatible with road drop bar or base bar.
- 4 Compatible with SRAM DB S-900 Aero HRD. Fits a base bar with an outer diameter of 24 mm.

Blips

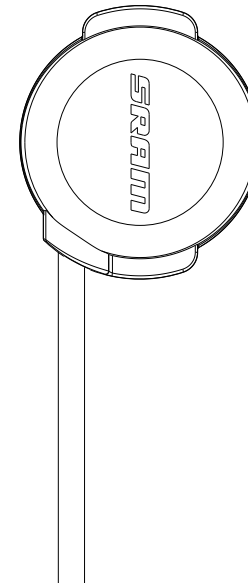
Remote Shift Buttons and Connector Dimensions



Left Shift Button



Right Shift Button

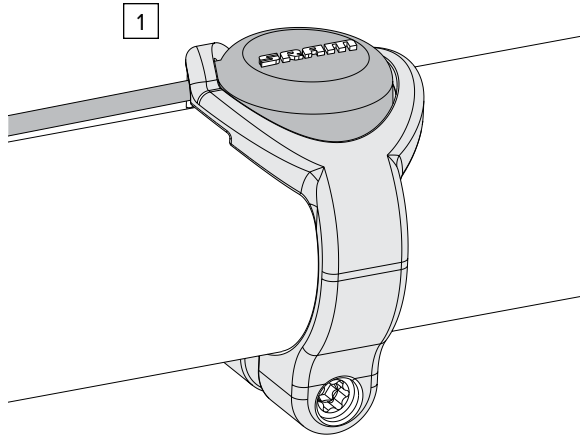


- 1 Consider the connector diameter and wire length when routing wires internally.
- 2 Choose the wire lengths based on application and desired location of the Blips.

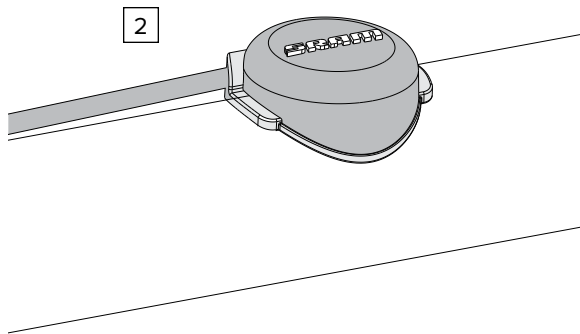
BlipClamp and BlipGrip

Remote Shifter Mounting

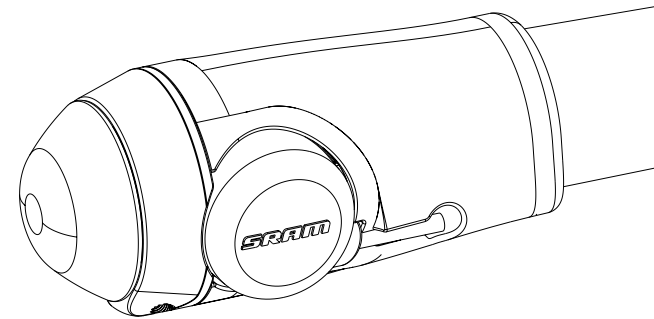
31.8 mm Bar



22.2-35 mm Bar



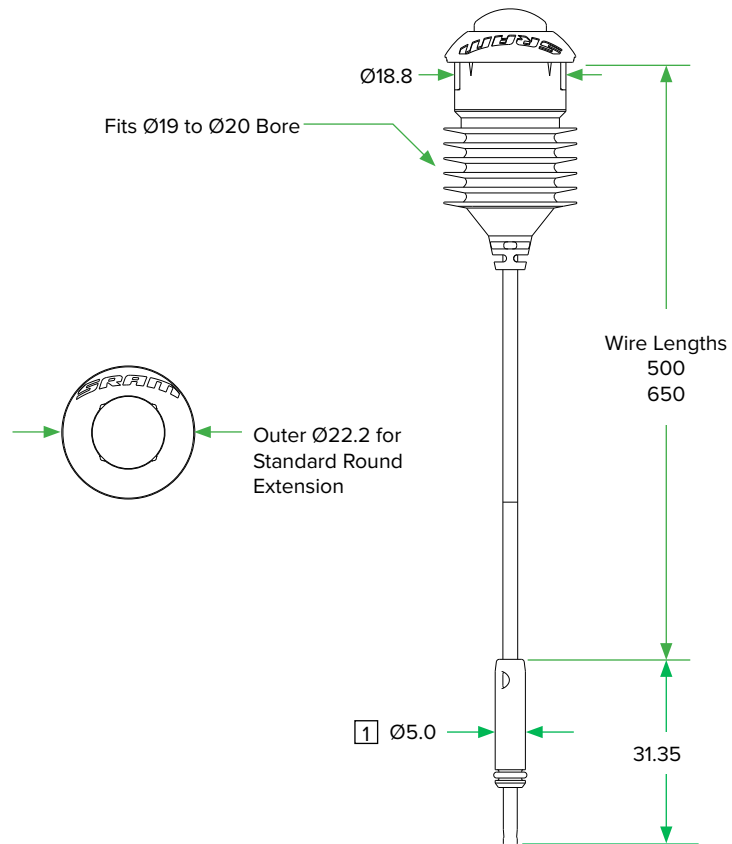
22.2mm TT Extensions



- 1 Button holder designed for 31.8 mm bar mounting.
- 2 Direct mount under the handlebar tape for 22.2 mm through 35 mm diameter bars.

Clics

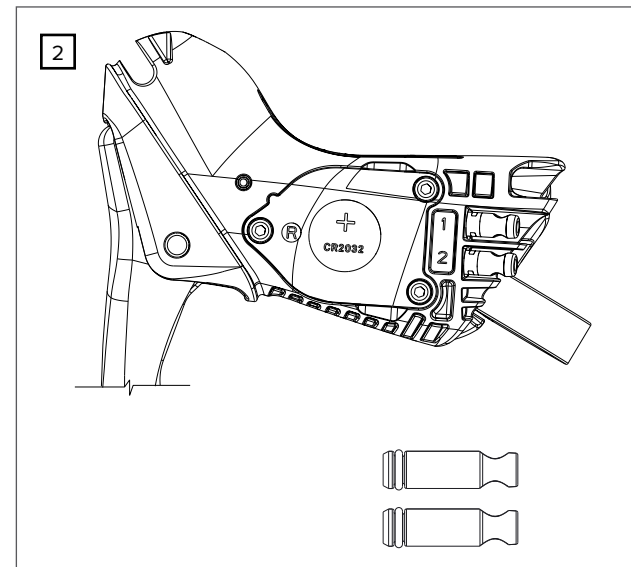
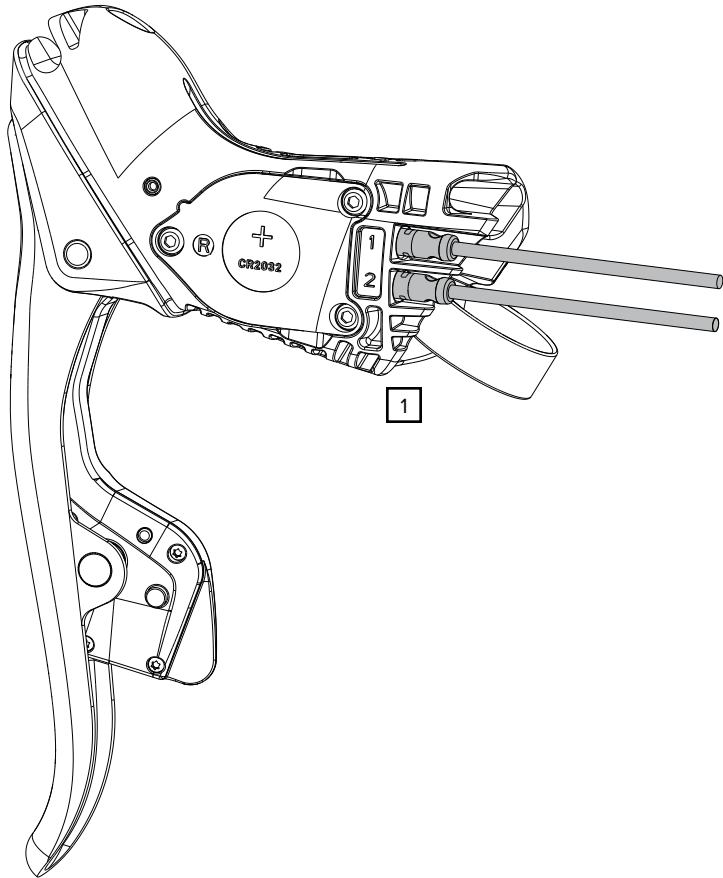
Extension Shift Buttons



- 1 Consider the connector diameter and wire length when routing wires internally.
- 2 Internally mounted shifter setup requires the MultiClic, Blip, or Clic wires to be routed external of bar, stem, and frame materials a minimum total of 100 mm per side for all the wires. Routing under bar tape is acceptable within the 100 mm length.

Shift-Brake Levers

Remote Shifter Connections

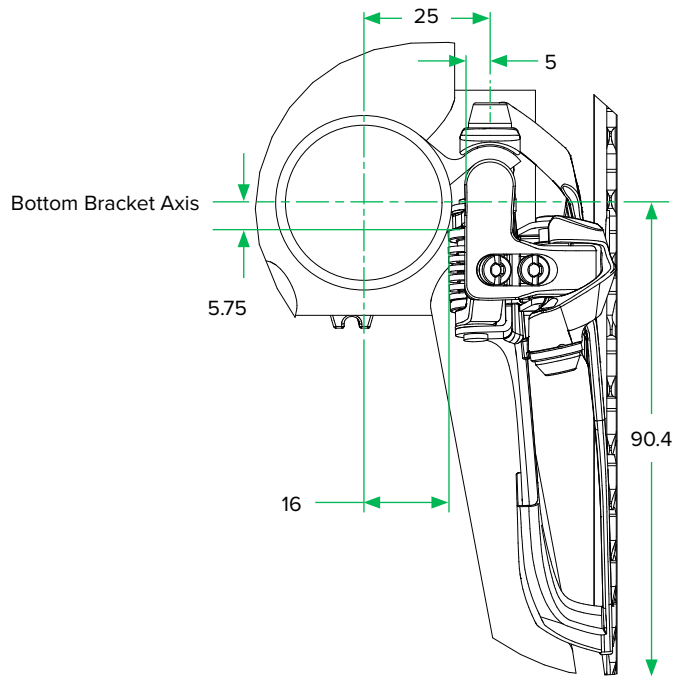


- 1 The left and right shifter brake each provide additional ports for auxiliary remote shifter buttons. SRAM Red eTap AXS has two ports, SRAM Force eTap AXS has one port, and SRAM Rival eTap AXS has no ports.
- 2 Use plugs when remote shifters are not in use.
- 3 Provide a small amount of slack in the wire for shifter brake repositioning.
- 4 Route the wires underneath the bar tape.

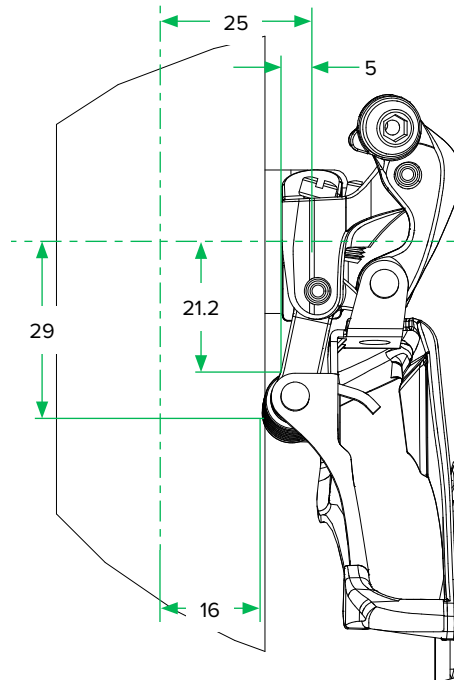
Front Derailleurs

Front Derailleur Clearance

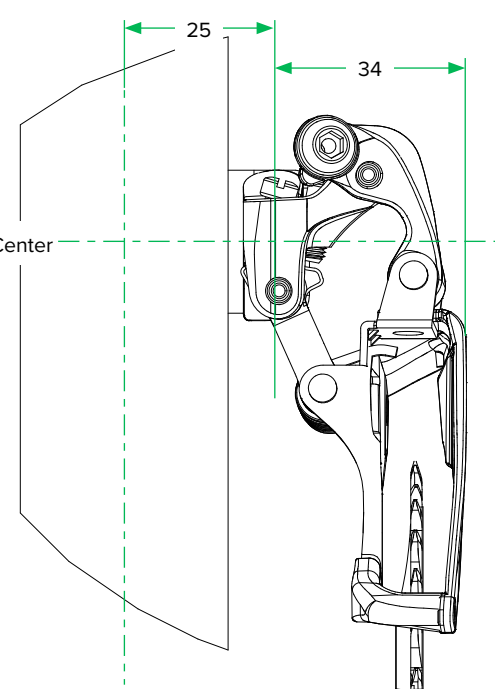
SRAM 11 Speed



Front Derailleur in Low Gear

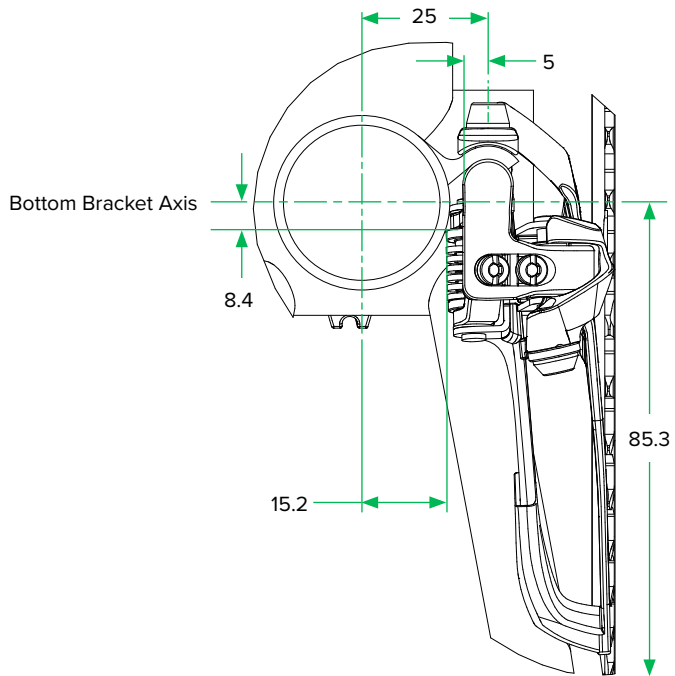


Front Derailleur in High Gear

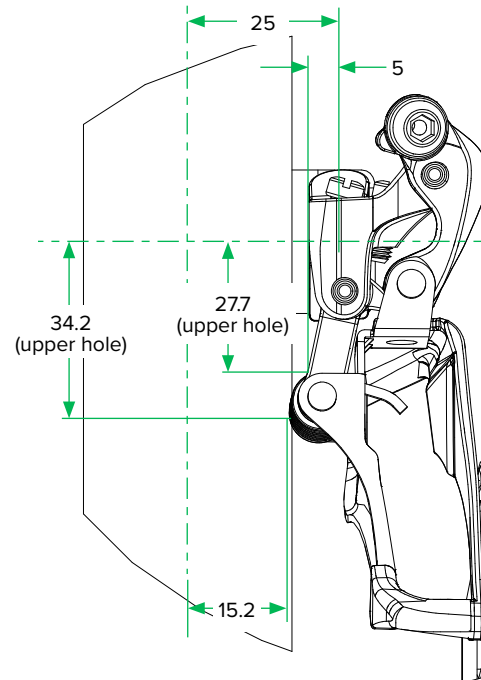


Front Derailleur Clearance

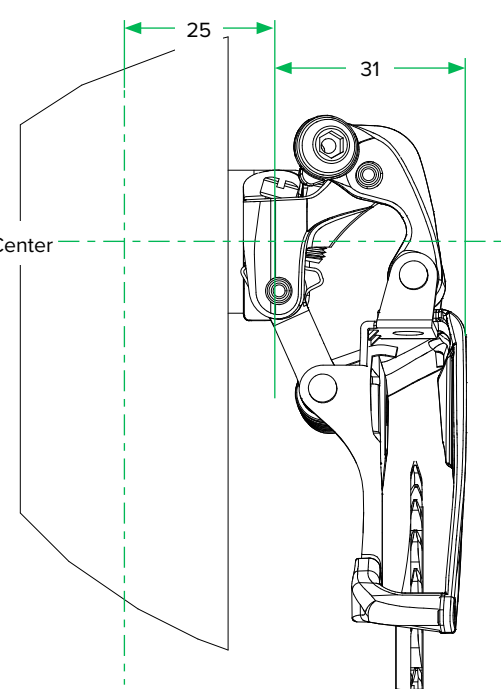
SRAM 10 Speed



Front Derailleur in Low Gear



Front Derailleur in High Gear

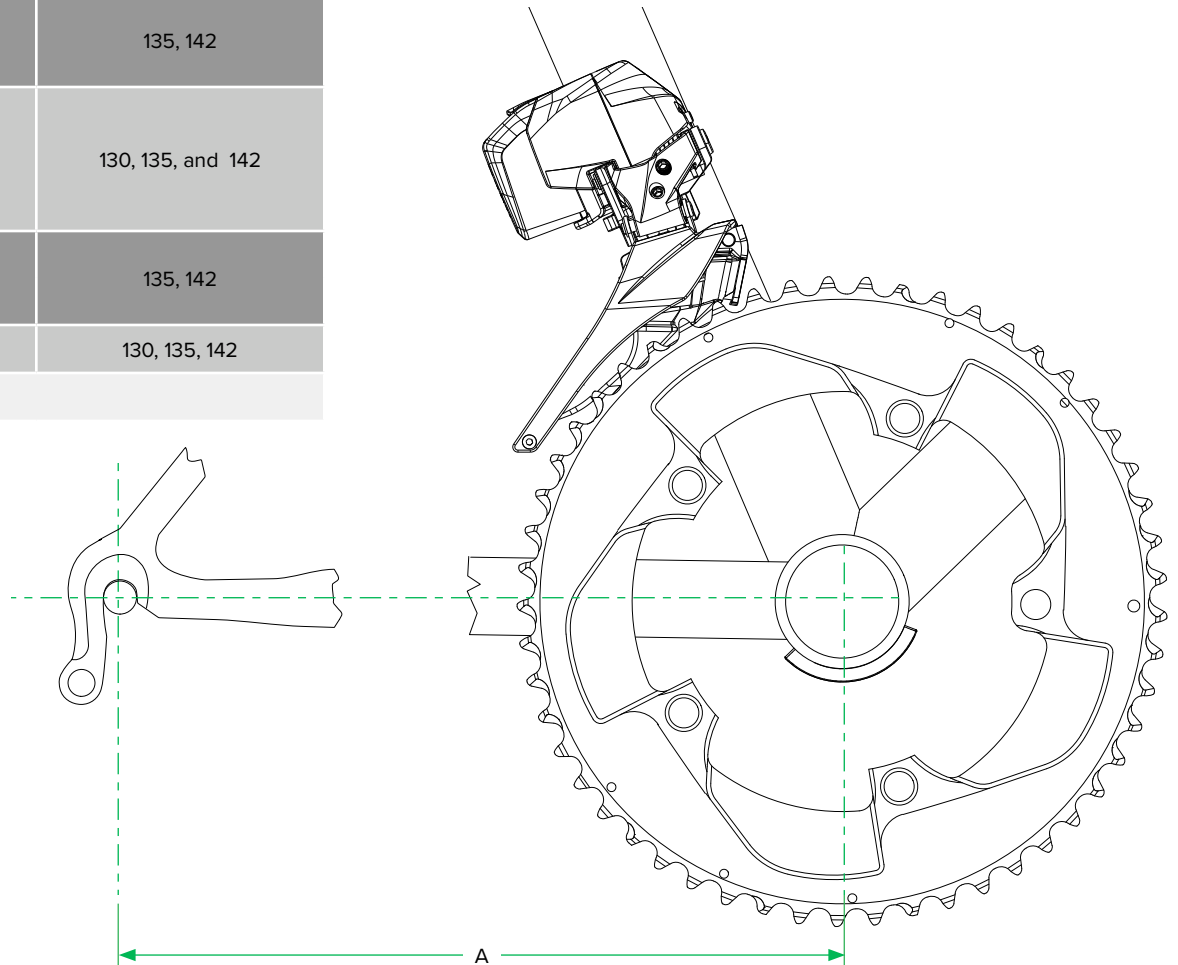


Frame Chainstay Information

SRAM 12 Speed

	Chainline	Chainring	Minimum Chainstay Length	OLD* Hub Spacing (mm)
			A (mm)	
2x	Standard	56-43	400	130, 135, and 142
		54-41	405	135, 142
		52-39		
		50-37	405	130, 135, and 142
		48-35		
		46-33		
	Wide	43-30	415	135, 142
1x	All	All Ring Sizes	395	130, 135, 142

* Over Locknut Dimensions

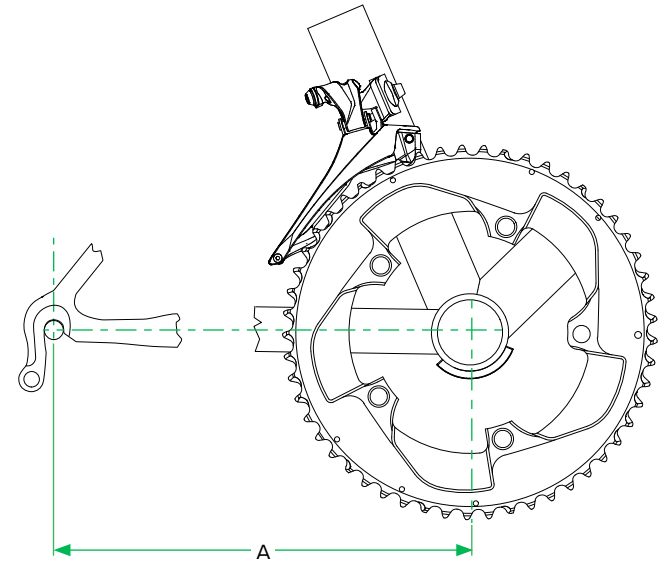


Frame Chainstay Information

SRAM 10 and 11 Speed

	Chainring	Minimum Chainstay Length A (mm)	
		130 OLD* frames 135 OLD frames w/ Wide Axle Cranks	135 OLD frames
2x11	55/42	405	430
	53/39		
	52/36		410
	50/34		405
	46/36		410
	46/34		405
2x10	55/42	395	430
	54/42		
	53/39	405	
	52/36		
	52/38		
	50/34		
	46/36		

*Over Locknut Dimensions



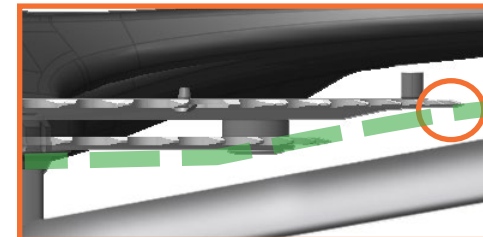
Potential problems with not following the minimum chainstay length

⚠ WARNING CRASH HAZARD

When the chain is on the big chainring and smallest rear cog, increased chain angle, increased chain angle can cause the chain to derail outboard off of the large chainring under very high pedaling loads, which may lead to a crash and serious injury and/or death to the rider.

⚠ WARNING CRASH HAZARD

When the chain is on the small chainring and smallest rear cog, reduced clearance between the chain and large chainring upshift rivets can cause the chain to unintentionally catch on the upshift rivets, which may lead to loss of control of the bicycle.

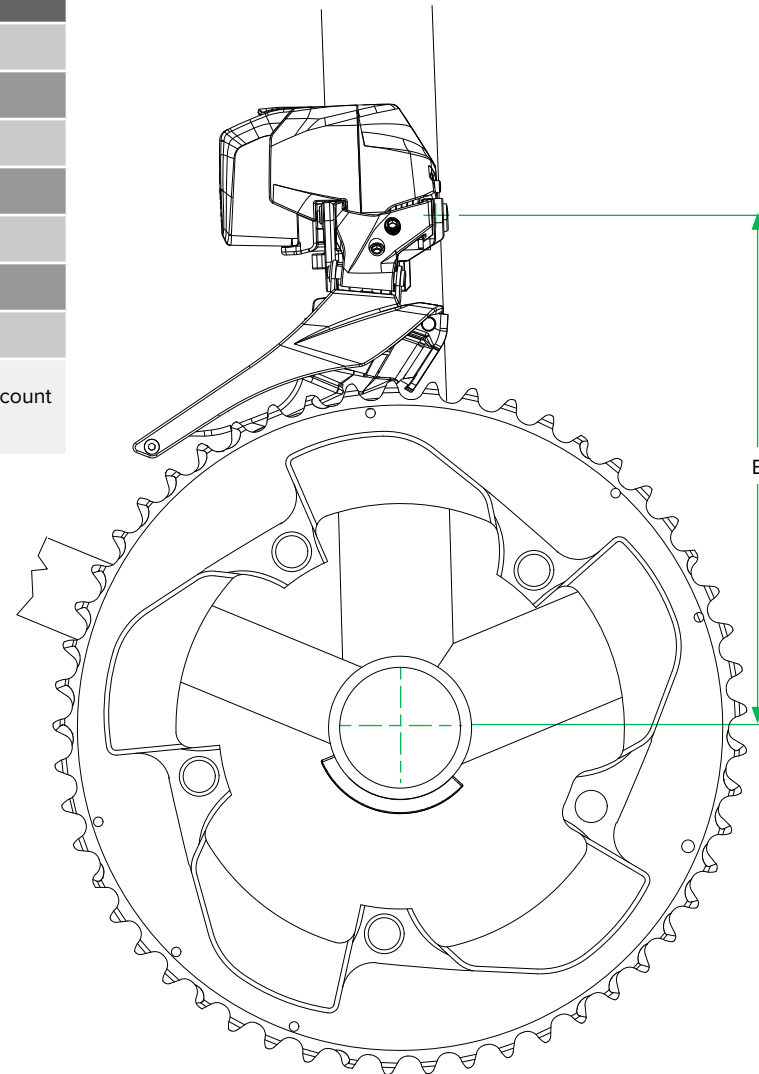


Braze-on Hanger Dimensions

SRAM 12 Speed

	Chainring Size	Upper Fixation Bolt Height B (mm)	Lower Fixation Bolt Height B (mm)
2x	56-43	162.5	154.5
	54-41	158.5	150.5
	52-39	154.5	146.5
	50-37	150.5	NA
	48-35	146.5	NA
	46-33	142.5	NA
	43-30	136.5	NA

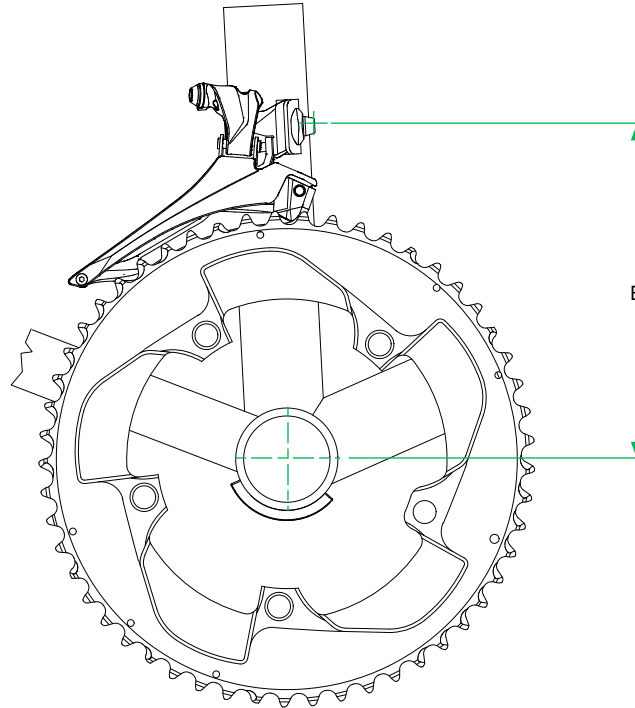
Nominal FD position provided, design should allow for adequate adjustment range in the FD hanger slot to account for tolerances.



Braze-on Hanger Dimensions

SRAM 10 and 11 Speed

	Chainring	Fixation Bolt Position
		B (mm)
2x11	55/42	151
	53/39	147
	52/36	145
	50/34	141
	46/36	133
2x10	55/42	154 (lower hole)
	54/42	152 (lower hole)
	53/39	150 (lower hole)
	52/36	148 (lower hole)
	52/38	148 (lower hole)
	50/34	152 (upper hole)
	46/36	144 (upper hole)



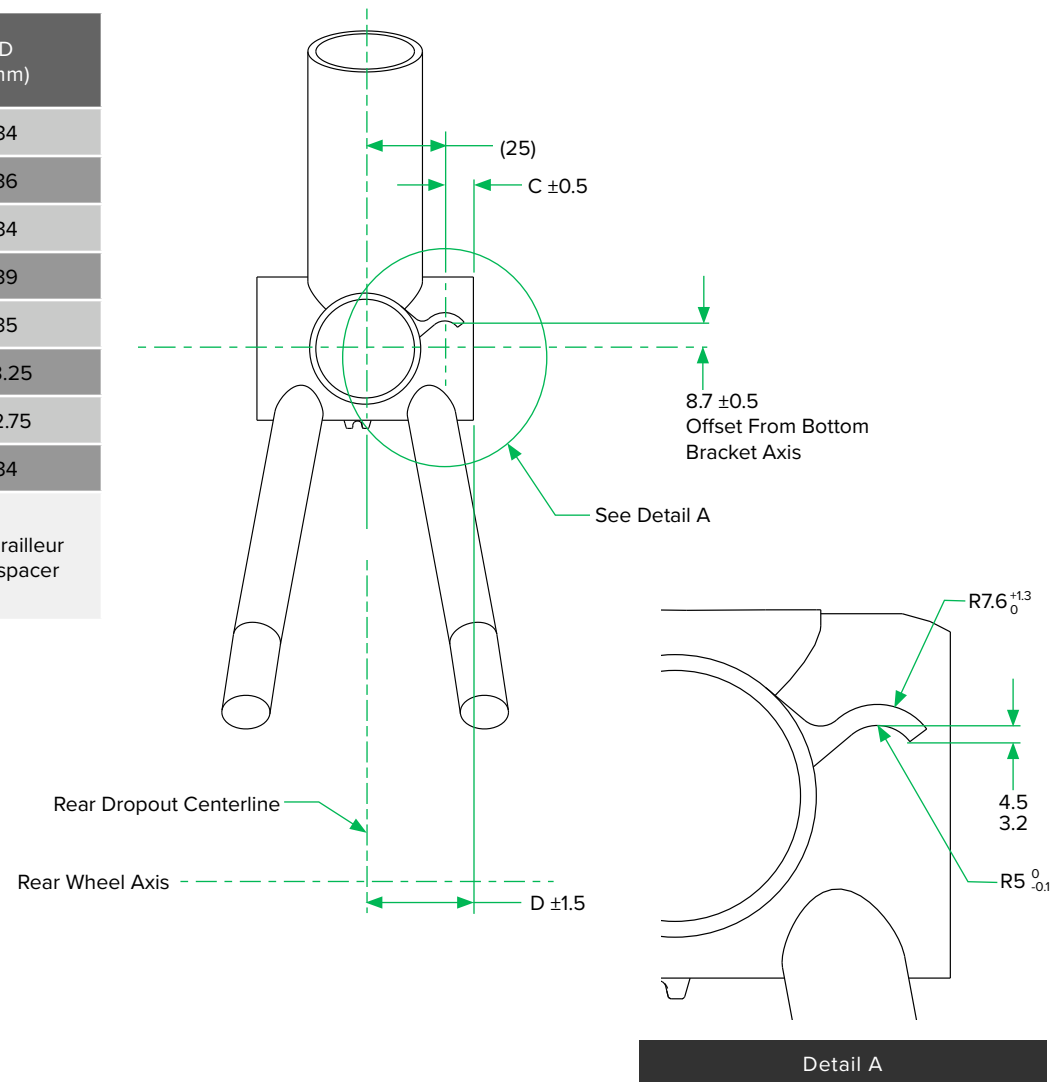
Braze-on Hanger Dimensions

Front Derailleur Interface

BB Shell Type	BB Shell Width* (mm)	C (mm)	D (mm)
BSA / PressFit30 / BB30	68	9	34
BSA / PF30 / BB30**	73	11.5	36
BB30-73A / PF30-73A	73	9	34
BB30-83A / PF30-83A	83	8	39
Italian	70	10	35
PressFit 86.5, BB386	86.5	18.25	43.25
T47 85.5	85.5	17.25	42.75
PF79-A	79	9	34

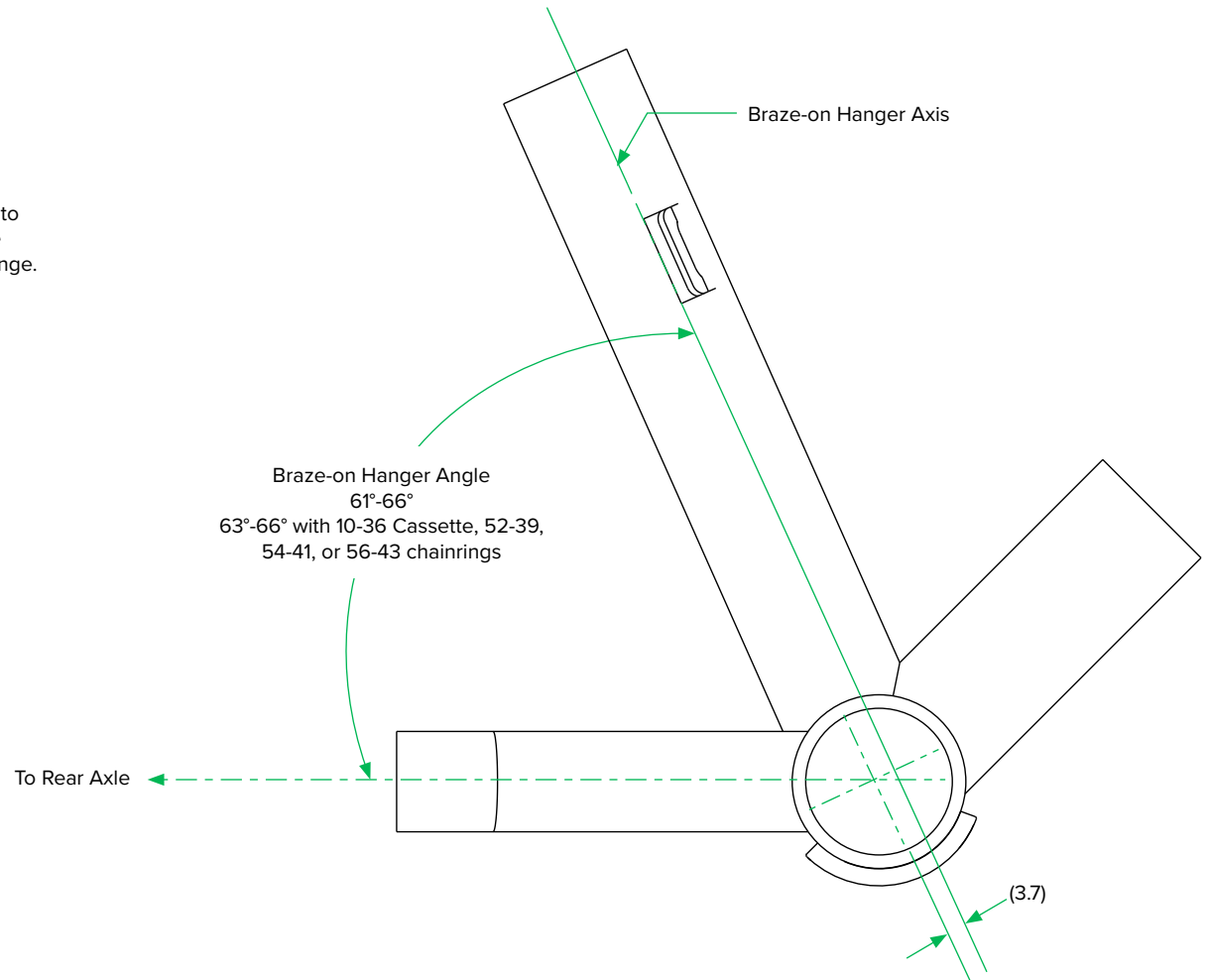
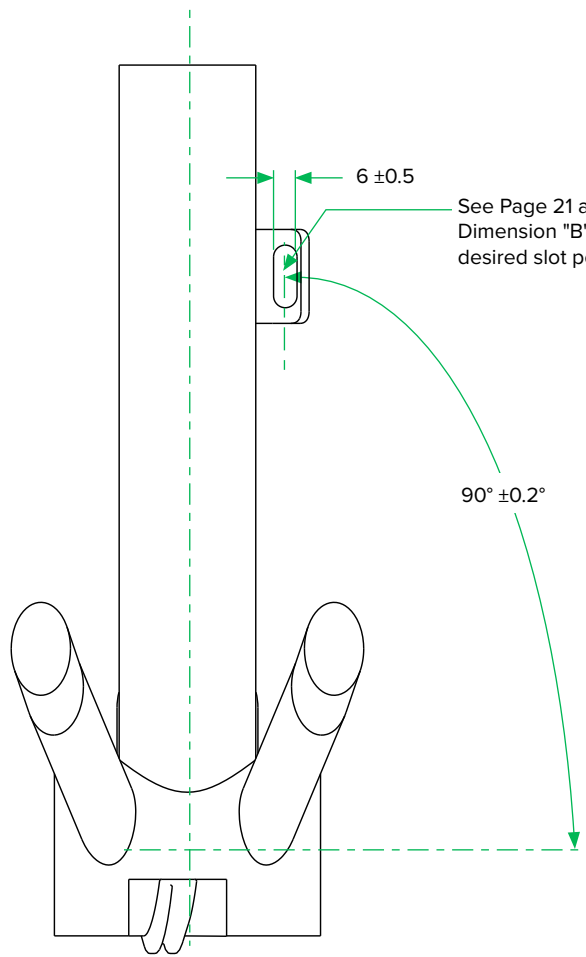
* Dimensions provided for reference, see BB Shell Specifications.

**BSA / PF30 / BB30 73 mm supported by wide chainline front crank and front derailleur only, see the DUB Road and MTB Crankset and Bottom Bracket User Manual for spacer configuration.



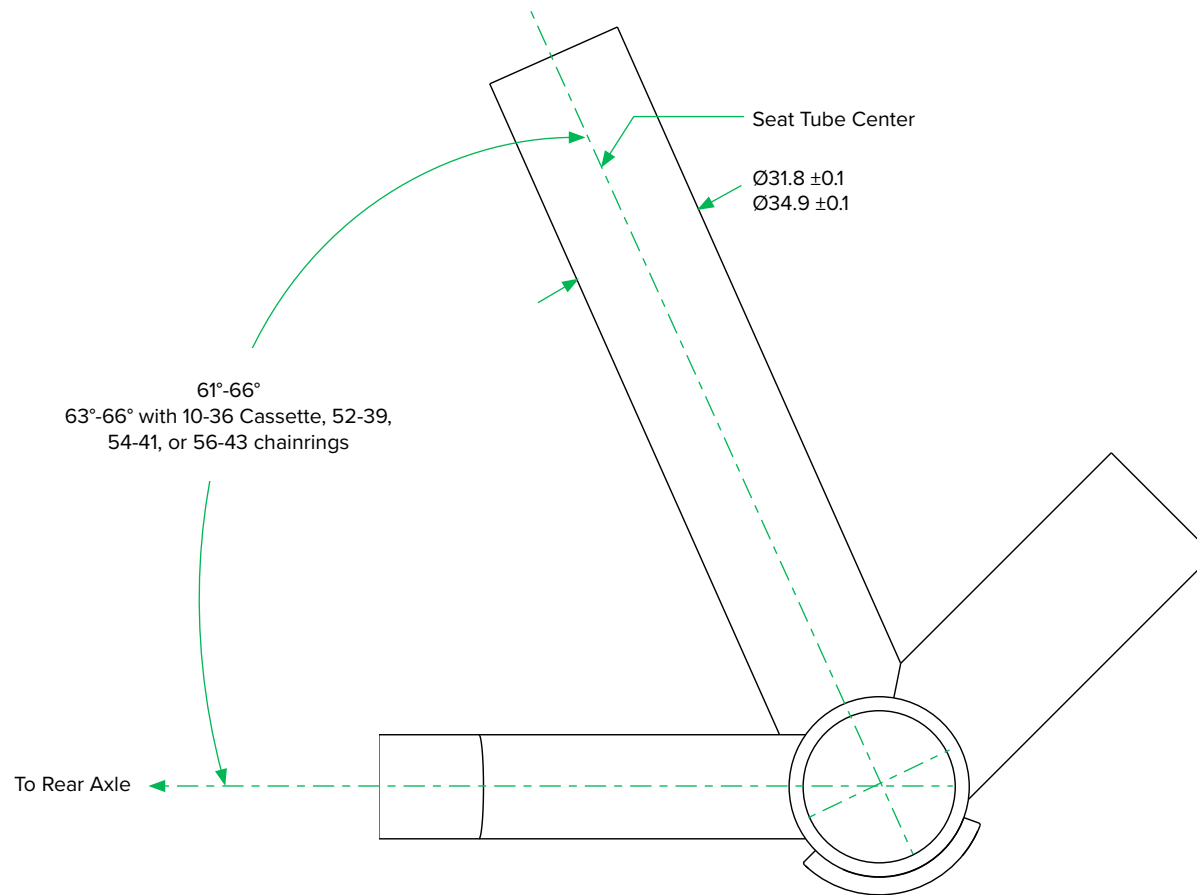
Braze-on Hanger Dimensions

Front Derailleur Interface



Clamp-on Front Derailleur Mount Dimensions

Front Derailleur Interface

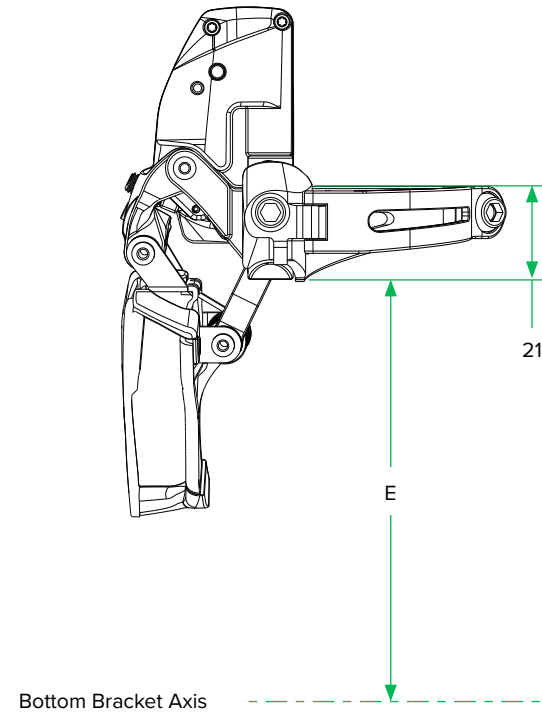


Front Derailleur Position with Clamp Adapter

SRAM 12 Speed

	Chainring Size	Clamp Height E (mm)
2x	50-37	135.5
	48-35	131.5
	46-33	127.5
	43-30	121.5

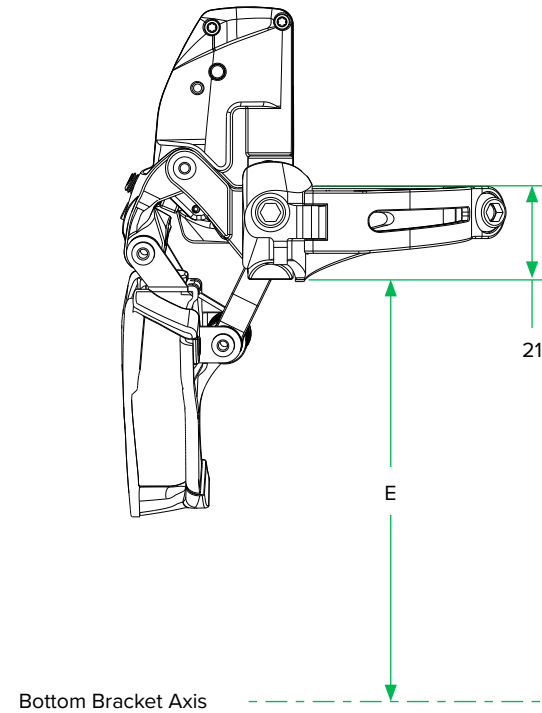
Nominal FD position provided, design should allow for adequate adjustment range of the clamp along the seat tube to account for tolerances.



Front Derailleur Position with Clamp Adapter

SRAM 10 and 11 Speed

	Chainring	Lower Clamp Position
		E (mm)
2x11	55/42	136
	53/39	132
	52/36	130
	50/34	126
	46/36	118
2x10	55/42	149
	54/42	147
	53/39	145
	52/36	143
	52/38	143
	50/34	139
	46/36	131

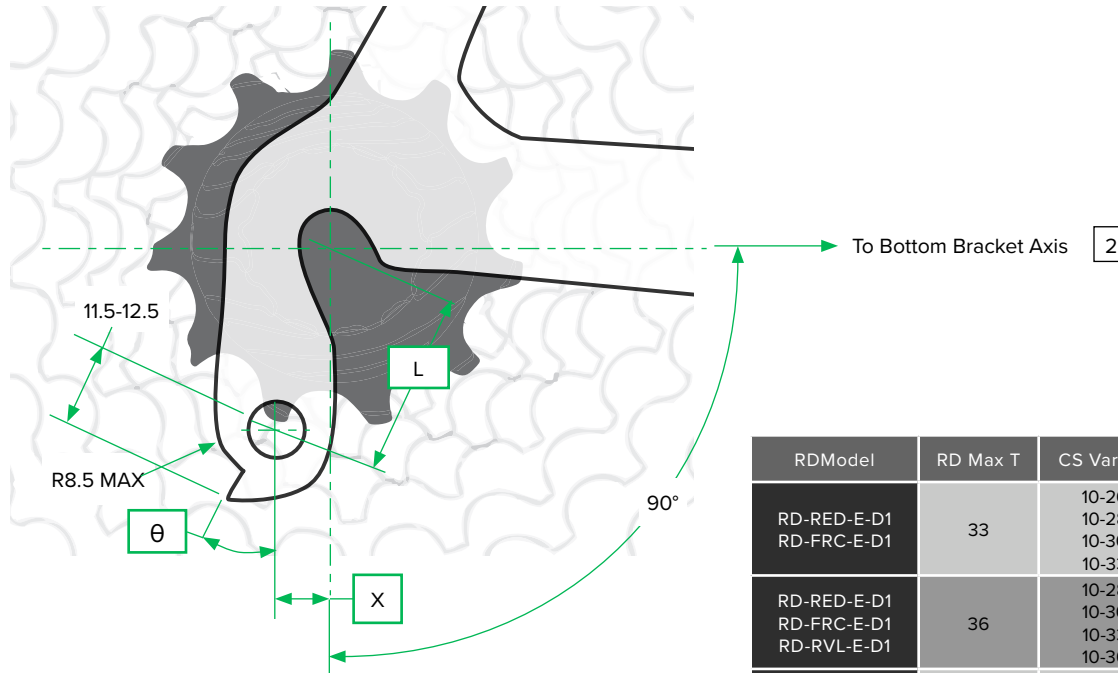


Rear Derailleurs

Hanger and Chainstay Specifications

All SRAM Road Rear Derailleurs

Rear Derailleur Hanger and Chainstay



- 1 Chainstay should be designed for sufficient clearance to the chain when on the smallest cog to avoid contact between chain and chainstay when riding over a rough surface.
- 2 Refer to the [Frame Chainstay Information](#) page for 1x and 2x chainstay length.

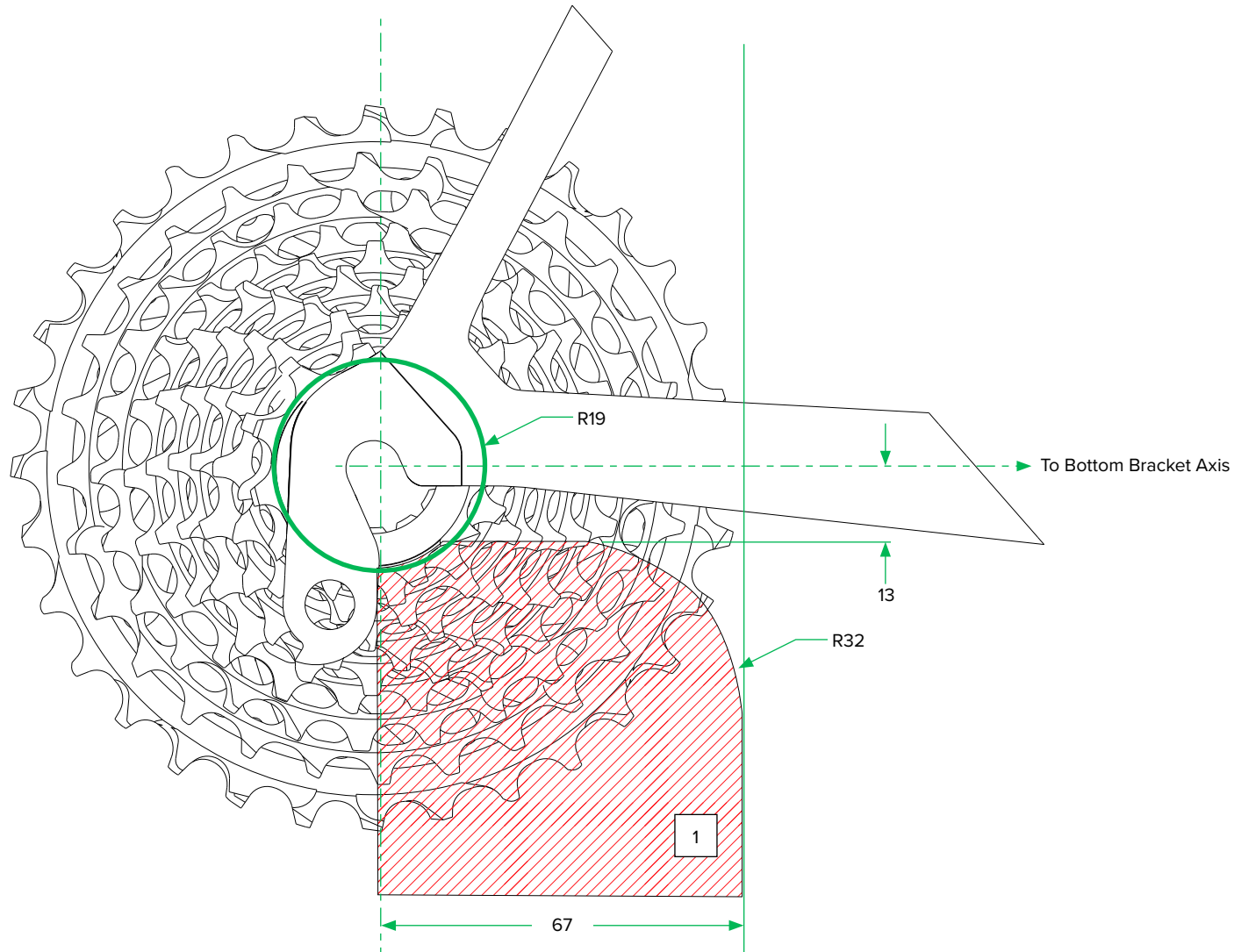
* Make sure that frame chainstay remains clear of Road Rear Derailleur Frame Clearance specification zone when configured with this cassette size. The rear derailleur may interfere with the chainstay if it is designed to the limits of UDH Hangerless Interface Clearance Model when used with this cassette. Refer to SRAM Road Drivetrain Frame Fit Specifications and UDH & Full Mount Rear Derailleur Frame Specifications.

RDModel	RD Max T	CS Variant	Hanger Style	L (mm)	X (mm)	T QR (mm)	T Thru Axle (mm)	θ (°)
RD-RED-E-D1 RD-FRC-E-D1	33	10-26 10-28 10-30 10-33	Road	24-28	7-10	7-9	3.5-5.5	30-35
RD-RED-E-D1 RD-FRC-E-D1 RD-RVL-E-D1	36	10-28 10-30 10-33 10-36						
RD-RED1-E-D1 RD-FRC1-E-D1 RD-RIV1-E-D1	44	10-36 10-44						
RD-RED-E-D1 RD-FRC-E-D1	33	10-28 10-30 10-33	UDH	30 +/- 0.2	8 +/- 0.2	8.5 +/- 0.25	5 +/- 0.25	25-30
RD-RED-E-D1 RD-FRC-E-D1 RD-RVL-E-D1	36	10-28* 10-30 10-33 10-36						
RD-RED1-E-D1 RD-FRC1-E-D1 RD-RIV1-E-D1	44	10-36* 10-44						

Rear Derailleur Frame Clearance

All SRAM Road Rear Derailleurs

1 Keep this area clear for rear derailleur clearance.



Universal Derailleur Hanger Specifications

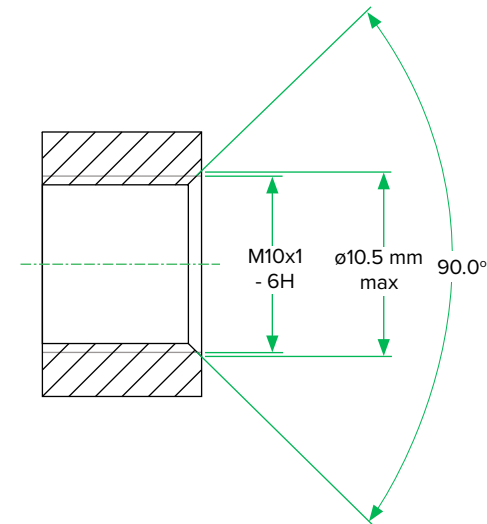
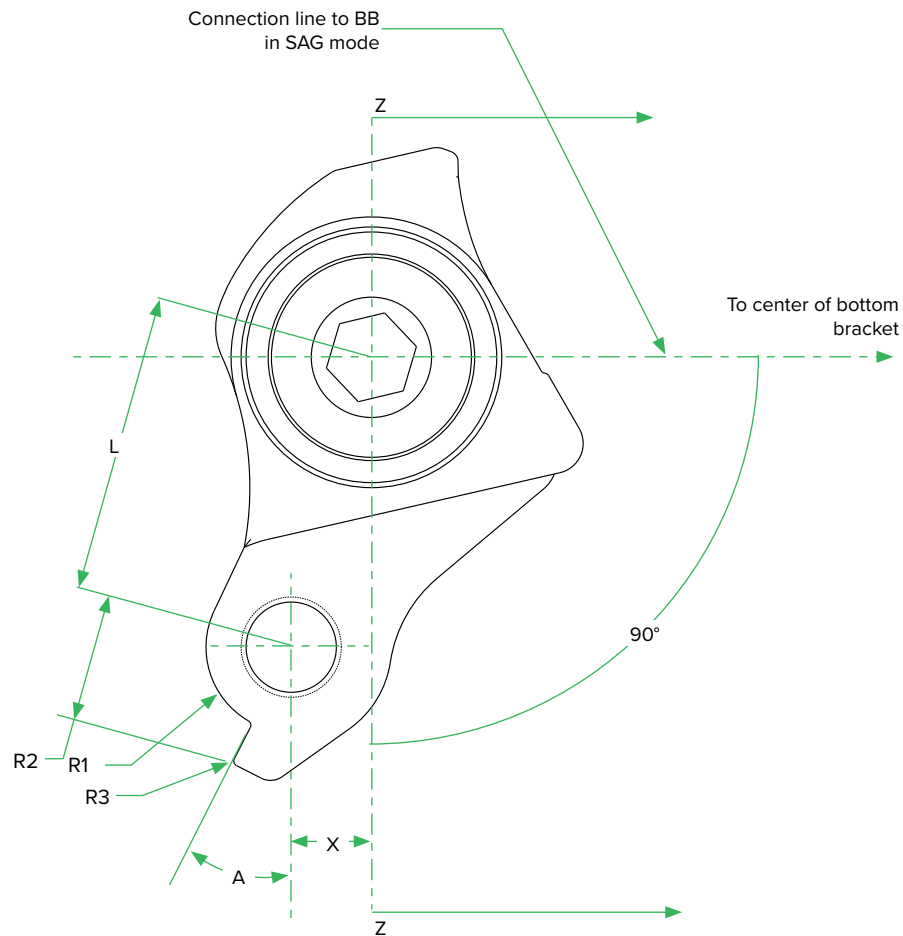
Please visit www.UniversalDerailleurHanger.com for complete specifications.

Hanger Specifications

Rear Derailleur Hanger Specifications

L	X	A	R1	R2	R3
Hanger material hardness: HRB > 86					
30-34	6.5-9.5	25°-30°	8-8.5	12.5-14.5	max. 0.5

For any dimension outside of these specs, depending on the combination of all the variables, the performance of the drivetrain may be compromised. Please contact your account manager for further technical information.

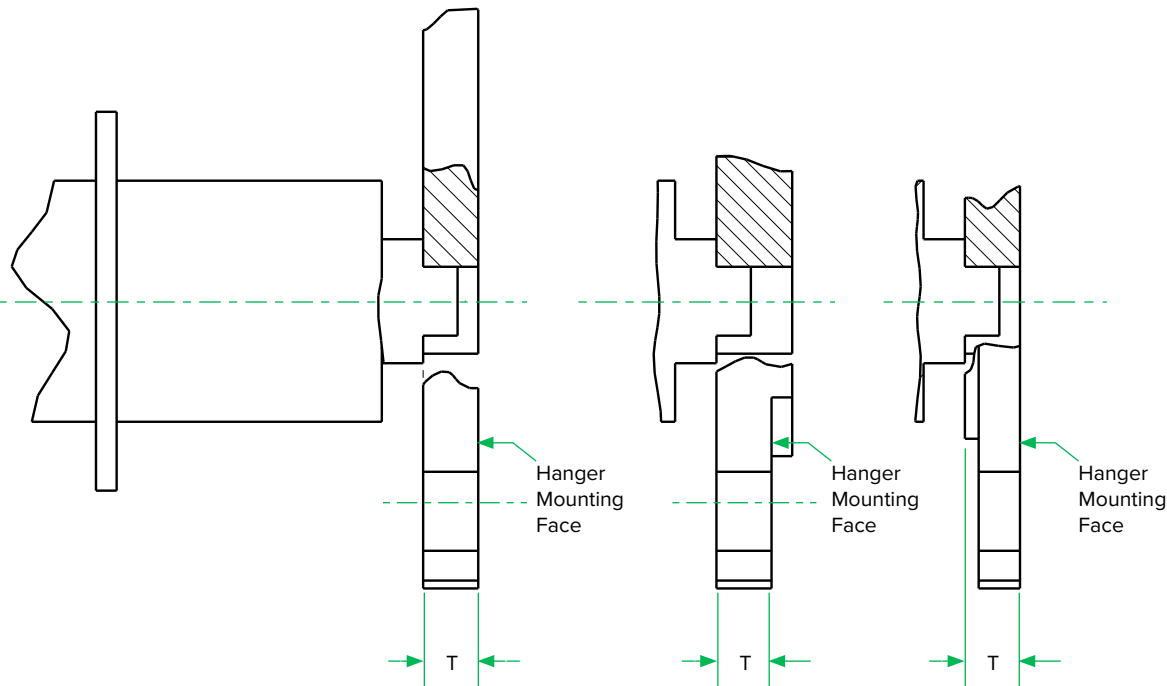


Hanger Specifications

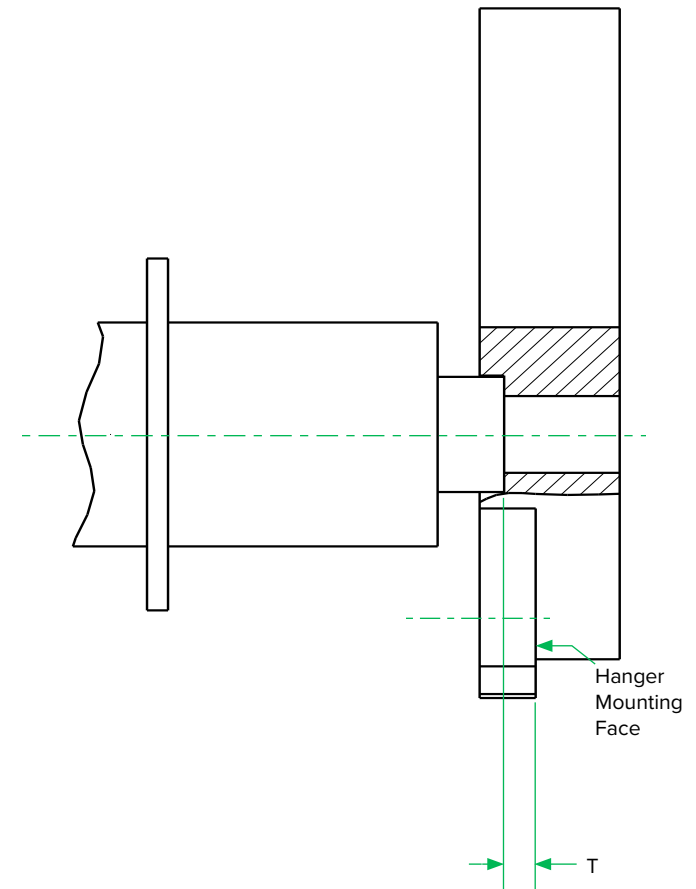
All SRAM Road Rear Derailleurs

	T (mm)
Quick Release	7-9
Thru Axle	3.5-5.5

Quick Release



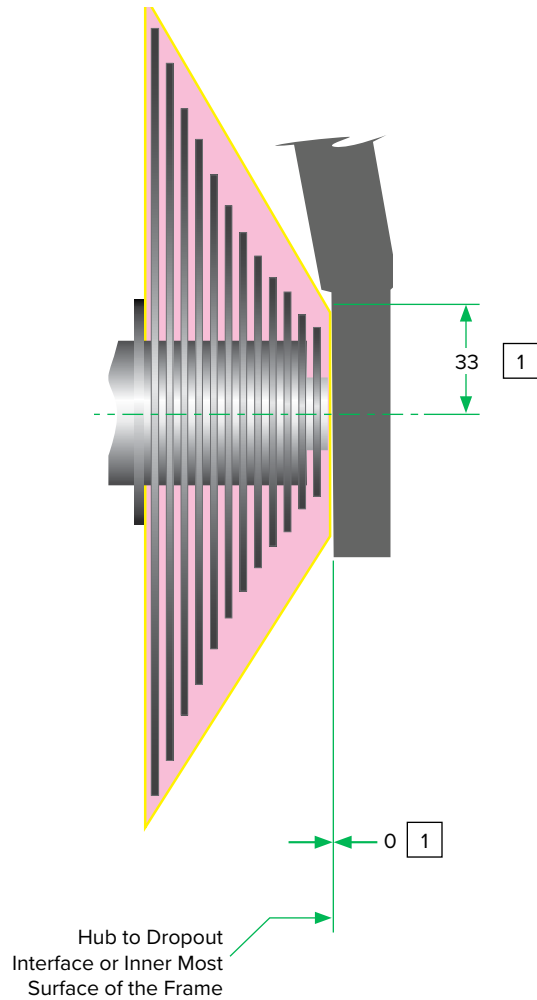
Thru Axle



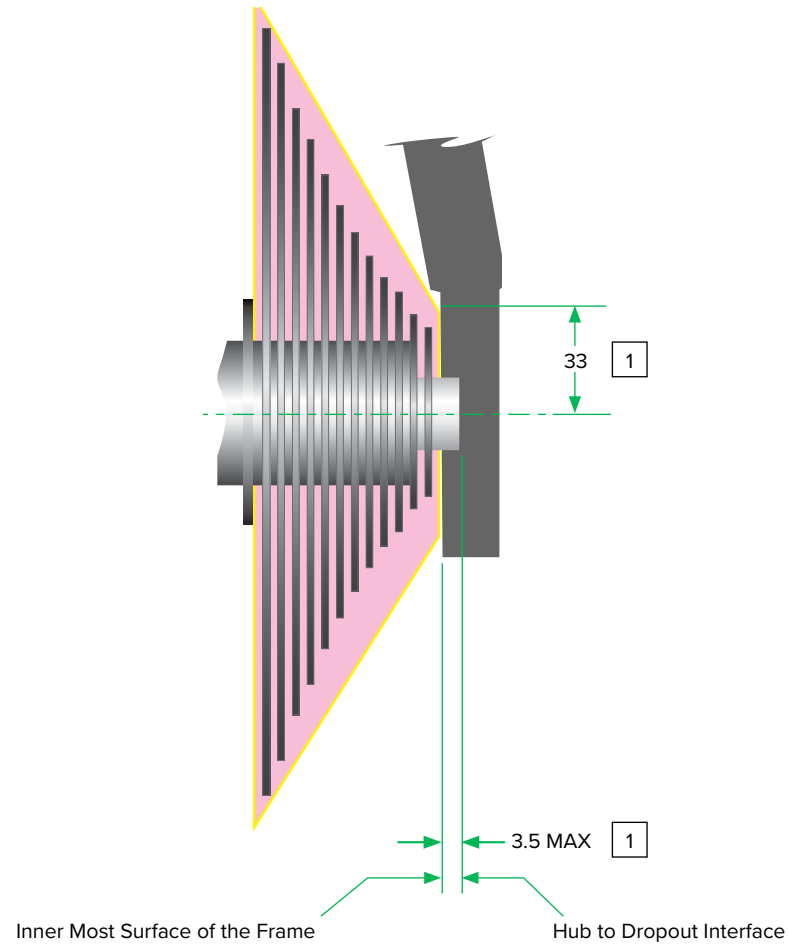
Frame Rear Dropout Clearance

12 Speed Road Chain and Cassette

130 and 135 mm



142 mm



1 An XDR driver body compliant hub is required. Refer to <http://xddriverbody.com/> for freehub driver body specifications.

Cable Routing

Cable Housing Stop and AXS Extension Cord Dimensions

Use dedicated derailleur cables and housings with compressionless housing, low friction liner, aluminum ferrules without sealing, and 1.1 mm polished cable.

Ferrule diameter 5.7+0.1 mm. Continuous housing only.

Maximum total bend angle of 500°. Minimum bend radius of 50 mm.

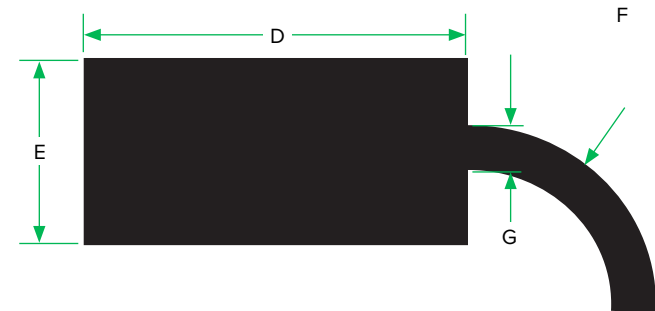
Avoid : S-bends with small radii and pinch spots (high housing clamping force).

Exit at the rear end best at seat stay or on top of the chain stay.

Minimize cable bending due to suspension and handlebar motion

AXS Extension Cord			
MAX Length Connector D	MAX Diameter Connector E	MIN Bending Radius F	MAX Cable Diameter G
19	Ø 5.8	8.4	Ø 4

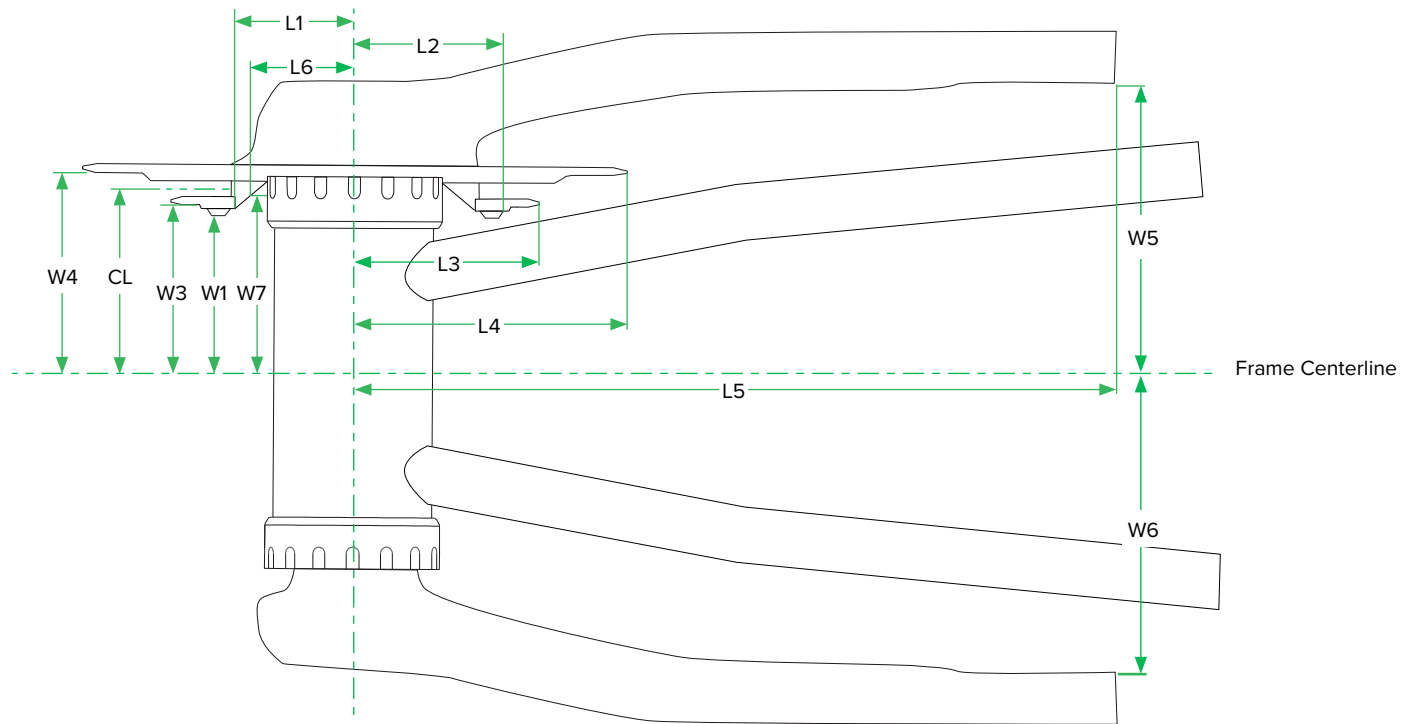
For compatibility with the AXS Extension Cord, a cyclinder diameter (diameter E and length D), must pass through the designated internal cable routing path of the frame.



Road Cranksets

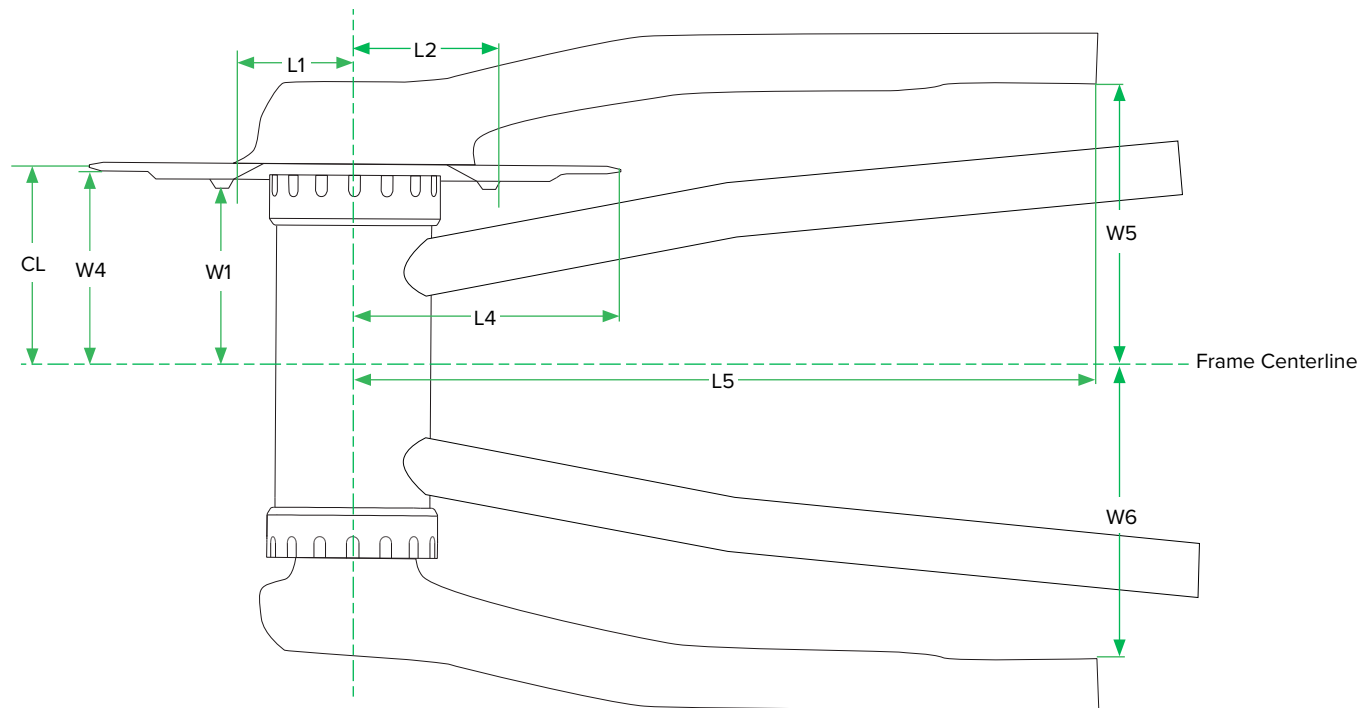
Crankset Diagram

12 Speed 2X



Crankset Diagram

12 Speed 1X



Crankarm and Chainring Frame Clearance

12 Speed

Chainring Configuration	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	L6 (mm)	W1 (mm)	W3 (mm)	W4 (mm)	W5 (mm)	W6 (mm)	W7 (mm)	CL (mm)	Q-Factor
SRAM RED/ SRAM Force/ SRAM Rival														
56-43	47.0	60.0	89.3	114.6	190.0	35.0	37.3	39.9	47.7	60	60	42.8	45	145
54-41			85.5	110.6										
52-39			81.5	106.4										
50-37			77.4	102.4										
48-35			73.4	98.3										
46-33			69.4	94.3										

SRAM Force Wide/ SRAM Rival Wide														
43-30 Wide	40.5	54.9	63.3	88.2	190	31.5	39.8	42.4	50.2	62.5	62.5	45.7	47.5	150

SRAM 12 Speed cranksets must also meet Spider Frame Clearance requirements for [Quarq AXS Power Meters](#).

Crankarm and Chainring Frame Clearance

12 Speed

Chainring Size	L1 (mm)	L2 (mm)	L4 (mm)	L5 (mm)	W1 (mm)	W4 (mm)	W5 (mm)	W6 (mm)	CL (mm)	Q-Factor
SRAM RED 1 AXS/ SRAM Force 1 AXS										
52	475	59.5	108.7	190	40.1	43.3	60	60	45	145
50			104.6							
48			100.6							
46			96.6							
44			92.5							
42			88.5							
40			84.4							
38			80.4							
36			76.4							

SRAM RED 1 Wide AXS/ SRAM Force 1 Wide AXS/ SRAM Rival 1 Wide AXS										
46	N/A	N/A	96.6	190	N/A	45.7	62.5	62.5	47.5	150
44			92.5							
42			88.5							
40			84.4							
38			80.4							

Spider Frame Clearance

Quarq AXS Platform Power Meters

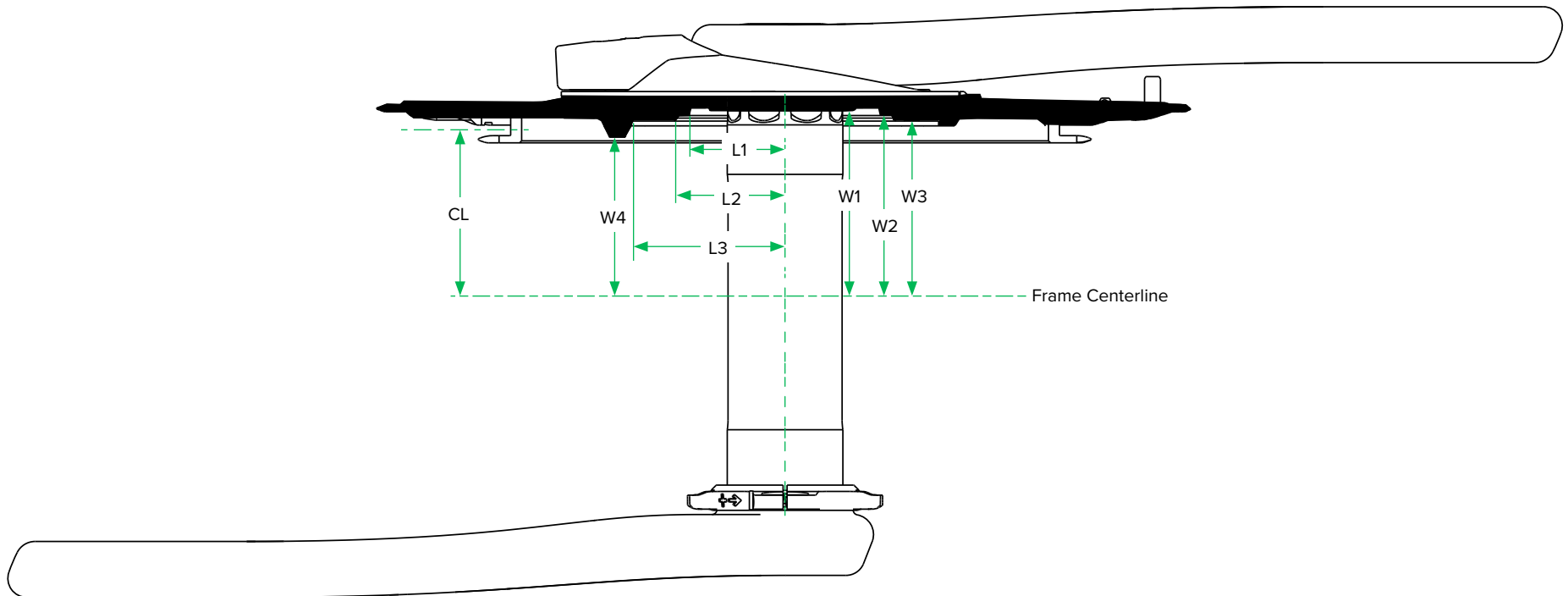
L1 (mm)	L2 (mm)	L3 (mm)	W1 (mm)	W2 (mm)	W3 (mm)	W4 (mm)	CL (mm)
24.0	27.0	37.2	Standard: 48 Wide: 50.5	Standard: 46.7 Wide: 49.2	Standard: 44.3 Wide: 46.8	40.7	Standard: 45 Wide: 47.5

Refer to Chainring Crankarm Clearance 1x, 2x for chainring and crankarm to frame clearance.

Consider clearance in this area if using a wide format BB shell such as BB386 or PressFit 86.5

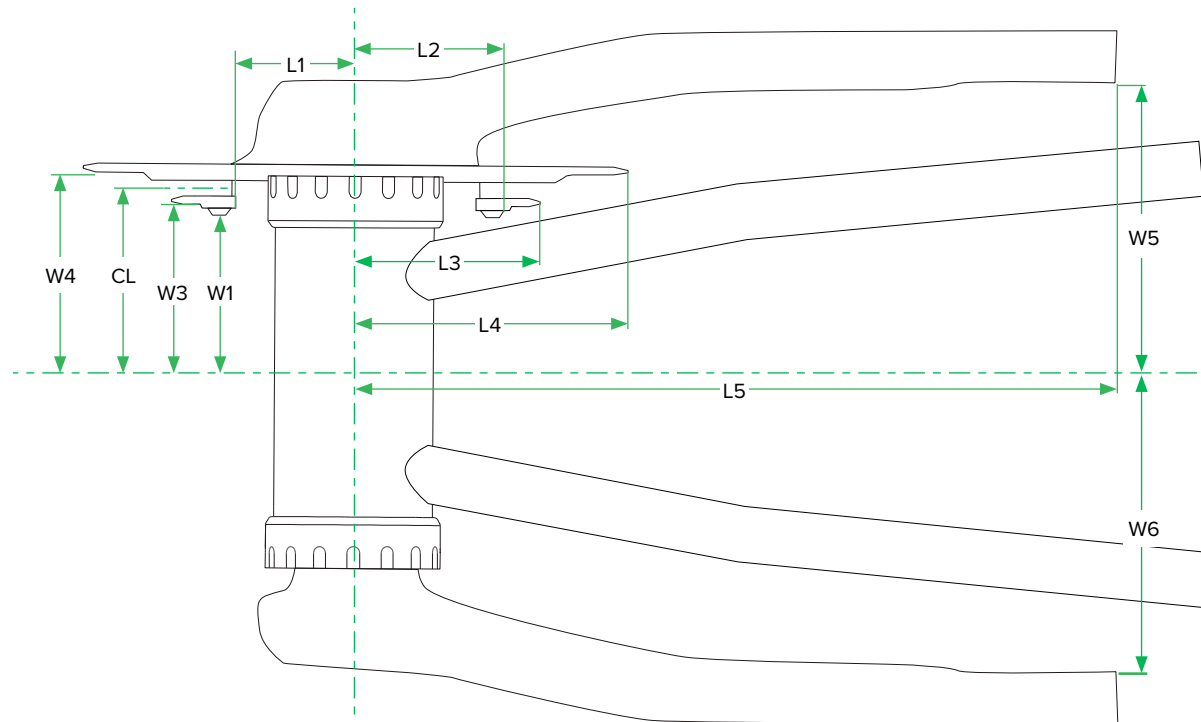
The image depicts a 2X SRAM RED integrated chainring power meter, but dimensions apply to all AXS spider-based power meters.

Dimensions are to the component and do **not** include clearance for debris. Consider additional frame clearance to compensate for mud/grit/debris picked up during normal riding conditions.



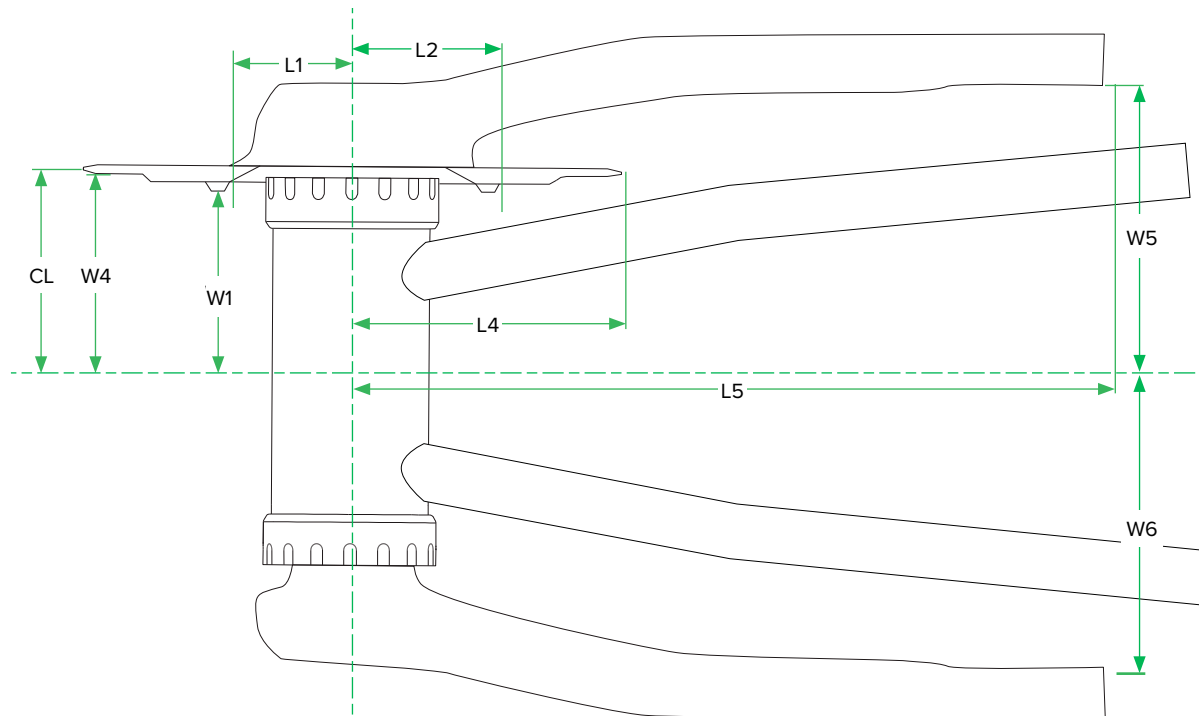
Crankset Diagram

11 Speed



Crankset Diagram

11 Speed and Singlespeed



Crankset Frame Clearance

11 Speed

Chainring	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	W1 (mm)	W3 (mm)	W4 (mm)	W5 (mm)	W6 (mm)	CL (mm)	Q-Factor	BB Type
SRAM RED*/ SRAM Force/ SRAM RED Quarq Power Meters/ Quarq Prime Carbon Power Ready/S902/S952													
55/42	57.0	71.0	88.0	113.1	197.0	38.0	40.0	47.5	60.0 MIN	60.0 MIN	45	145	GXP BB30 PF30 PFGXP
53/39			81.8	109.2		37.7							
52/36	47.0	61.0	75.0	107.0		38.0		48.0					
50/34			71.0	103.2									
46/36			75.0	95.1									

* Cranksets can be configured to fit BB386, BB30a, and BBright.

Wide Axle SRAM Rival/ S552													
52/36	47.0	61.0	75.0	106.8	192.1	41.0	42.9	50.6	63.8 GXP/ PFGXP 62.8 BB30	63.8 BB30	47.5	154.6 GXP/ PFGXP 152.4 BB30/ PF30	GXP BB30 PF30 PFGXP
50/34			71.0	103.1									

SRAM Rival/ Quarq Prime Aluminum Power Ready													
52/36	47.0	61.0	75.0	106.8	192.1	38.5	40.4	48.1	61.3 GXP/ PFGXP 60.3 BB30/ PF30	61.3 GXP/ PFGXP 60.3 BB30/ PF30	45	149.6 GXP/ PFGXP 147.4 BB30/ PF30	GXP BB30 PF30 PFGXP
50/34			71.0	103.1									
46/36			75.0	95.1									

SRAM S-390													
50/34	57.3	61	71	103.1	191.5	40.4	42.4	50.1	62	62	45	149	GXP BB30 PF30 PFGXP
46/34				95.1									

Crankset Frame Clearance

11 Speed

Chainring	L1 (mm)	L2 (mm)	L4 (mm)	L5 (mm)	W1 (mm)	W4 (mm)	W5 (mm)	W6 (mm)	CL (mm)	Q-Factor	BB Type	Chainstay Length (mm)
SRAM Force 1												
54	57.0	72.0	112.2	197.0	38.0	43.7	60.0	60.0	45	145	GXP BB30 PF30 PFGXP	≥ 395
52			108.2									
50	47.0	62.0	104.1									
48			100.1									
46			96.1									
44			92.0									
42			88.0									
40			84.0									
38	79.9											
SRAM Rival 1												
50	47.0	62.7	104.1	192.1	38.0	43.7	61.3 GXP/ PFGXP 60.3 BB30/ PF30	61.3 GXP/ PFGXP 60.3 BB30/ PF30	45	149.6 GXP/ PFGXP 147.4 BB30/ PF30	GXP BB30 PF30 PFGXP	≥ 395
48			100.1									
46			96.1									
44			92.0									
42			88.0									
40			84.0									
38			79.9									
SRAM Apex 1												
44	49.0	61.0	92.0	191.7	41.3	43.7	62.0	62.1	45	149	GXP BB30 PF30 PFGXP	≥ 395
42			88.0									
40			83.9									

Crankset Frame Clearance

11 Speed and Singlespeed

Chainring	L1 (mm)	L2 (mm)	L4 (mm)	L5 (mm)	W1 (mm)	W4 (mm)	W5 (mm)	W6 (mm)	CL (mm)	Q-Factor	BB Type	Chainstay Length (mm)
SRAM S350-1												
44	47.0	62.7	92.0	196.7	38.0	43.7	60.0	60.0	45	145	GXP BB30 PF30 PFGXP	≥ 395
42			88.0									
40			84.0									
Omnium												
48	64.5	78.0	99.1	195.4	35.5	42.5	55.0	54.7	45	145	GXP	≥ 395

Crankset Frame Clearance

8/9/10 Speed

Chainring	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	W1 (mm)	W3 (mm)	W4 (mm)	W5 (mm)	W6 (mm)	CL (mm)	Q-Factor	BB Type
SRAM Apex													
53/39	57.0	71.0	81.0	109.2	196.7	38.0	40.0	47.3	60.0	60.0	45	145	GXP BB30 PF30 PFGXP
50/34	47.0	61.0	71.0	103.2									
48/34				99.0									
46/36			75.0	95.1									
Touro													
53/39/30	29.0	41.0	63.0	109.2	190.5	38.5	40.5	48.0	61.0	59.0	45	145	Power Spline
48	47.0	71.0	NA	99.0				NA					
G52	57.0		107.2	112.5				46.0					
G53		Square											

SRAM Road Drivetrain with E-Bike Fitment

E-Bike Configurations

Hub drive type:

- All configurations OK; follow all frame fit dimensional specifications.

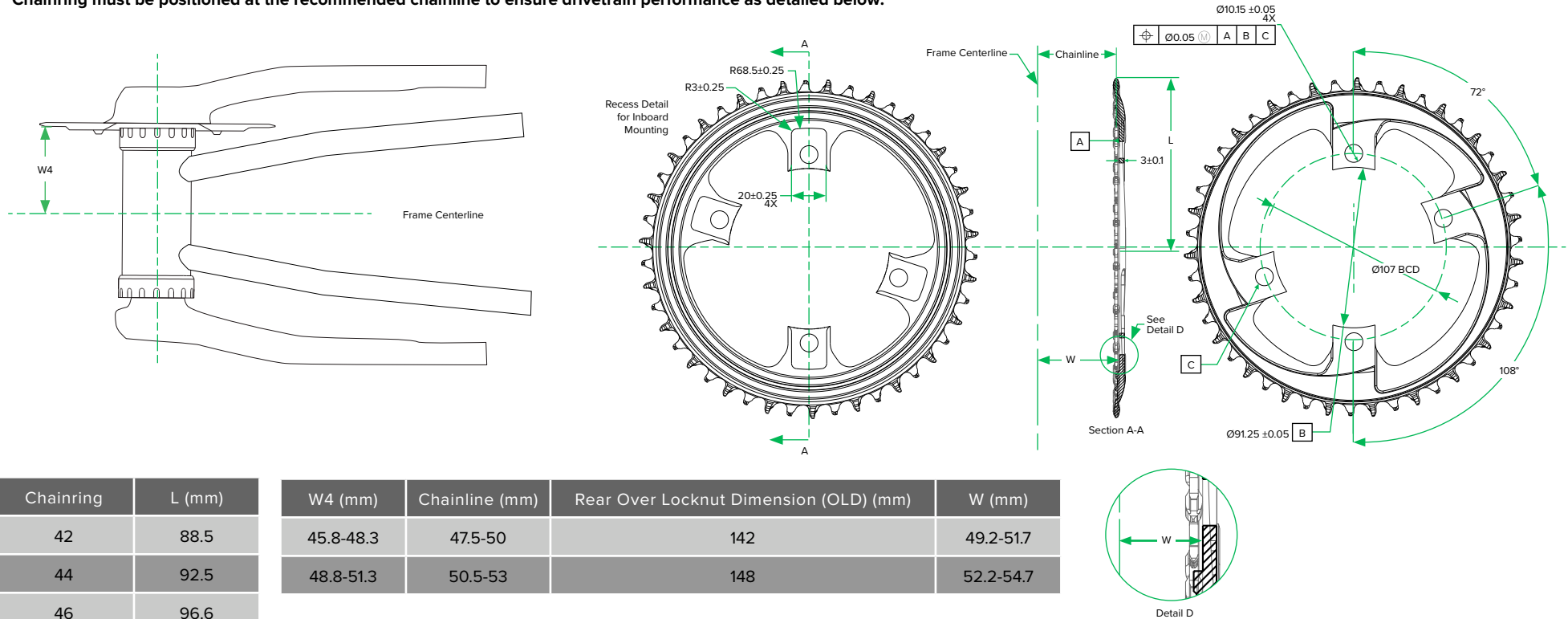
Mid drive type:

- Only 1x configurations are approved.
- Follow front chainline and interface requirements on the next page.

SRAM Road Drivetrain with E-Bike Fitment

E-Bike Configurations

- **SRAM Road Drivetrain 1x Chaining Fit Specification for E-bikes**
- **Customer may configure their own spider to assemble a SRAM X-Sync chaining to their mid-drive E-powertrain in order to achieve the best performance with a SRAM Road Drivetrain. Chaining must be positioned at the recommended chainline to ensure drivetrain performance as detailed below:**



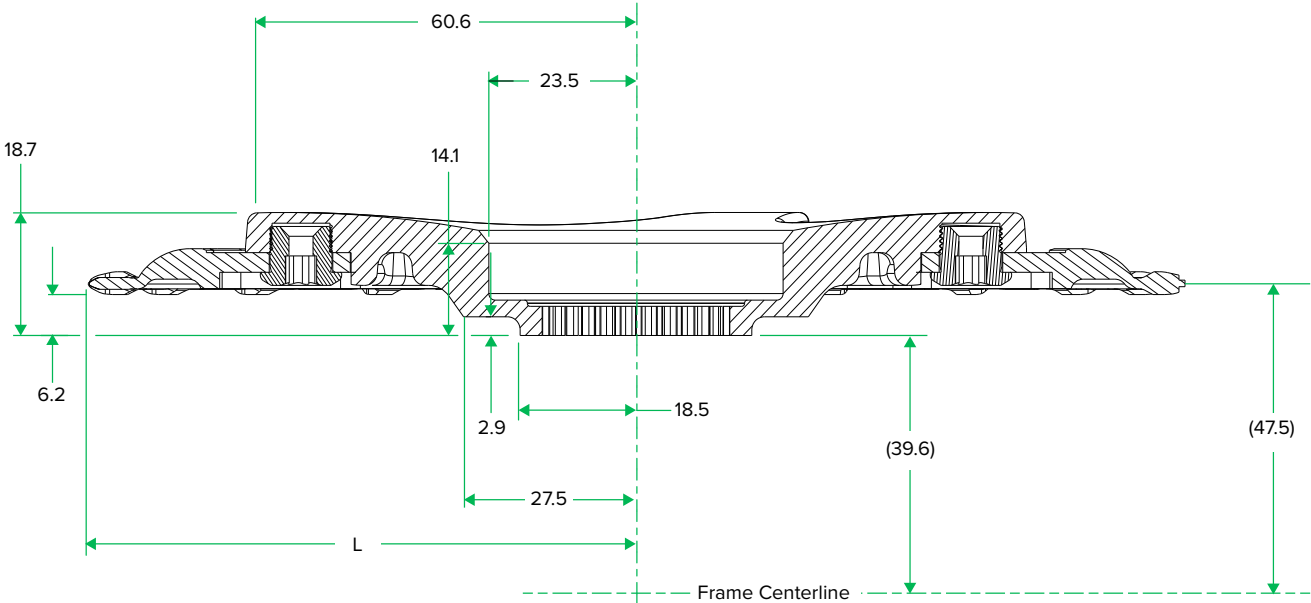
Chaining	L (mm)	W4 (mm)	Chainline (mm)	Rear Over Locknut Dimension (OLD) (mm)	W (mm)
42	88.5	45.8-48.3	47.5-50	142	49.2-51.7
44	92.5	48.8-51.3	50.5-53	148	52.2-54.7
46	96.6				

- **Assure the chaining size desired will provide adequate clearance for the frame design by referencing dimensions L and W4, then select a front chainline that meets your frame clearance design requirements.**
- **Depending on the front chainline needed, select the appropriate rear over locknut dimension (i.e. rear wheel axle width) . OLD should depend on the front chainline that is needed for frame clearance. This assures the drivetrain will perform as intended.**
- **Chaining must be positioned relative to frame centerline with a spider mounting interface that is offset from the frame centerline according to dimension W, the dimension to the chaining inboard mounting interface. Chaining may alternatively be mounted by the outboard mounting interface if desired, if so, account for chaining tab thickness.**
- **Customer is responsible for verifying crankarm and spider clearances for non-SRAM spider and/or crankarms.**

E-Road Spider Frame Clearance

Bosch Gen 4

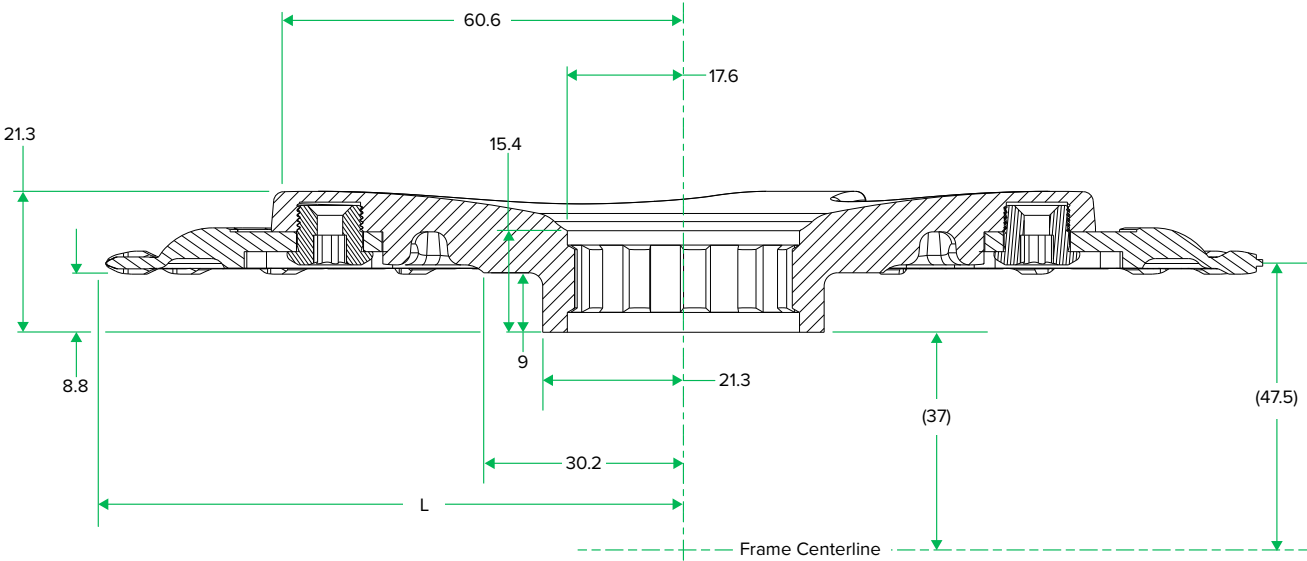
Chainring	L (mm)
42	88.5
44	92.5
46	96.6



E-Road Spider Frame Clearance

Fazua

Chainring	L (mm)
42	88.5
44	92.5
46	96.6



Spider Frame Clearance

Quarq DZero Platform Power Meters

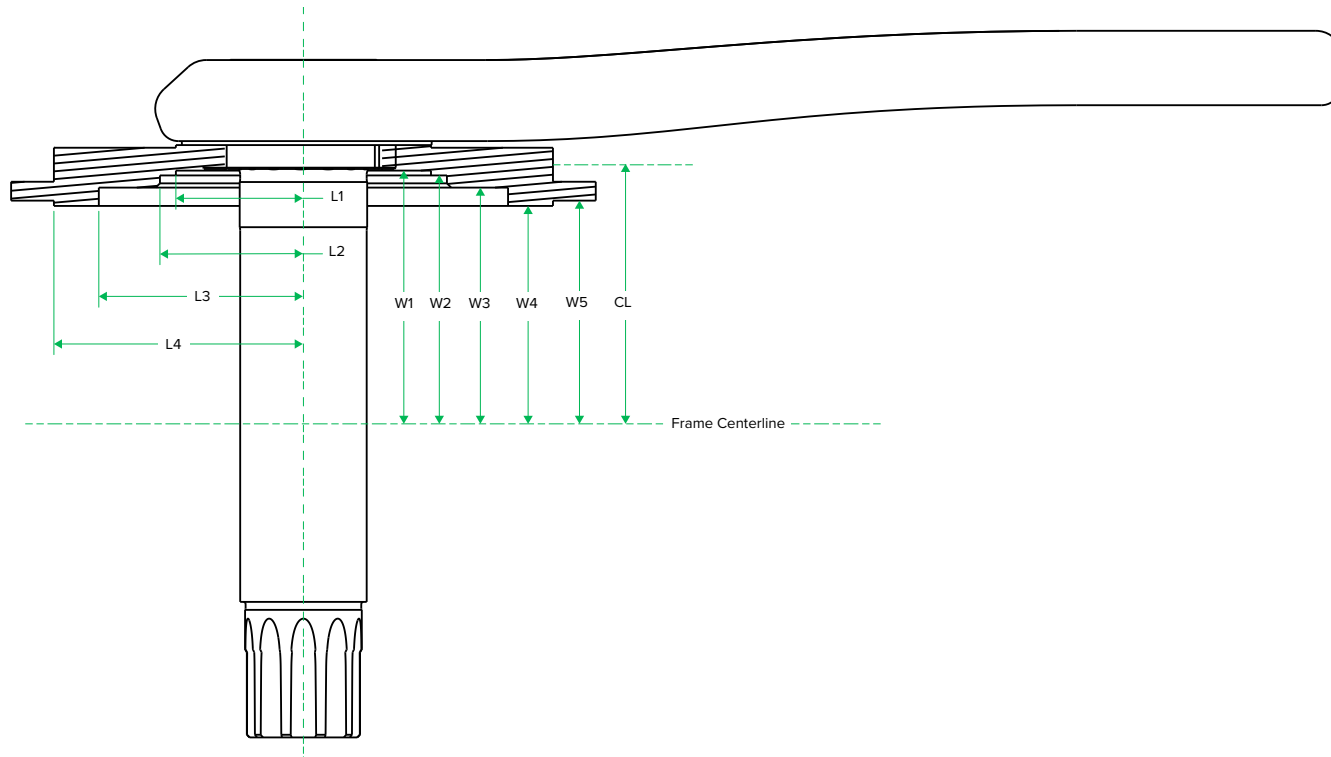
Model	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	W1 (mm)	W2 (mm)	W3 (mm)	W4 (mm)	W5 (mm)	CL (mm)
DZero 110	24.0	27.0	38.5	46.95	47.6	46.7	44.4	41.0	42.0	45
DZero 130			39.0	56.95						
DFOUR			38.5	46.95						

Cranksets can be configured to fit BB386, BB30a, and BBright.

DZero Carbon, DFour, and RED DZero crankset frame clearance is the same as SRAM Force. See 2x11 Crankset Frame Clearance page.

DZero Aluminum crankset frame clearance is the same as SRAM Rival. See 2x11 Crankset Frame Clearance page.

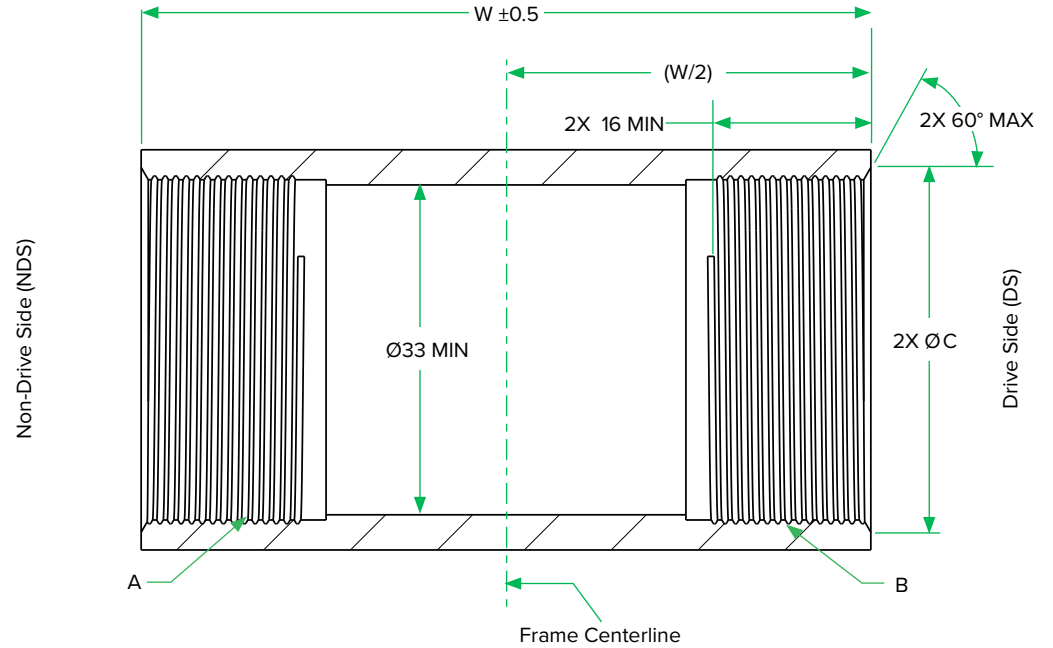
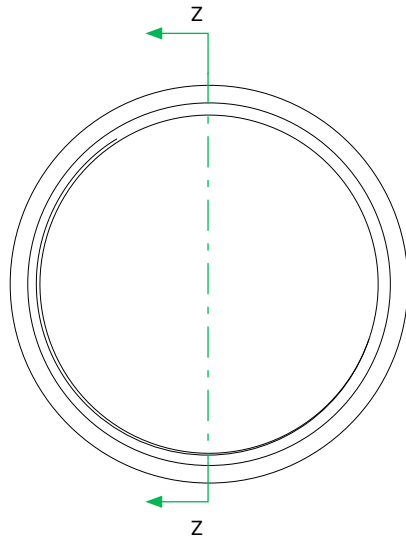
Dimensions are to the component and do **not** include clearance for debris. Consider additional frame clearance to compensate for mud/grit/debris picked up during normal riding conditions.



Bottom Bracket Shell Specifications

BSA and Italian Bottom Bracket

Road Bottom Bracket Frame Shell Specification



Section Z-Z

	W	A	B	C
BSA 68	68 ± 0.5	BC 1.37" x 24 TPI R.H.*	BC 1.37" x 24 TPI L.H.*	$\varnothing 36$
BSA 73**	73 ± 0.5			$\varnothing 37$
DUB Italian	70 ± 0.5	36 mm x 24 TPI - 6G - R.H.***		$\varnothing 37$ $\varnothing 38$
GXP Italian	70 ± 0.5	36 mm x 24 TPI R.H.		

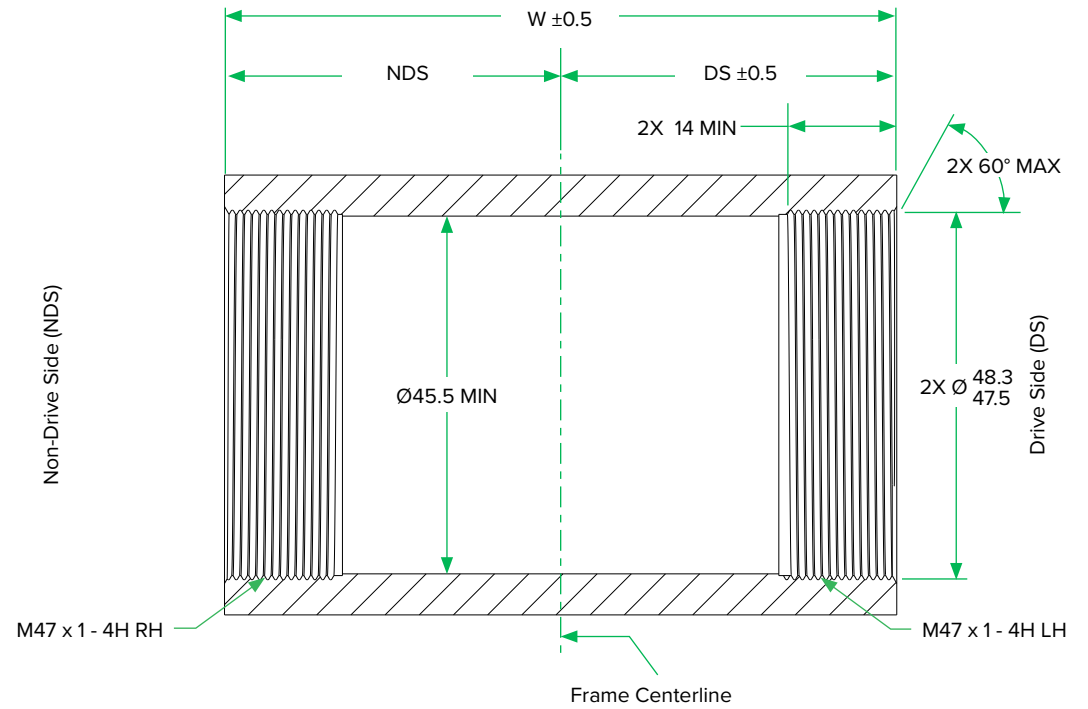
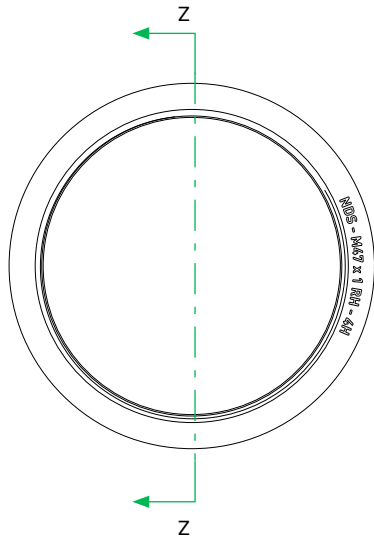
*Reference JIS B 0225

** BSA 73 is only supported by a wide chainline front crank and front derailleur.

***Reference ASME B1.13M-2005

T47

Road Bottom Bracket Frame Shell Specification



Section Z-Z

	W	DS	NDS
T47 68	68	34	34
T47 77 - A	76.75	34	(42.75)
T47 85.5	85.5	42.75	(42.75)

PressFit 30

Road Bottom Bracket Frame Shell Specification

SRAM PressFit 30 (PF30) bottom brackets have been designed and tested to work within the bounds of the dimensions and tolerances in the shell specifications. Materials, manufacturing methods, and frame shell designs can potentially influence the performance of the bottom bracket, even when the shell is manufactured to these specifications. In these instances, it is recommended that bicycle manufacturers confirm the bottom bracket system performance when implemented in their design.

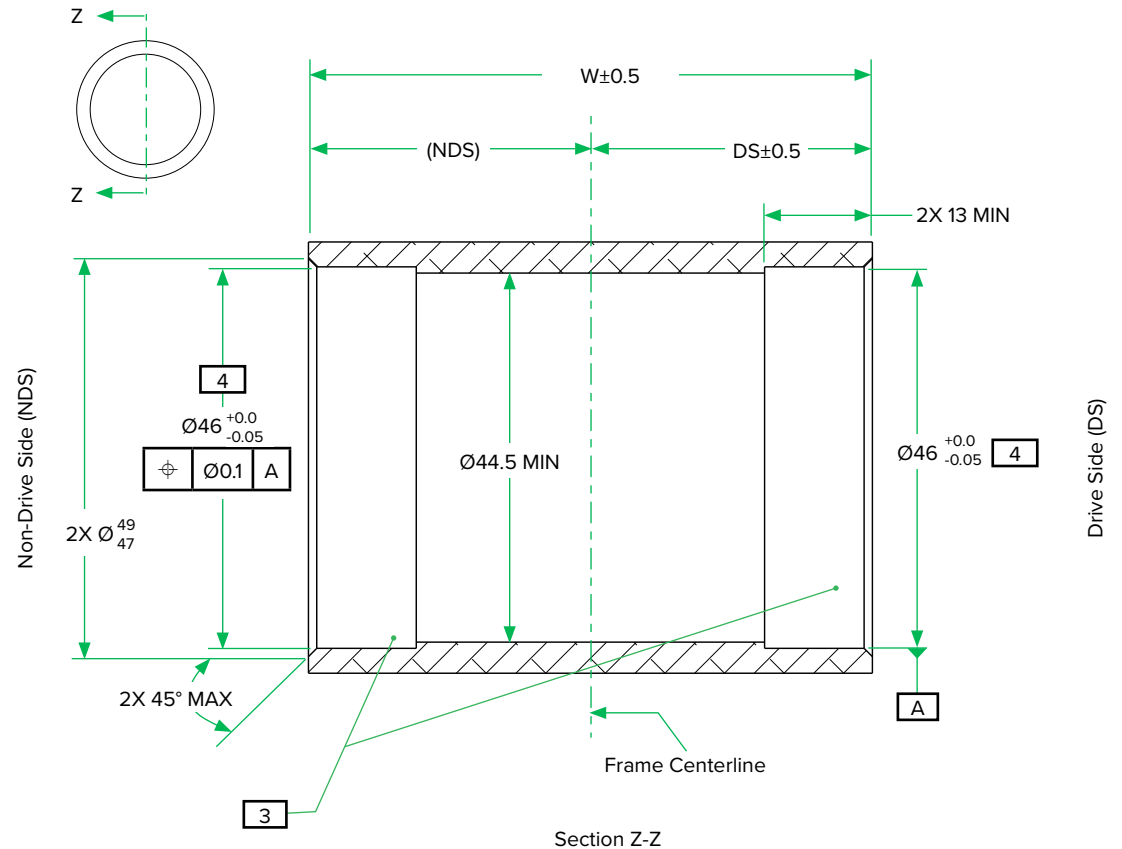
Things that should be considered when evaluating the frame and bottom bracket interaction include, but are not limited to:

- Loosening of the adapter cups from the bottom bracket shell (frame material choice can greatly affect friction coefficient).
- Binding of bearings within the bottom bracket.

For more information regarding PF30 bottom bracket technical information, contact your SRAM representative.

	Dim W	Dim DS	Dim NDS
PF30 68	68	34	
PF30 73*	73	36.5	
PF30 73-A	73	34	39
PF30 79-A 4	79	34	45
PF30 83-A	83	39	44

*PF30 73 is only supported by a wide chainline front crank and front derailleur.



- 1 Dimensions apply after finishing.
- 2 Only dimensions essential to bottom bracket PressFit and function are shown. All other details are left to the discretion of the frame or component designer. Dimensions shown do not take the place of proper frame, bottom bracket shell, or crankset design.
- 3 PressFit surfaces should be unpainted.
- 4 PF30 79-A Only: Ø45.88-45.96

BB30

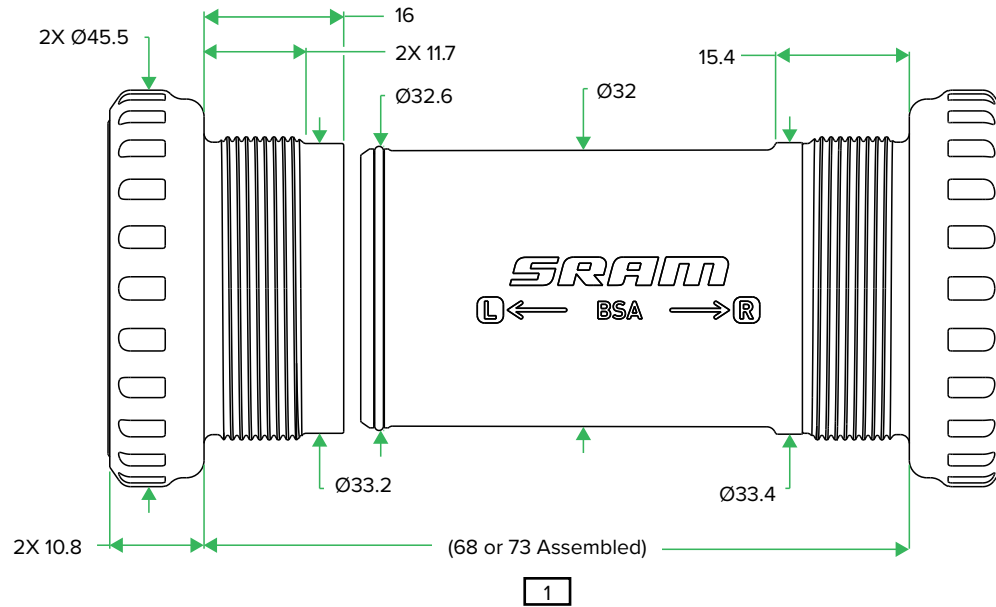
Information

Information for the BB30 drawing and legal agreement can be found on www.BB30standard.com. Use of the information contained in the drawing is forbidden without reviewing and agreeing to the legal terms and conditions found on www.BB30standard.com. By using the information contained in the drawing you are certifying that you have agreed to the terms and conditions found within that legal agreement.

DUB Bottom Brackets

DUB BSA 68/73

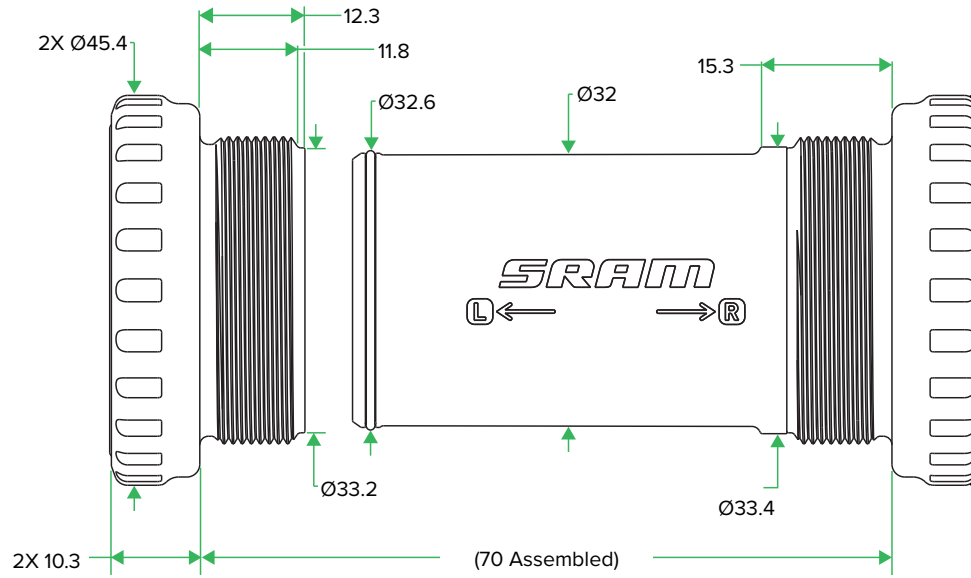
Bottom Bracket Specification



1 BSA 73 is only supported by a wide chainline front crank and front derailleur.

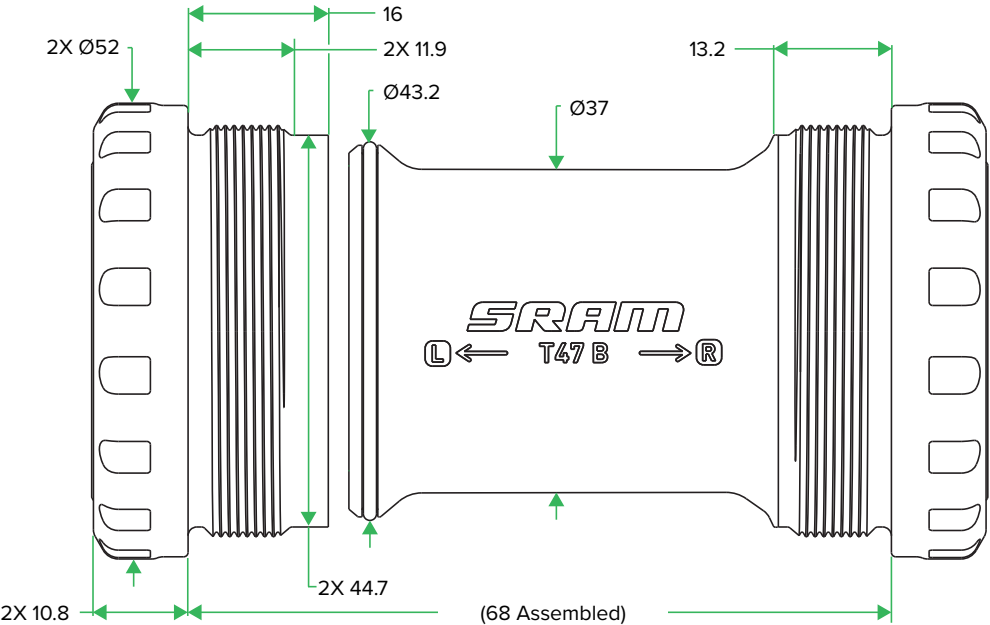
DUB Italian 70

Bottom Bracket Specification



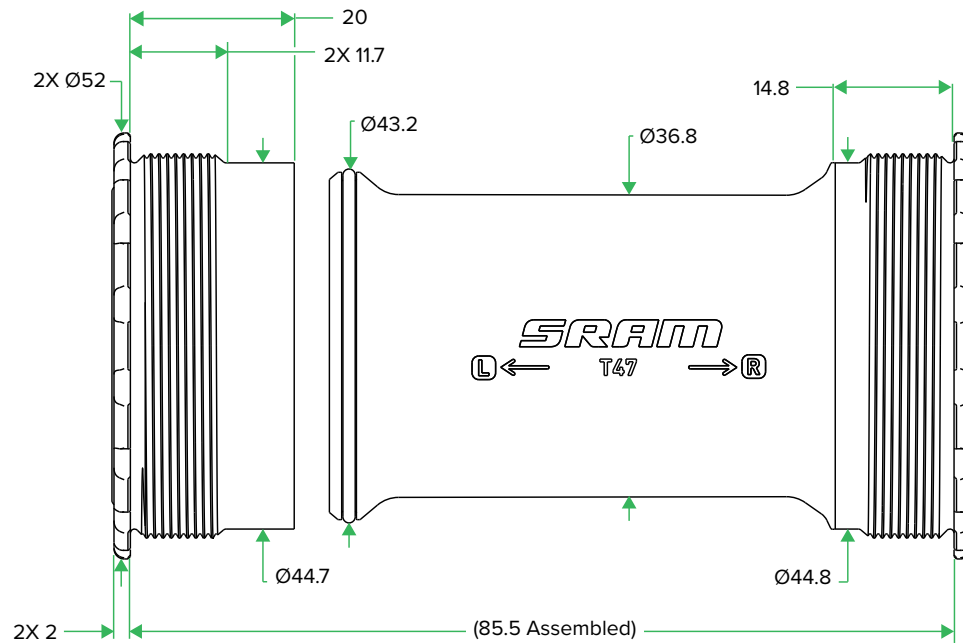
DUB T47 68

Bottom Bracket Specification



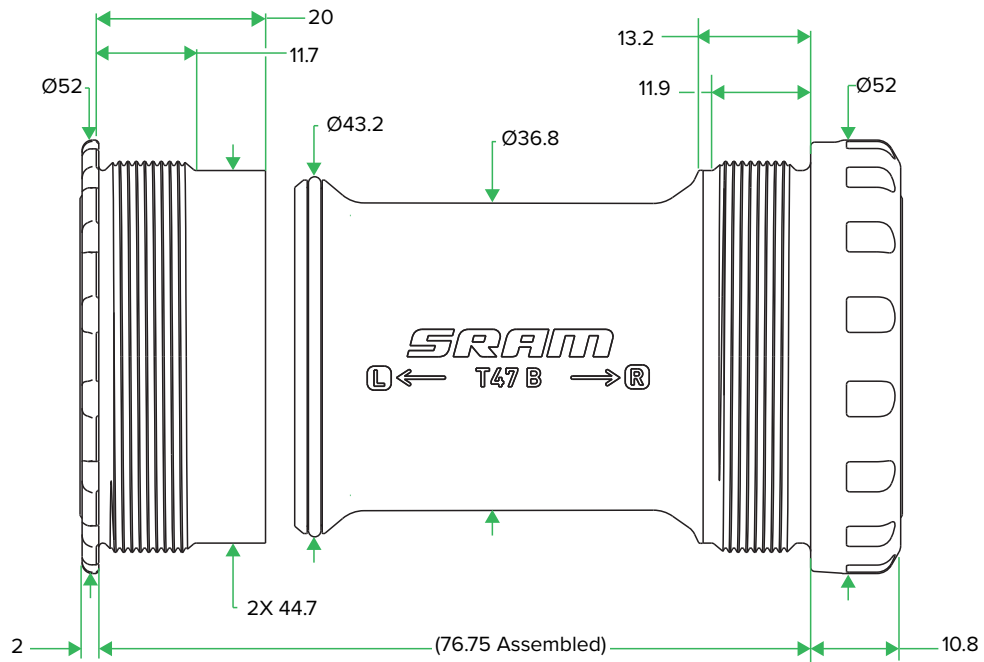
DUB T47 85.5

Bottom Bracket Specification



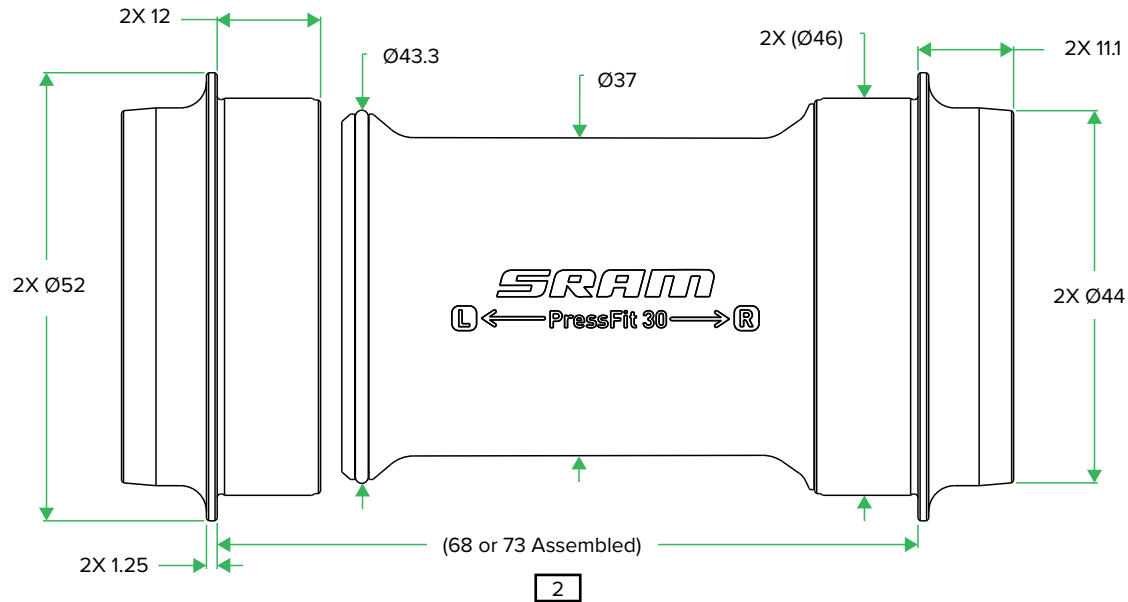
DUB T47 77-A

Bottom Bracket Specification



DUB PressFit 30 68/73

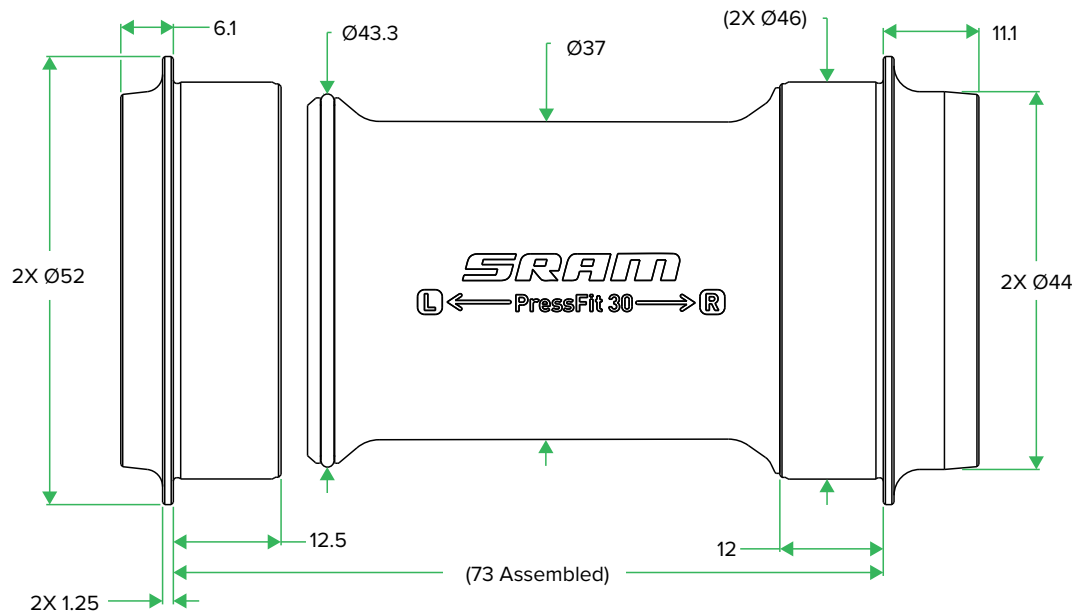
Bottom Bracket Specification



- 1 Cables and hoses must not contact the crankset spindle during operation; consider cable and hose clearances through the bottom bracket area of the frame.
- 2 PressFit 30 73 is only supported by a wide chainline front crank and front derailleur.

DUB PressFit 30 73-A

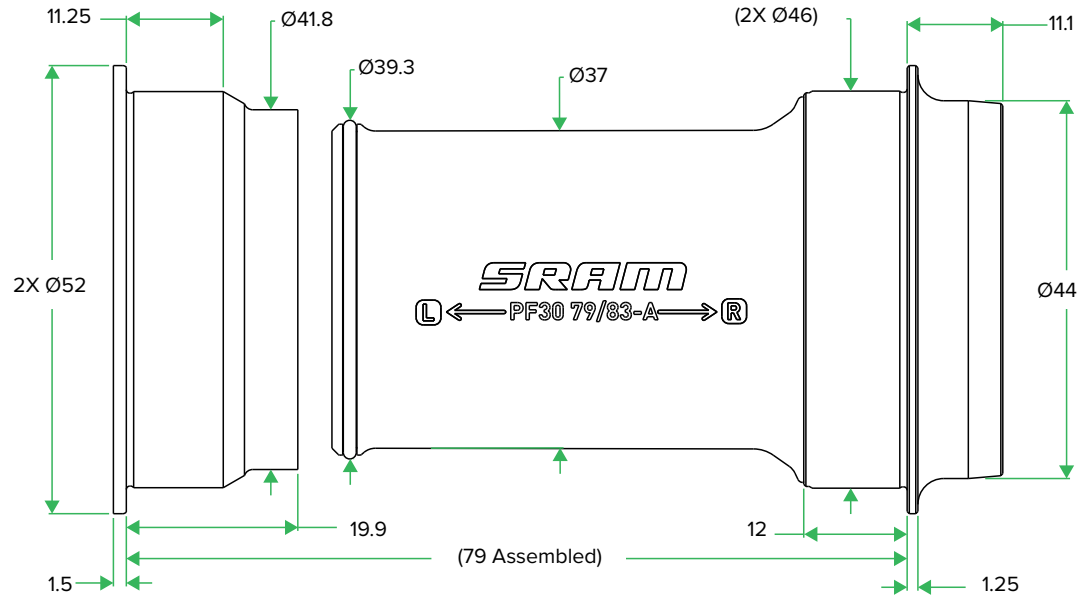
Bottom Bracket Specification



- 1 Cables and hoses must not contact the crankset spindle during operation; consider cable and hose clearances through the bottom bracket area of the frame.

DUB PressFit 30 79-A

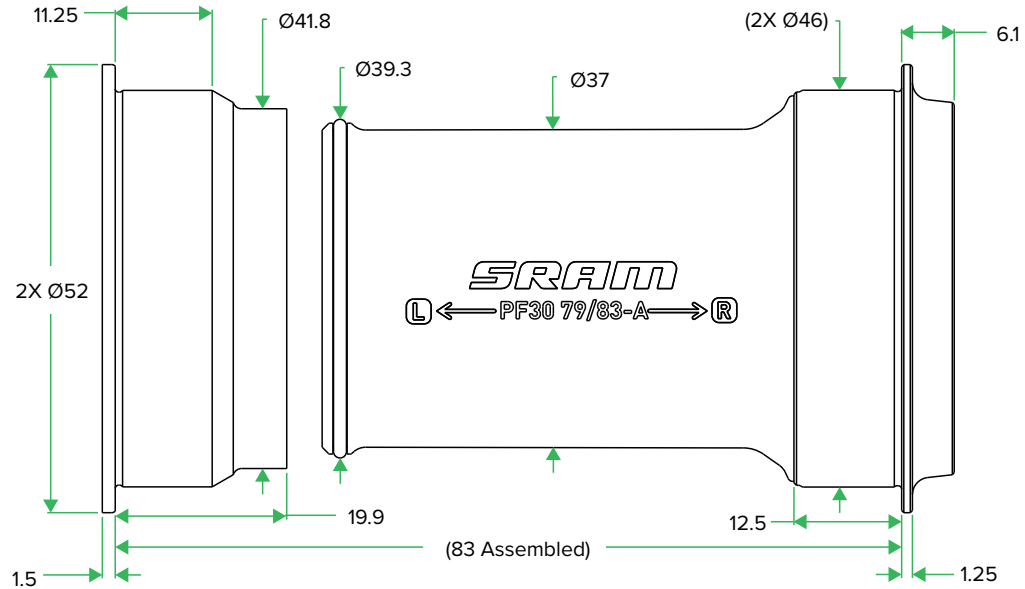
Bottom Bracket Specification



- 1 Cables and hoses must not contact the crankset spindle during operation; consider cable and hose clearances through the bottom bracket area of the frame.

DUB PressFit 30 83-A

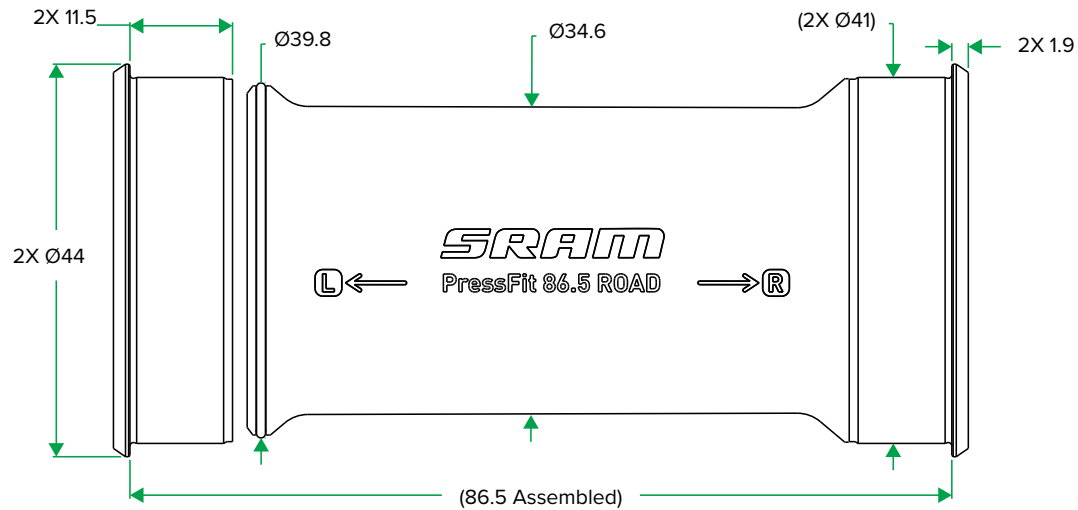
Bottom Bracket Specification



- 1 Cables and hoses must not contact the crankset spindle during operation; consider cable and hose clearances through the bottom bracket area of the frame.

DUB PressFit 86.5

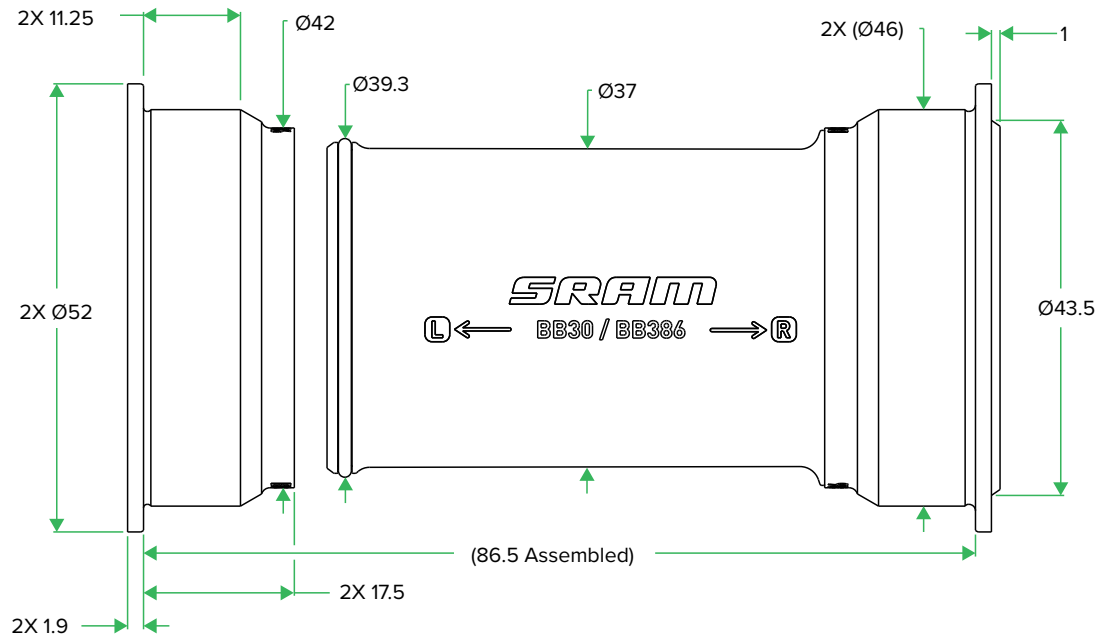
Bottom Bracket Specification



- 1 Cables and hoses must not contact the crankset spindle during operation; consider cable and hose clearances through the bottom bracket area of the frame.

DUB BB386

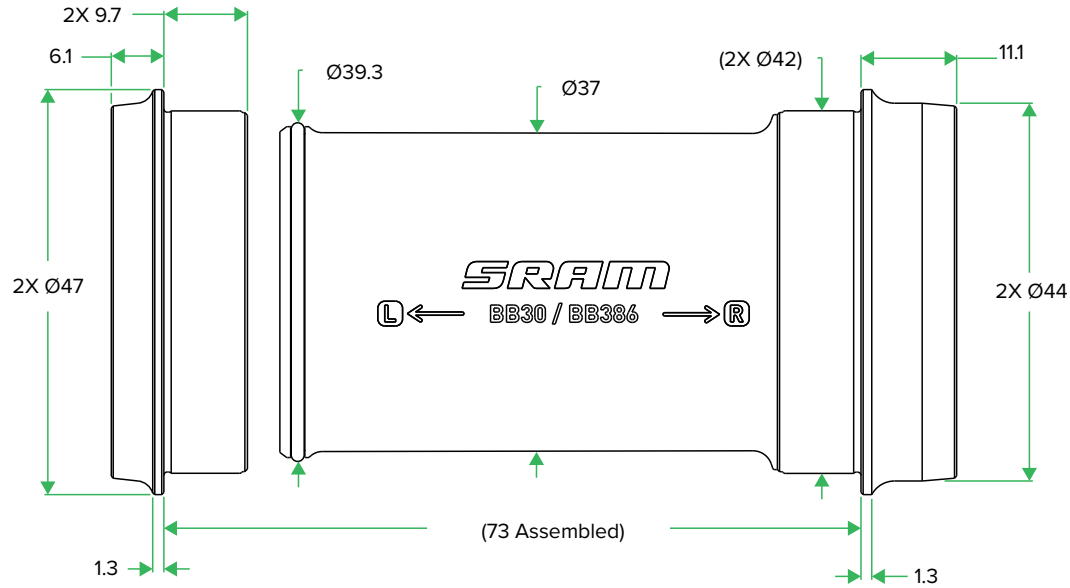
Bottom Bracket Specification



1 Cables and hoses must not contact the crankset spindle during operation; consider cable and hose clearances through the bottom bracket area of the frame.

DUB BB30 73-A

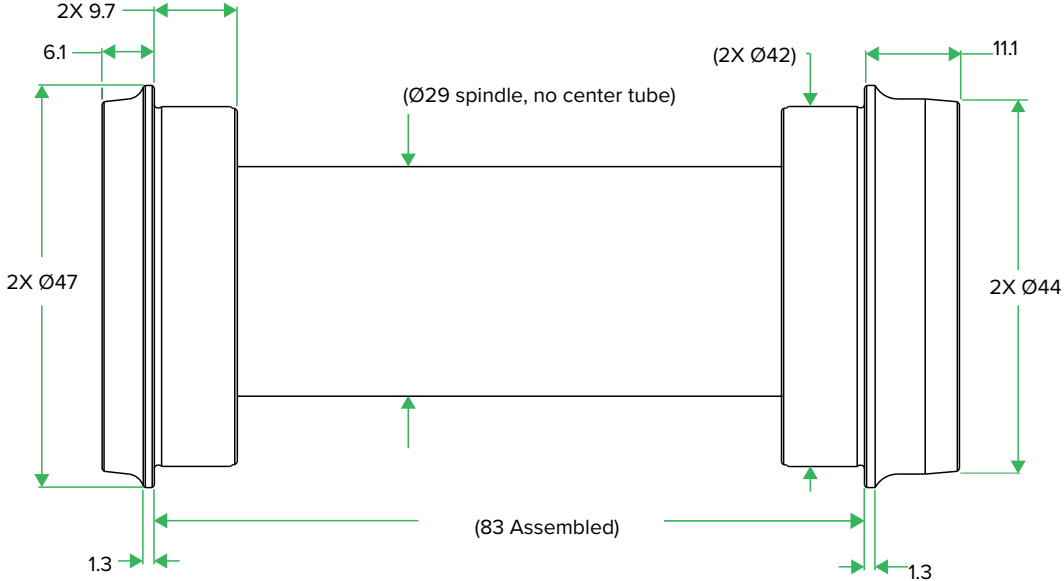
Bottom Bracket Specification



- 1 Cables and hoses must not contact the crankset spindle during operation; consider cable and hose clearances through the bottom bracket area of the frame.

DUB BB30 83-A

Bottom Bracket Specification



1 Cables and hoses must not contact the crankset spindle during operation; consider cable and hose clearances through the bottom bracket area of the frame.

Brakes

Recommended Rotor Size and Brake Pad Material

All SRAM Road Hydraulic Disc Brakes

		Riding Style		
		Cyclocross / Time Trial	Road / Gravel- General	Road / Gravel- Alpine
		Organic or Sintered	Organic	Organic
System Weight ¹	< 140 lbs (63 kg)	ø140 mm ³	ø140 mm ³	ø140 mm ³
	140 - 160 lbs (63 - 73 kg)			ø140 mm / ø160 mm ²
	160 - 180 lbs (73 - 82 kg)	ø140 mm / ø160 mm ²	ø160 mm	ø160 mm
	180 - 200 lbs (82 - 91 kg)			
	200 - 240 lbs (91 - 109 kg)			
	240-260 lbs (109-118 kg)	ø160 mm / ø180 mm ²	ø160 mm / ø180 mm ²	ø180 mm ³
	260-280 lbs (118-127 kg)	ø180 mm ³		

¹ System weight includes the total weight of the bicycle, rider, and all the additional attached items.

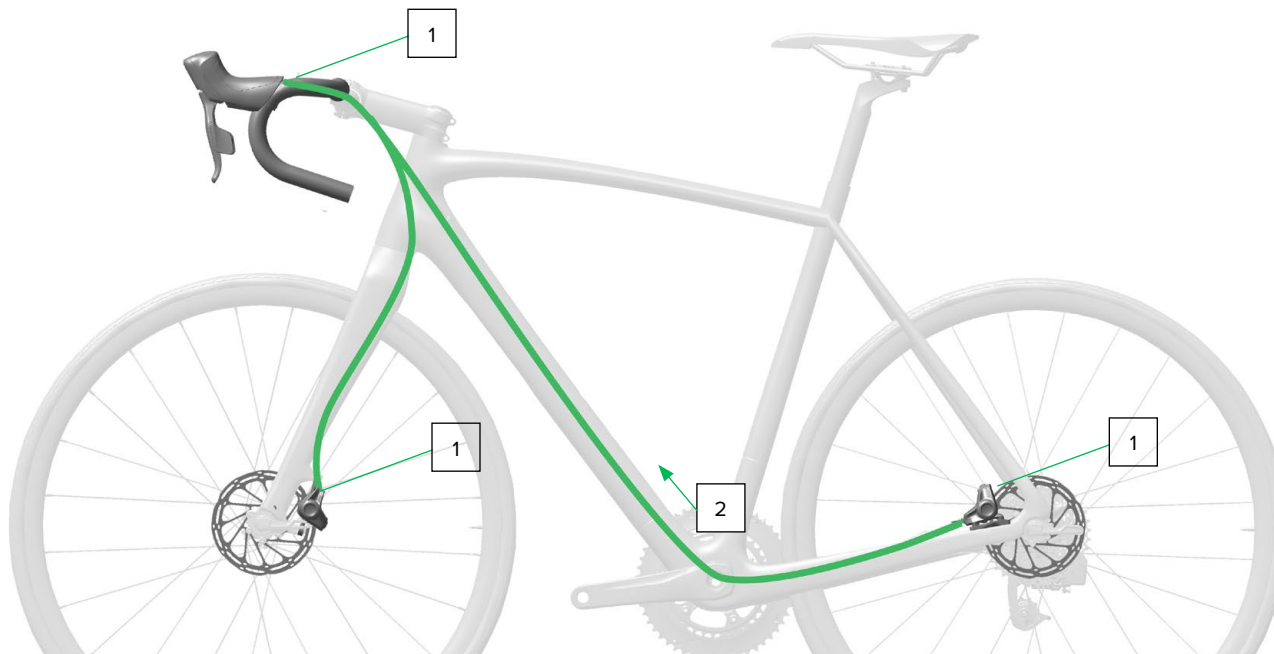
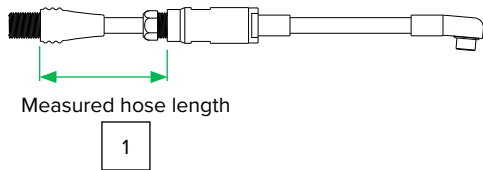
² øX / øY show the recommended rotor size for rear and front use.

³ Consult the fork or frame manufacturer's specification before using a ø140 or a ø180 mm rotor. These rotor sizes have compatibility limitations on many frames and forks.

SRAM RED eTap AXS/ SRAM Force eTap AXS/ SRAM Rival eTap AXS

Disc Brake Hose Length Specification

SJ (Stealth-a-majig)

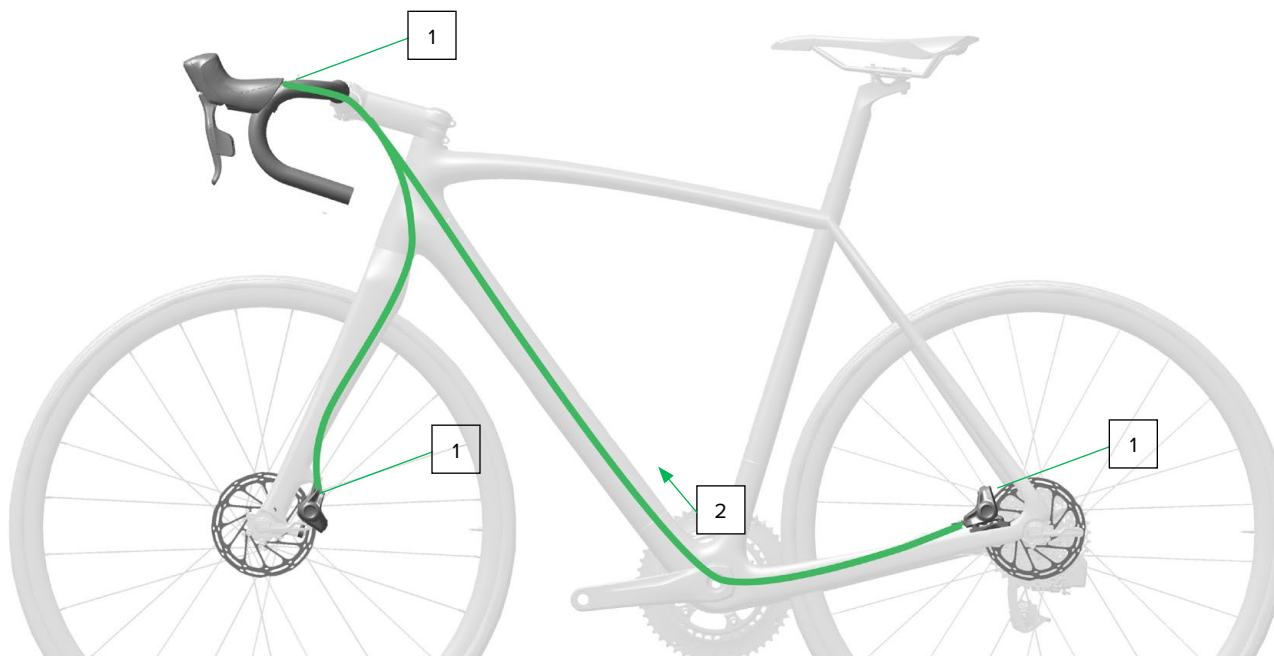
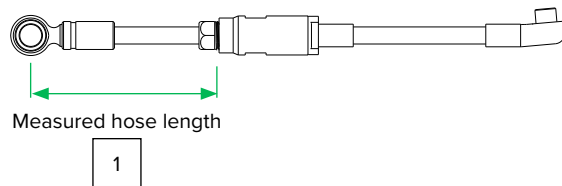


- 1 FG (Finished Good) hose equals the measured hose length from the hood/handlebar interface to the caliper plus 20 mm.
- 2 The SJ hose routing is from back to front of bike.
- 3 For internal routing, the SJ connection requires a hole in the frame or fork that is at least $\text{Ø}5.1$ mm.
- 4 Hose bend radius at 20°C = 30 mm minimum.
- 5 All surfaces that come in contact with brake hose to be free of burrs and sharp edges.
- 6 Stealth-a-majig for initial assembly only. A bleed is required if the system is disconnected and reconnected.
- 7 SRAM Brake systems are not compatible with mineral based fluids such as damping fluid, mineral oil, fork fluid, or RockShox Reverb fluid. **Use only DOT 4 and DOT 5.1 brake fluids with SRAM Hydraulic brakes.**

SRAM RED 11sp eTap

Disc Brake Hose Length Specification

SJ (Stealth-a-majig)

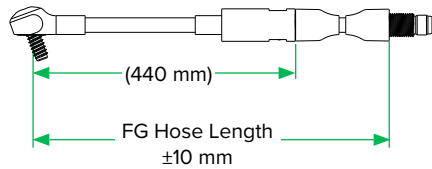


- 1 FG (Finished Good) hose equals the measured hose length from the hood/handlebar interface to the caliper plus 10 mm.
- 2 The SJ hose routing is from back to front of bike.
- 3 For internal routing, the SJ connection requires a hole in the frame or fork that is at least $\text{Ø}5.1$ mm.
- 4 Hose bend radius at 20°C = 30 mm minimum.
- 5 All surfaces that come in contact with brake hose to be free of burrs and sharp edges.
- 6 Stealth-a-majig for initial assembly only. A bleed is required if the system is disconnected and reconnected.
- 7 SRAM Brake systems are not compatible with mineral based fluids such as damping fluid, mineral oil, fork fluid, or RockShox Reverb fluid. **Use only DOT 4 and DOT 5.1 brake fluids with SRAM Hydraulic brakes.**

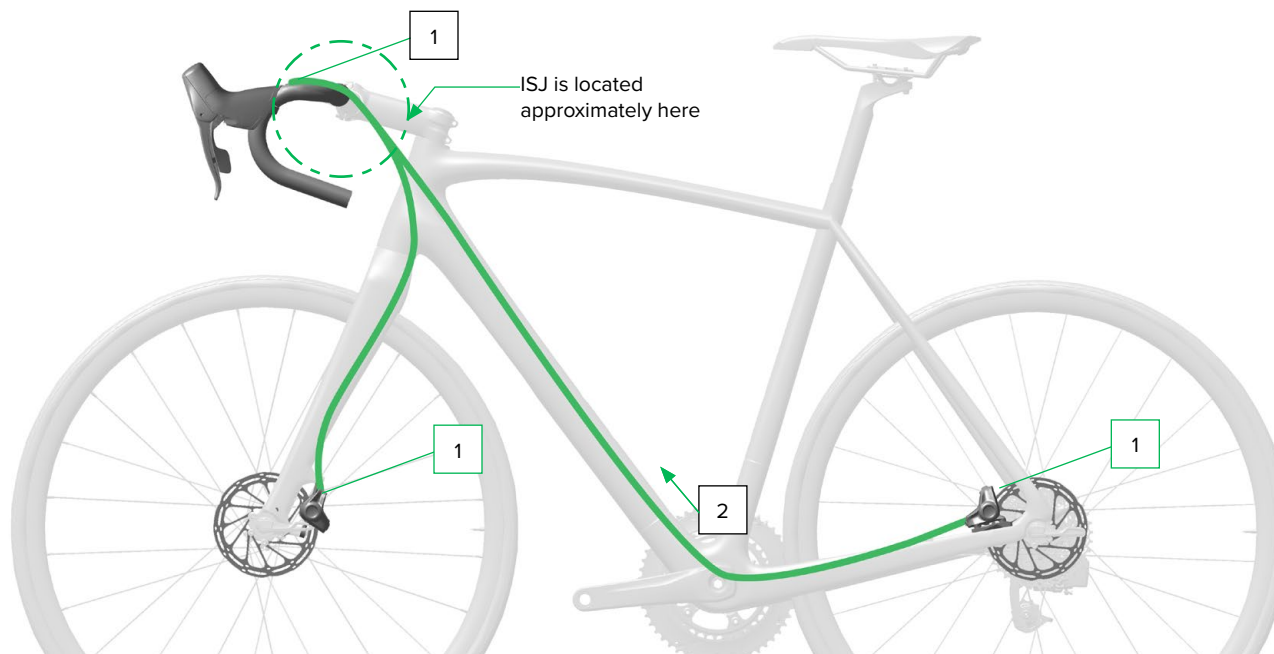
SRAM RED HRD/ SRAM Force HRD/ SRAM Rival HRD/ SRAM Apex HRD/ S-700 HRD

Disc Brake Hose Length Specification

ISJ (Inline Stealth-a-majig)



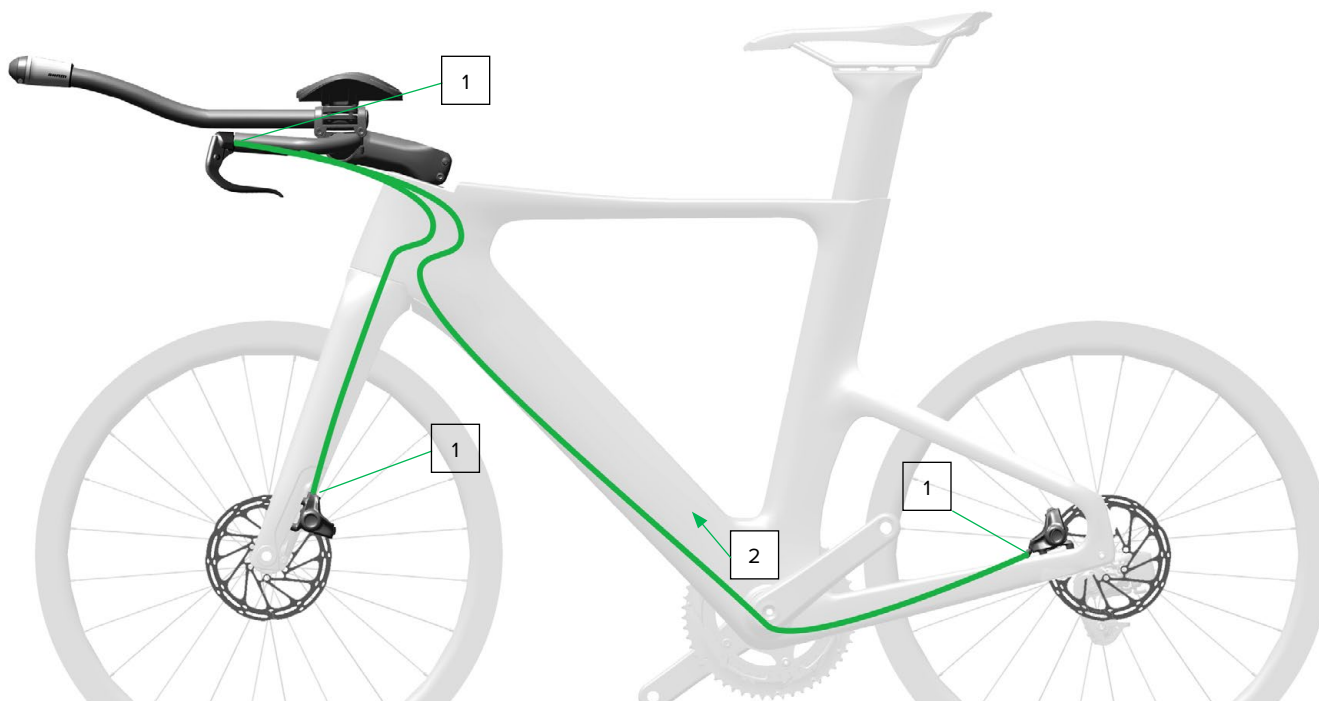
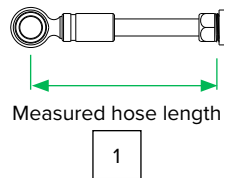
Connected Hose



- 1 FG (Finished Good) hose equals the measured hose length from the hood/handlebar interface to the caliper plus 80 mm.
- 2 The ISJ hose routing is from back to front of bike.
- 3 For internal routing, the ISJ connection requires a hole in the frame or fork that is at least $\text{Ø}5.1$ mm.
- 4 Hose bend radius at 20°C = 30 mm minimum.
- 5 All surfaces that come in contact with brake hose to be free of burrs and sharp edges.
- 6 Stealth-a-majig for initial assembly only. A bleed is required if the system is disconnected and reconnected.
- 7 SRAM Brake systems are not compatible with mineral based fluids such as damping fluid, mineral oil, fork fluid, or RockShox® Reverb™ fluid. **Use only DOT 4 or DOT 5.1 brake fluids with SRAM® Hydraulic brakes.**

S-900 Aero HRD

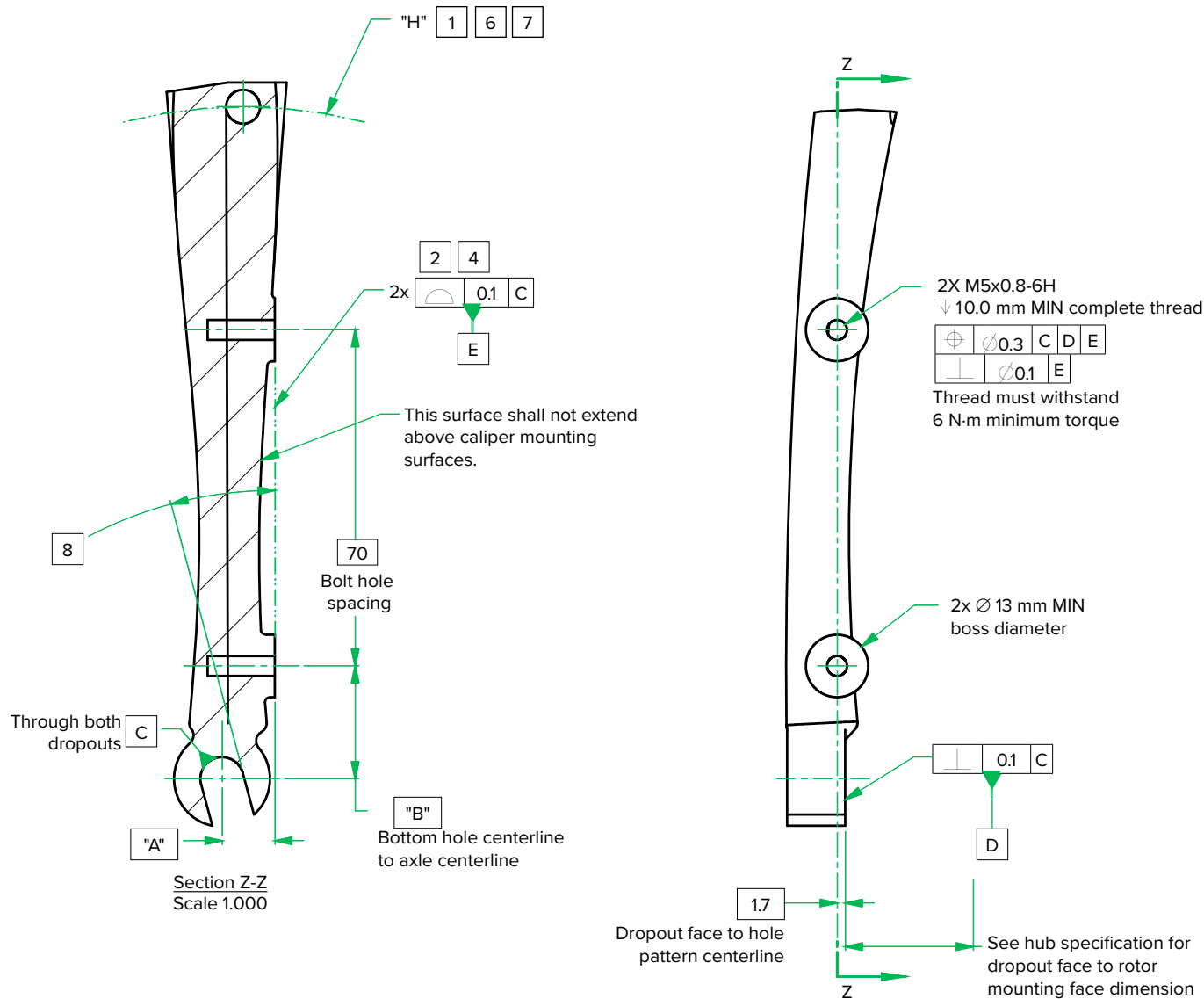
Disc Brake Hose Routing Specification



- 1 FG (Finished Good) hose equals the hose length from the end of the handlebar to the caliper.
- 2 The SJ hose routing is from back to front of bike.
- 3 For internal routing, the SJ connection requires a hole in the frame or fork that is at least $\text{Ø}5.1$ mm.
- 4 Hose bend radius at 20°C = 30 mm minimum.
- 5 All surfaces that come in contact with brake hose to be free of burrs and sharp edges.
- 6 Stealth-a-majig for initial assembly only. A bleed is required if the system is disconnected and reconnected.
- 7 SRAM Brake systems are not compatible with mineral based fluids such as damping fluid, mineral oil, fork fluid, or RockShox Reverb fluid. **Use only DOT 4 and DOT 5.1 brake fluids with SRAM Hydraulic brakes.**

Flat Mount Fork with Front Bracket Specification

SRAM Flat Mount Calipers and 140/160, 160/180, 180/200, 200/220 Rotor

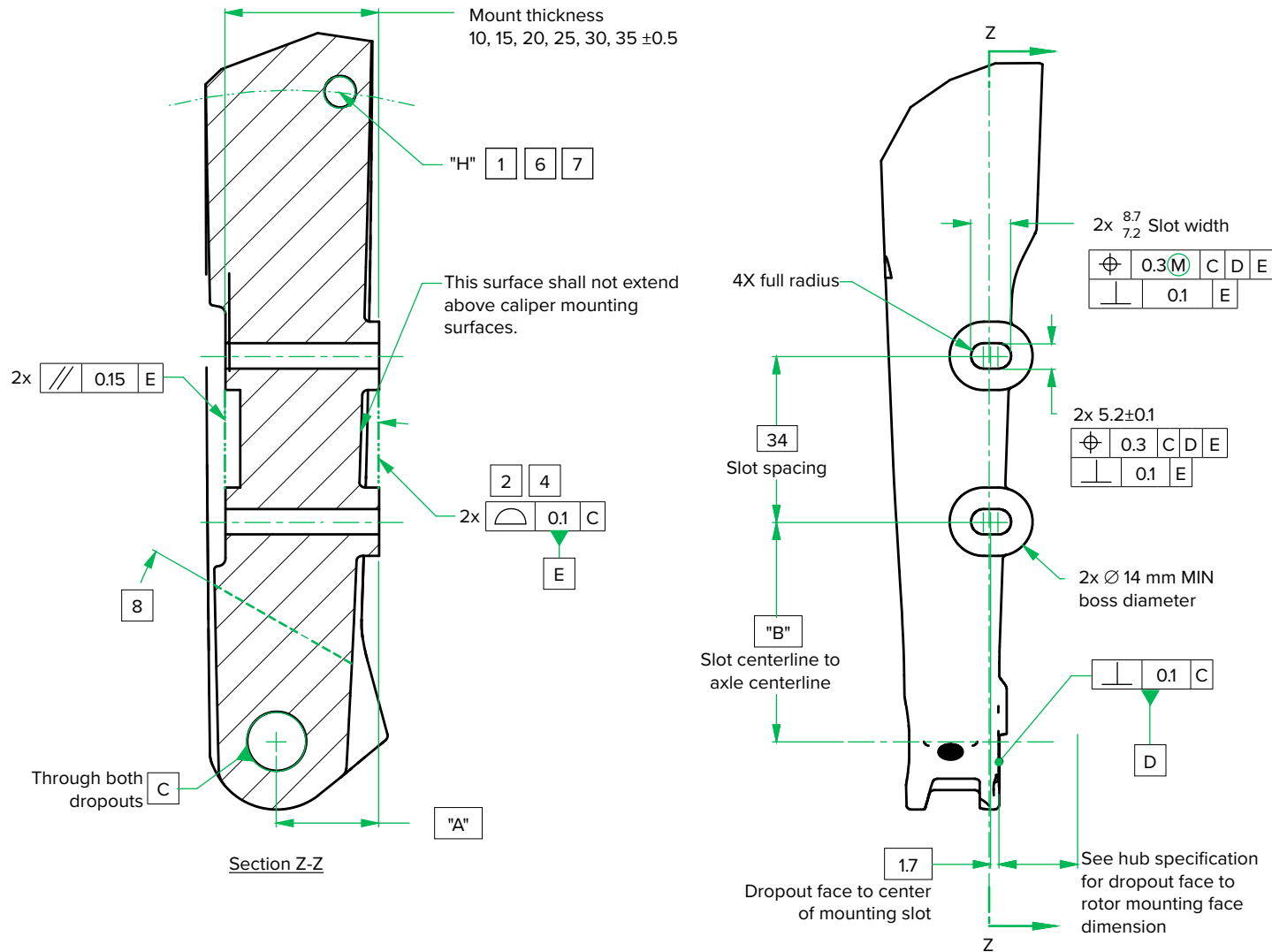


Rotor \varnothing (mm)	A	B	H (Radius)
140/160	11	23.5	140
160/180	16.7	32	150
180/200	22.4	40.5	160
200/220	28.1	49	170

- 1 Minimum internal routing hole position does not apply to Connect-a-majig.
- 2 There is potential for the fork and caliper interface to be exposed to high temperatures. This should be evaluated on all designs.
- 3 All dimensions and tolerances apply in free state and as assembled.
- 4 Surfaces must be free from paint.
- 5 All dimensions applied after paint unless otherwise specified.
- 6 All surfaces that come in contact with brake hose should be free of burrs and sharp edges.
- 7 Internal hose routing hole position radius "H" mm MIN from dropout \perp
- 8 Wheel installation may be impeded by rotor-to-caliper interference when wheel installation path approaches or is less than 69°.

Flat Mount Thru Bolt Fork Specification

SRAM Flat Mount Calipers and 140/160/180/200/220 Rotor

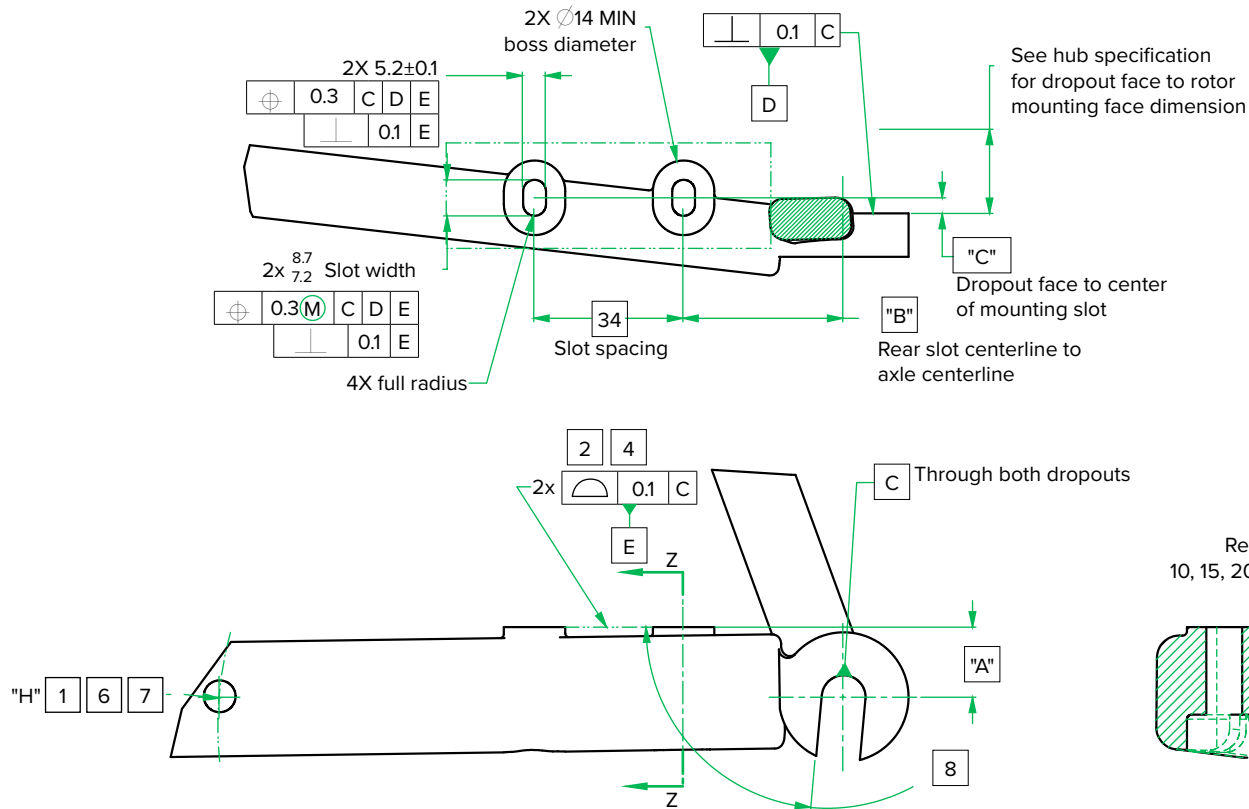


Rotor Ø (mm)	A	B	H (Radius)
140	16.0	36.5	140
160	21.0	45.0	150
180	26.0	53.5	160
200	31.0	62.0	170
220	36.0	70.5	180

- Minimum internal routing hole position does not apply to Connect-a-majig.
- There is potential for the fork and caliper interface to be exposed to high temperatures. This should be evaluated on all designs.
- All dimensions and tolerances apply in free state and as assembled.
- Surfaces must be free from paint.
- All dimensions applied after paint unless otherwise specified.
- All surfaces that come in contact with brake hose should be free of burrs and sharp edges.
- Internal hose routing hole position radius "H" mm MIN from dropout.
- Wheel installation may be impeded by rotor-to-caliper interference when wheel installation path approaches or is less than 69°.

Flat Mount Thru Bolt Frame Specification

SRAM Flat Mount Calipers and 140/160/180/200/220 Rotor

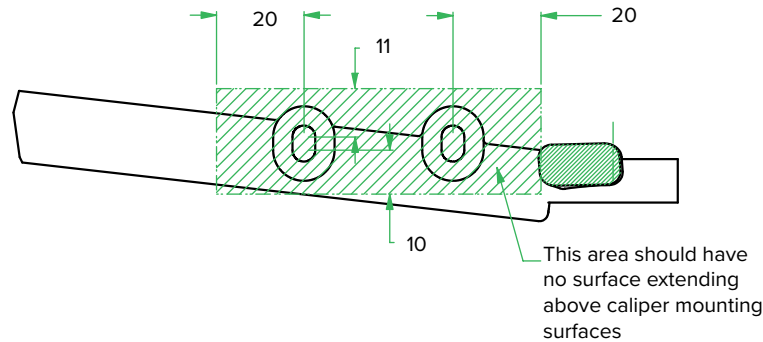


Rotor Ø (mm)	A	B	H (Radius)
140	16.0	36.5	140
160	21.0	45.0	150
180	26.0	53.5	160
200	31.0	62.0	170
220	36.0	70.5	180
Hub Spacing		C	
135		3.55	
142		7.05	
148			
157			

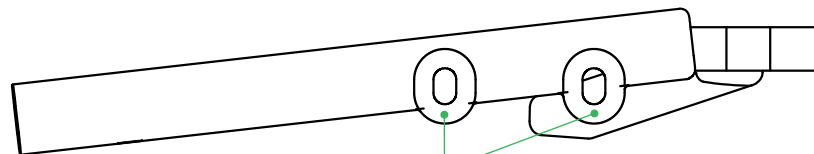
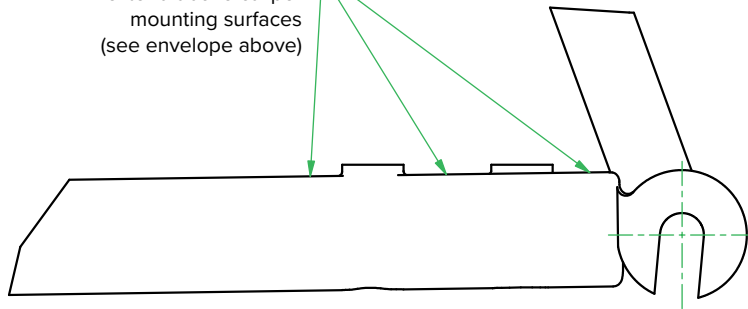
- Minimum internal routing hole position does not apply to Connect-a-majig.
- There is potential for the fork and caliper interface to be exposed to high temperatures. This should be evaluated on all designs.
- All dimensions and tolerances apply in free state and as assembled.
- Surfaces must be free from paint.
- All dimensions applied after paint unless otherwise specified.
- All surfaces that come in contact with brake hose should be free of burrs and sharp edges.
- Internal hose routing hole position radius "H" mm MIN from dropout.
- Wheel installation may be impeded by rotor-to-caliper interference when wheel installation path approaches or is less than 69°.

Flat Mount Thru Bolt Frame Specification

SRAM Flat Mount Calipers and 140/160/180/200/220 Rotor



Surfaces shall not extend above caliper mounting surfaces (see envelope above)



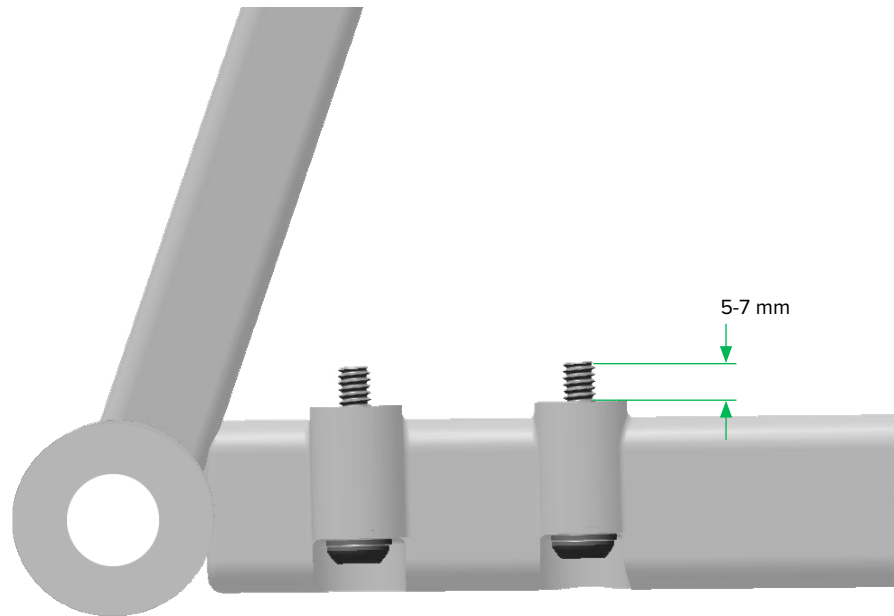
Underside of bosses must accommodate 11 mm diameter washer [4]

Rotor \varnothing (mm)	A	B	H (Radius)
140	16.0	36.5	140
160	21.0	45.0	150
180	26.0	53.5	160
200	31.0	62.0	170
220	36.0	70.5	180
Hub Spacing		C	
135		3.55	
142		7.05	
148			
157			

- [1] Minimum internal routing hole position does not apply to Connect-a-majig.
- [2] There is potential for the fork and caliper interface to be exposed to high temperatures. This should be evaluated on all designs.
- [3] All dimensions and tolerances apply in free state and as assembled.
- [4] Surfaces must be free from paint.
- [5] All dimensions applied after paint unless otherwise specified.
- [6] All surfaces that come in contact with brake hose should be free of burrs and sharp edges.
- [7] Internal hose routing hole position radius "H" mm MIN from dropout \perp
- [8] Wheel installation may be impeded by rotor-to-caliper interference when wheel installation path approaches or is less than 69°.

Flat Mount Frame Specification

All SRAM Flat Mount Calipers



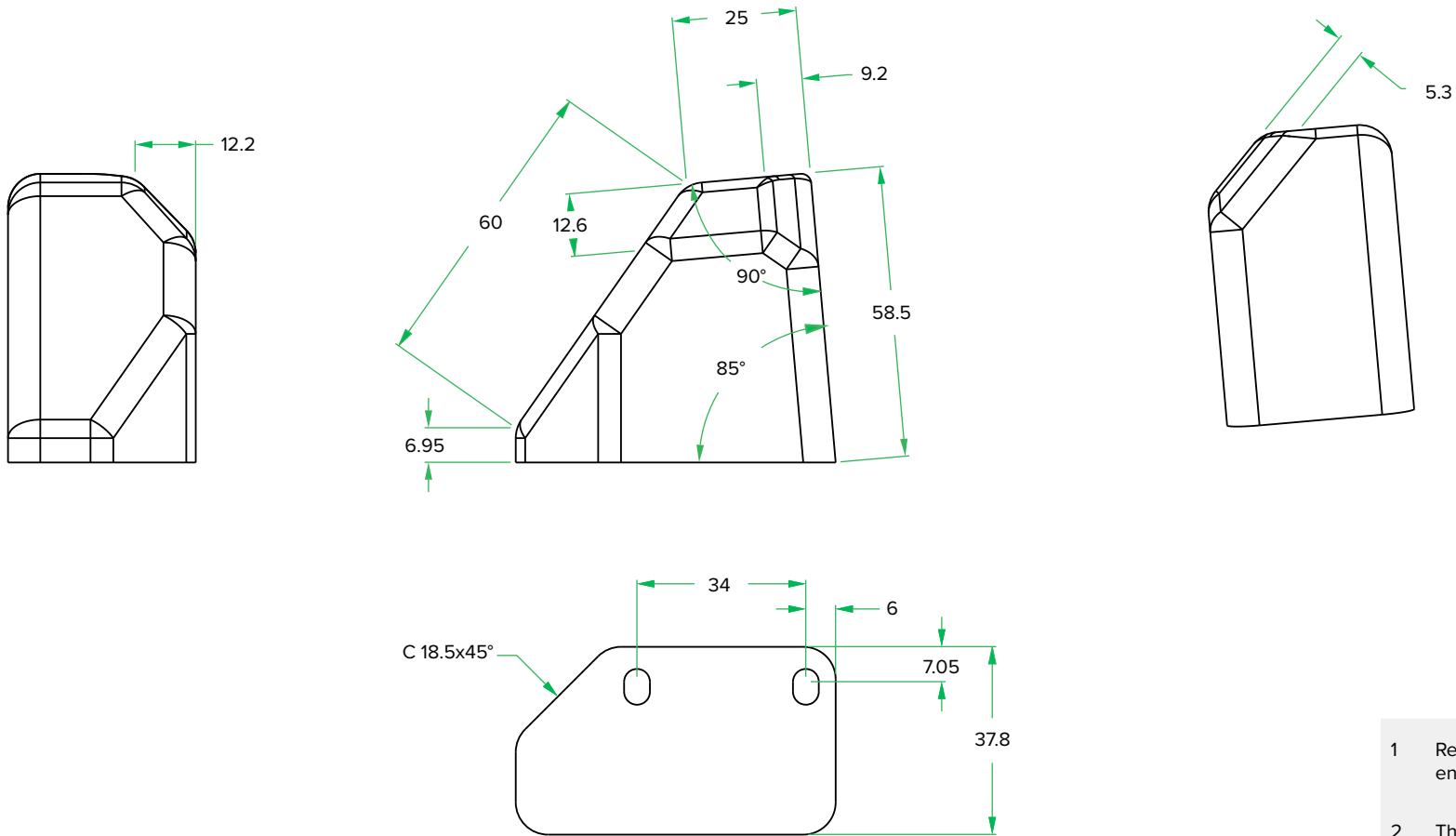
⚠WARNING - CRASH HAZARD

There must be 5-7 mm of mounting bolt thread engagement when mounting brake calipers to forks and frames with flat mount hardward and brackets. Riding a bike with improper bolt engagement can allow the brakes to disengage from the bicycle, which can lead to a crash and serious injury or death to the rider.

1 Available in rear bolt lengths: 17, 22, 27, 32, 37, and 42 mm.

Flat Mount Frame Specification

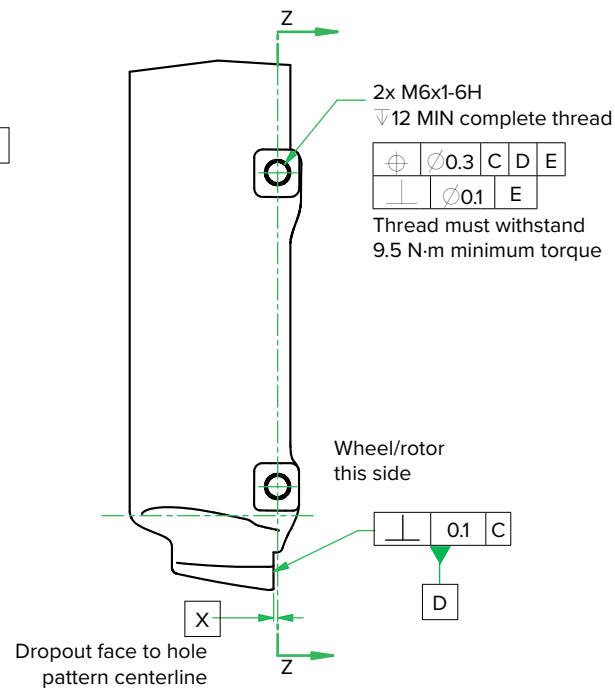
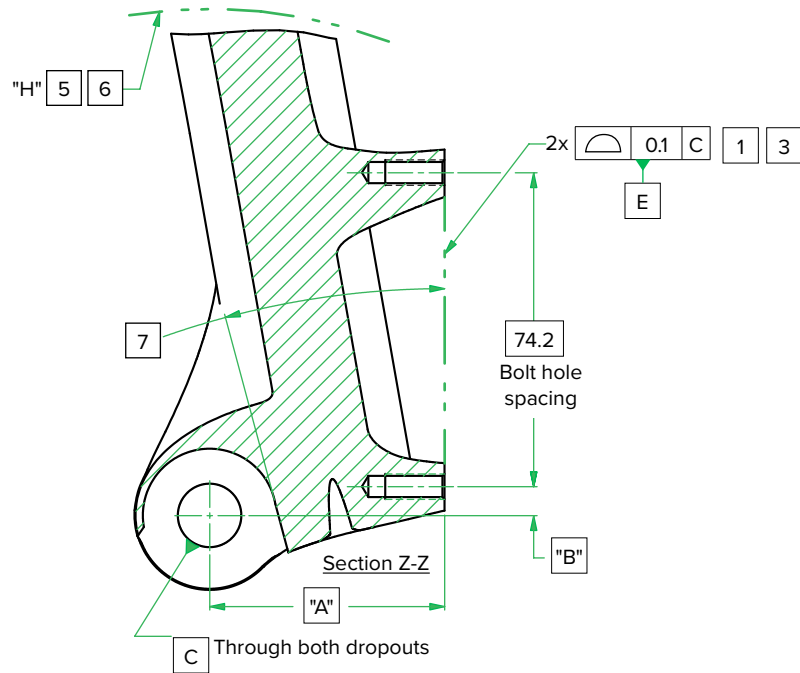
Flat Mount Caliper Envelope



- 1 Refer to SRAM Connect for 3D envelope file.
- 2 This envelope represents the keepout zone for all SRAM calipers with an additional 1mm of clearance to account for manufacturing tolerances, finish, paint, etc. Any additional clearance needed is responsibility of the frame design to be accounted for.

Post Mount Fork Specification

All SRAM Post Mount Calipers



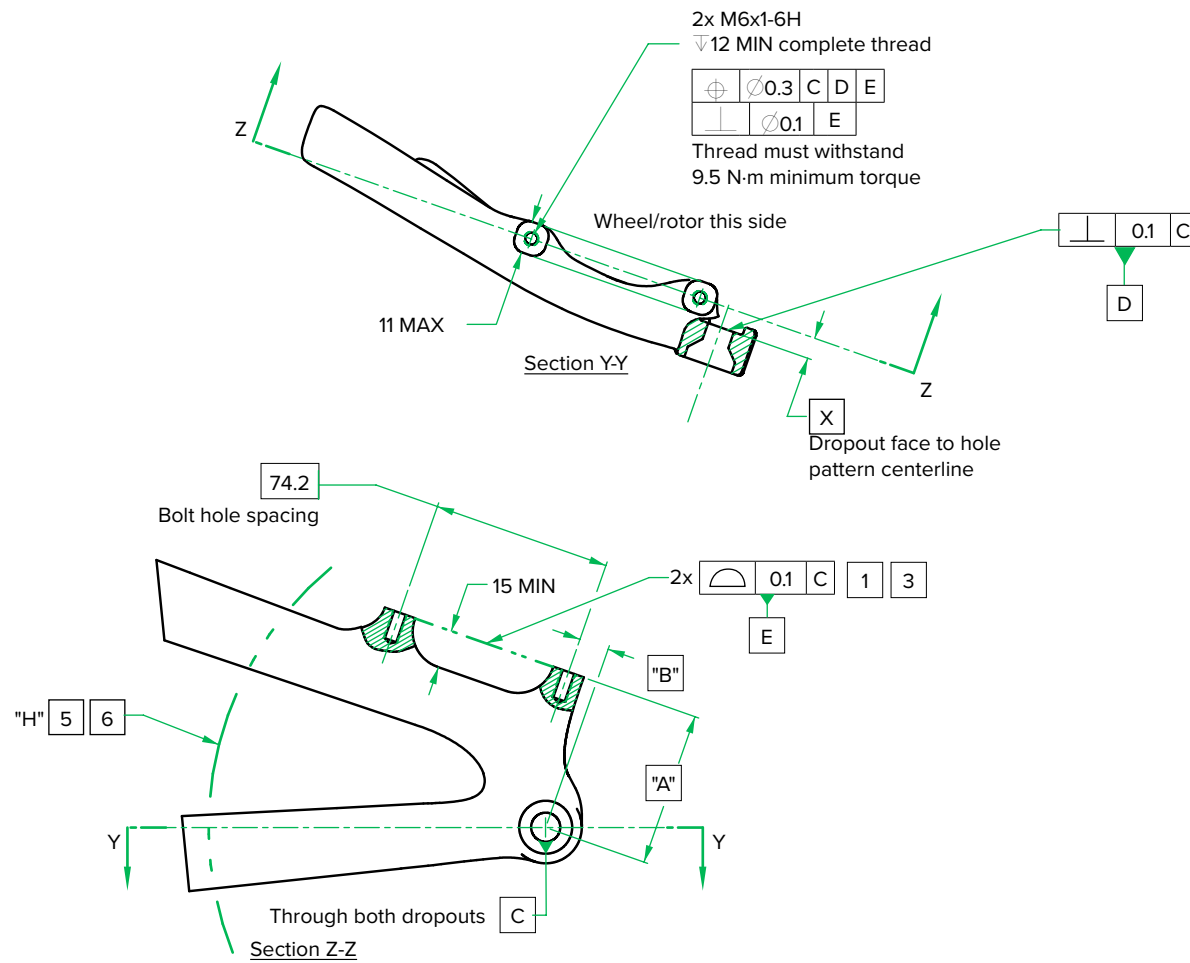
Rotor Ø (mm)	A	B	H (Radius)
140	47.24	1.8	140
160	55.9	6.8	150
180	64.56	11.8	160
200	73.22	16.8	170
203	73.9	18.8	172
220	81.88	21.8	180

Hub Standard	X
9x100 (QR)	0.94
15x100	
15x110 Boost	
20x110 Boost	
Legacy 20x110	5.94

- There is potential for the fork and caliper interface to be exposed to high temperatures. This should be evaluated on all designs.
- All dimensions and tolerances apply in free state and as assembled.
- Surfaces must be free from paint.
- All dimensions applied after paint unless otherwise specified.
- All surfaces that come in contact with brake hose should be free of burrs and sharp edges.
- Internal hose routing hole position radius "H" mm MIN from dropout centerline.
- Wheel installation may be impeded by rotor-to-caliper interference when wheel installation path approaches or is less than 20°.

Post Mount Frame Specification

All SRAM Post Mount Calipers



Rotor \varnothing (mm)	A	B	H (Radius)
140	47.24	1.8	140
160	55.9	6.8	150
180	64.56	11.8	160
200	73.22	16.8	170
203	73.9	18.8	172
220	81.88	21.8	180

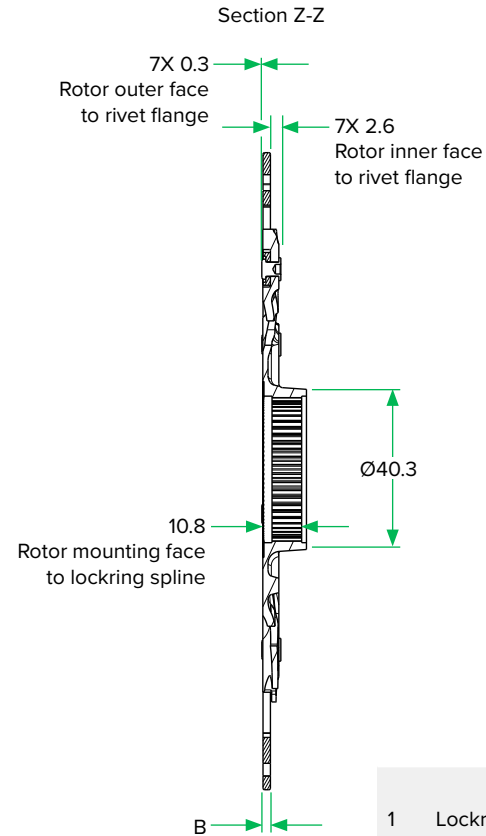
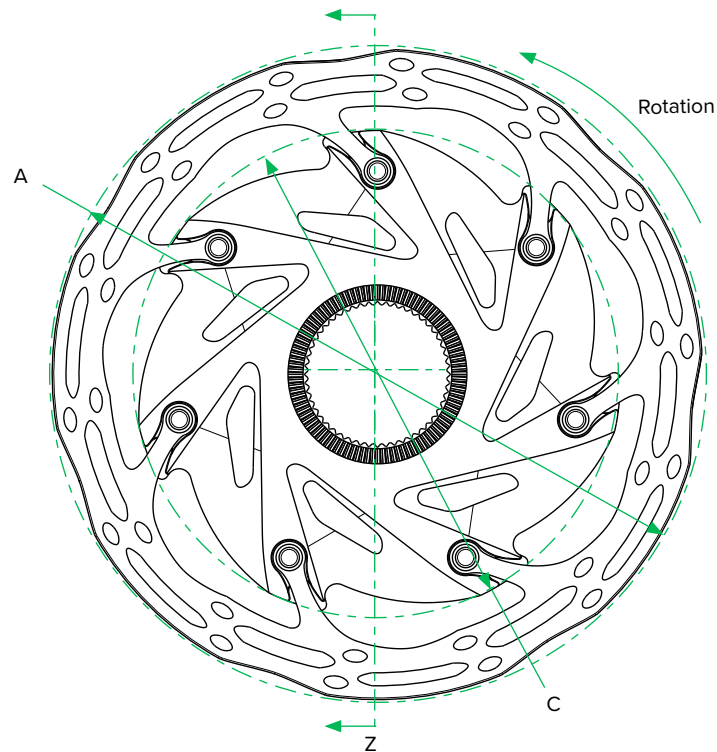
Hub Standard	X
10x135 (QR)	5.7
12x142	
12x148 Boost	9.2
12x157 Super Boost	

- 1 There is potential for the fork and caliper interface to be exposed to high temperatures. This should be evaluated on all designs.
- 2 All dimensions and tolerances apply in free state and as assembled.
- 3 Surfaces must be free from paint.
- 4 All dimensions applied after paint unless otherwise specified.
- 5 All surfaces that come in contact with brake hose should be free of burrs and sharp edges.
- 6 Internal hose routing hole position radius "H" mm MIN from dropout \varnothing .

SRAM CenterLine XR

Two-piece Center Locking Rotor Dimensions

Rotor	Rotor Size	Radiused Outer Diameter		Rotor Thickness	Carrier Diameter
		A (mm)	B (mm)	B (mm)	C (mm)
CLX-R	140	140	140	1.90	100
	160	160	160	1.85	120

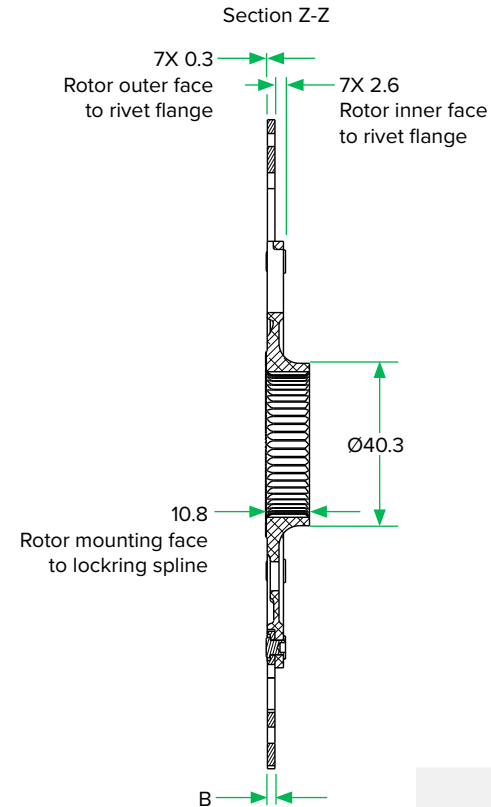
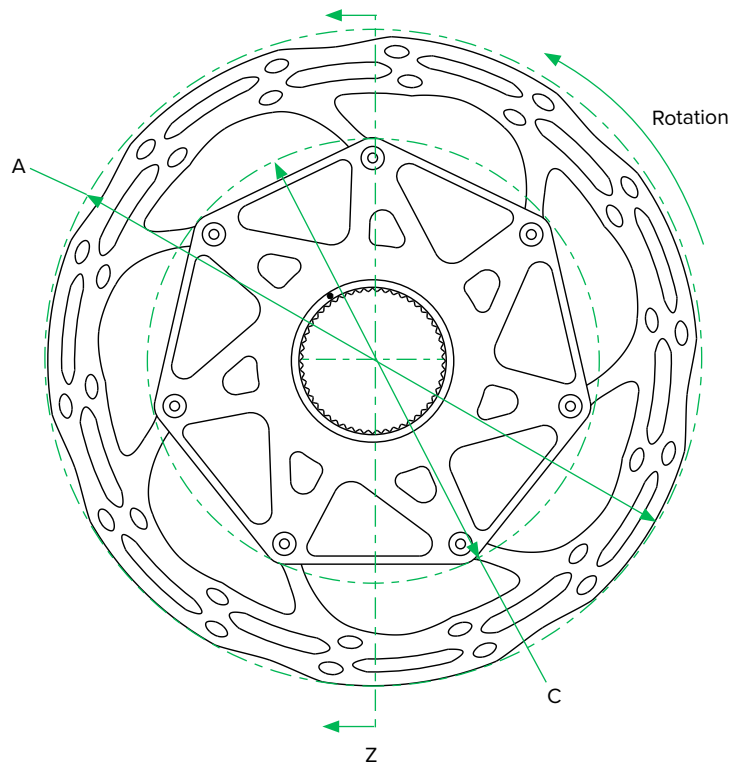


1 Lockring torque to 40 N-m (354 in-lb).

SRAM CenterLine X

Two-piece Center Locking Rotor Dimensions

Rotor	Rotor Size	Radiused Outer Diameter	Rotor Thickness	Carrier Diameter
		A (mm)	B (mm)	C (mm)
CLX	140	140	1.90	90.1
	160	160	1.85	110.1
	180	180	1.85	130.1



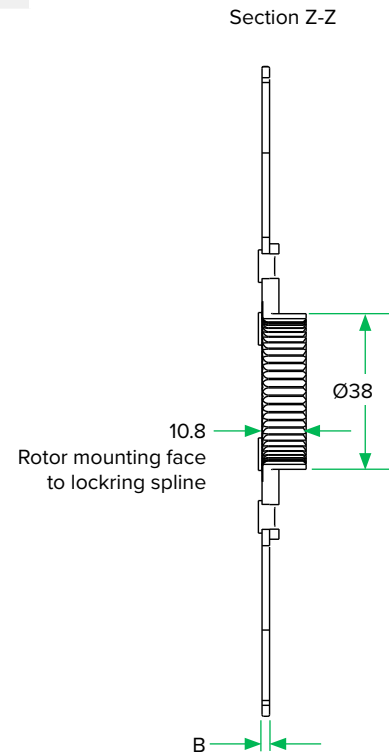
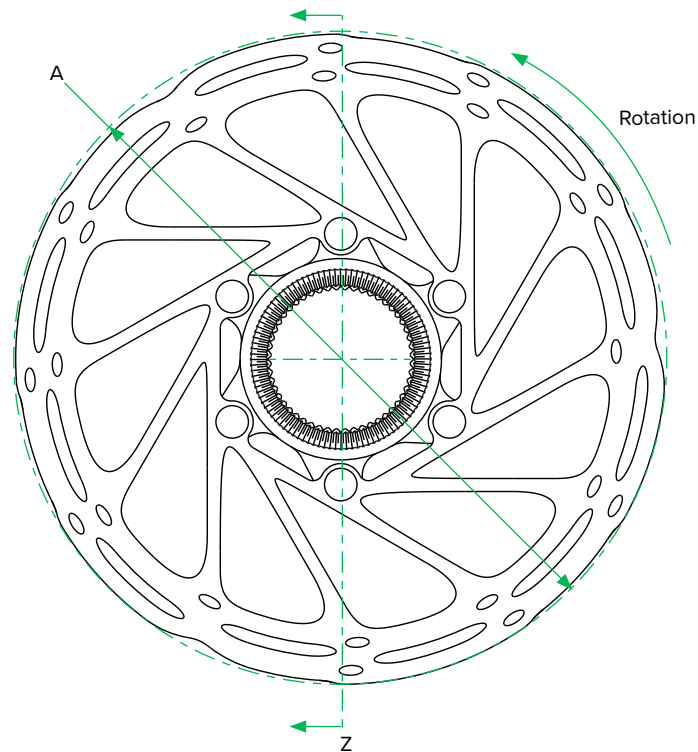
1 Lockring torque to 40 N-m (354 in-lb).

SRAM CenterLine/ SRAM Paceline

One-Piece Center Locking Rotor Dimensions

Rotor size	Radiused Outer Diameter		Rotor Thickness	
	A (mm)	B (mm)	B (mm)	
140 mm	140	1.85		
160 mm	160			
180 mm*	180			

* CenterLine only. Paceline does not come in a 180 mm rotor.

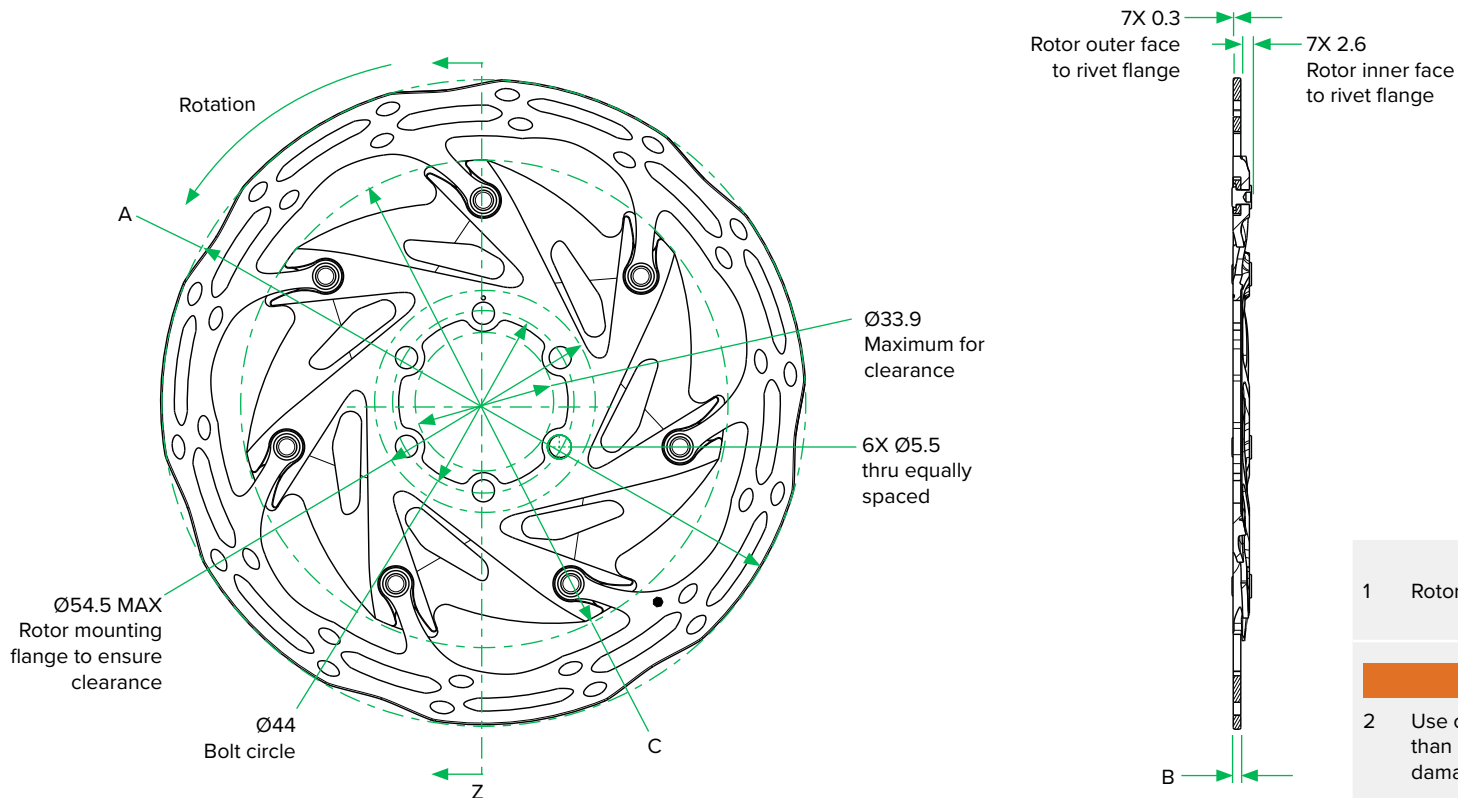


1 Lockring torque to 40 N-m (354 in-lb).

SRAM CenterLine XR

Two-piece 6-Bolt Rotor Dimensions

Rotor	Rotor Size	Radiused Outer Diameter	Rotor Thickness	Carrier Diameter
		A (mm)	B (mm)	C (mm)
CLX-R	140	140	1.90	100
	160	160	1.85	120



1 Rotor mounting bolt torque value is 6.2 N-m (55 in-lb).

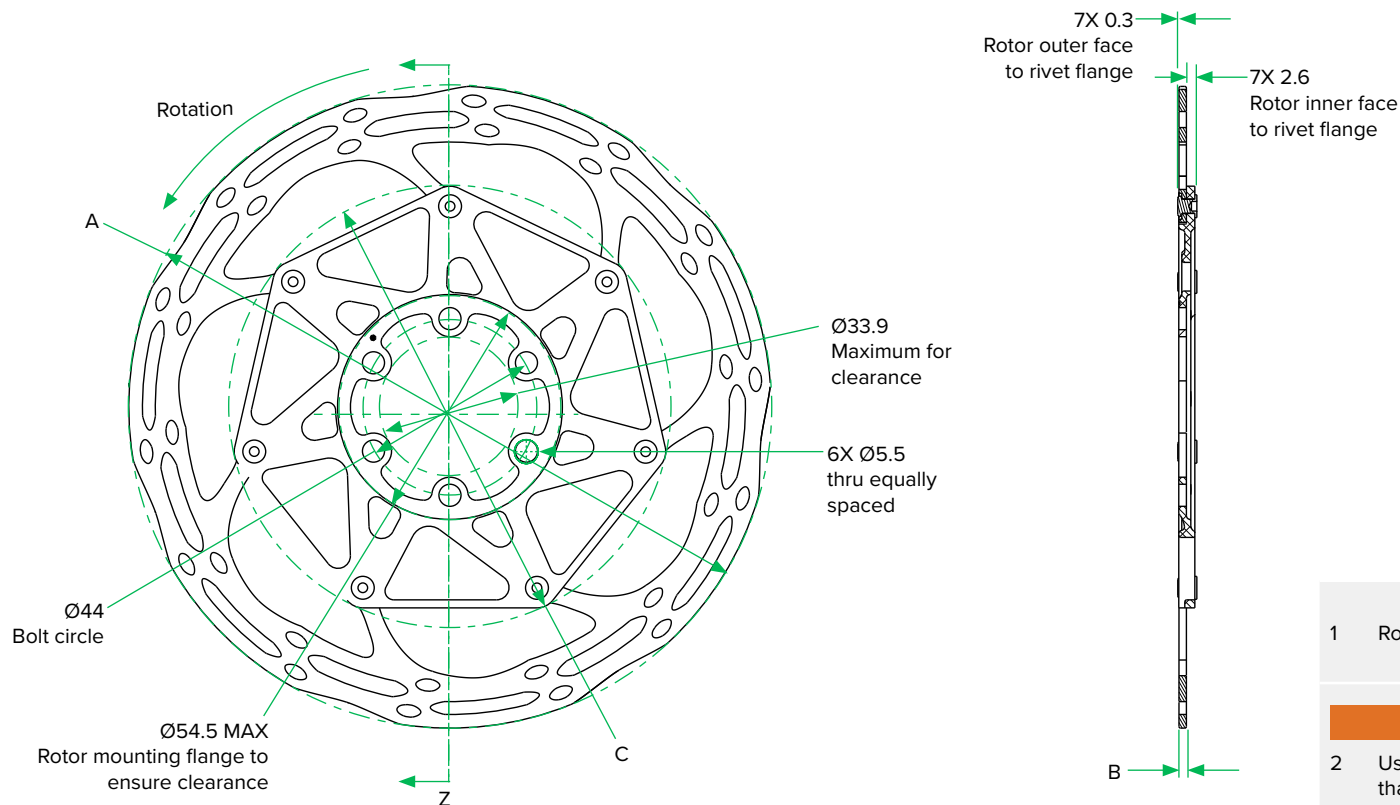
⚠WARNING

2 Use only 10 mm length rotor bolts. Rotor bolts longer than 10 mm will not properly secure rotor and could damage the hub.

SRAM CenterLine X

Two-piece 6-Bolt Rotor Dimensions

Rotor	Rotor Size	Radiused Outer Diameter	Rotor Thickness	Carrier Diameter
		A (mm)	B (mm)	C (mm)
CLX	140	140	1.90	90.1
	160	160	1.85	110.1
	180	180	1.85	130.1



- 1 Rotor mounting bolt torque value is 6.2 N-m (55 in-lb).

⚠WARNING

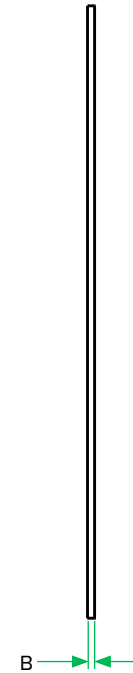
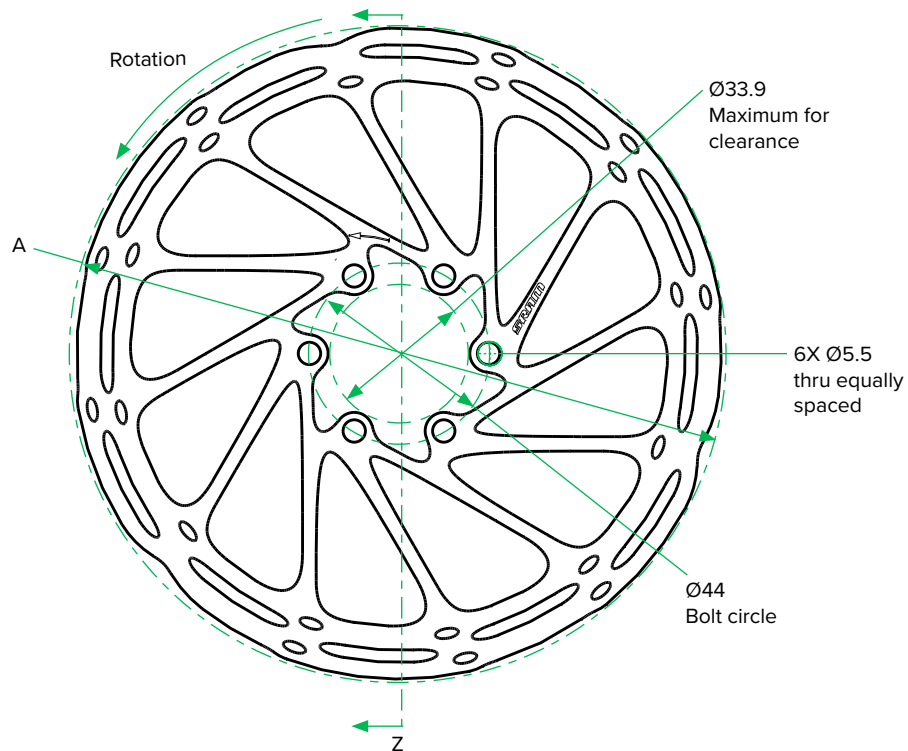
- 2 Use only 10 mm length rotor bolts. Rotor bolts longer than 10 mm will not properly secure rotor and could damage the hub.

SRAM CenterLine/ SRAM Paceline

One-piece 6-Bolt Rotor Dimensions

Rotor size	Radiused Outer Diameter	
	A (mm)	B (mm)
140 mm	140	1.85
160 mm	160	
180 mm*	180	

* CenterLine only. Paceline does not come in a 180 mm rotor.



- 1 Rotor mounting bolt torque value is 6.2 N-m (55 in-lb).

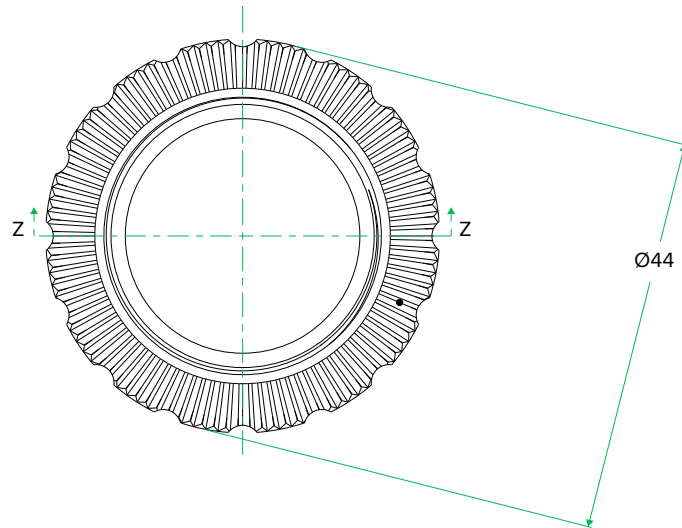
⚠ WARNING

- 2 Use only 10 mm length rotor bolts. Rotor bolts longer than 10 mm will not properly secure rotor and could damage the hub.

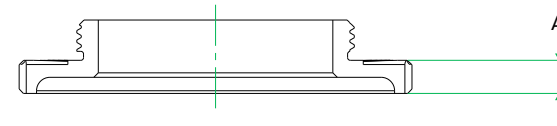
Lockring for Center Locking Rotor

Specifications

Lockring Type	Thickness (mm)
Regular	3.7
Thin	2.1



Section Z:Z

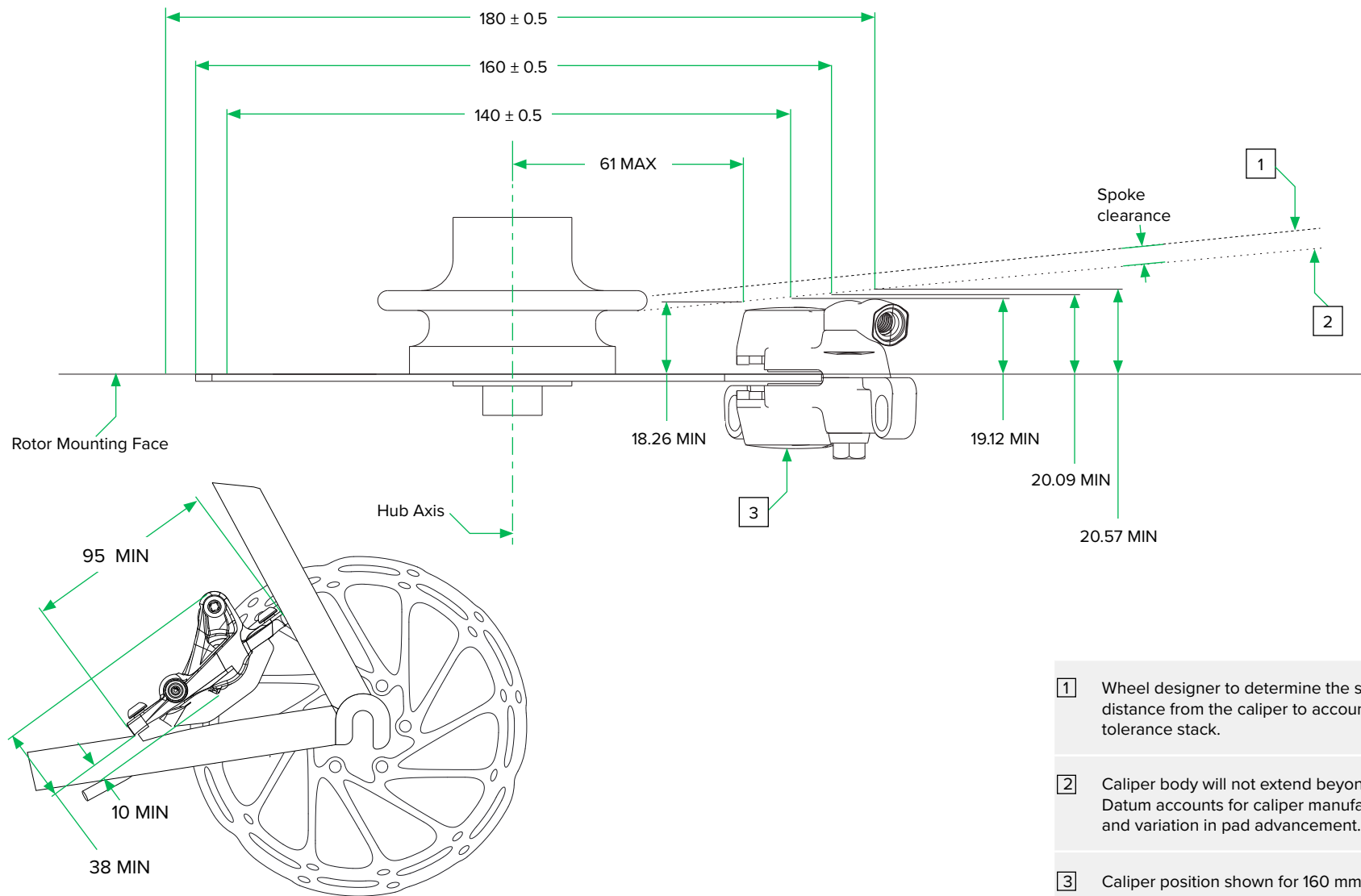


Note

1. SRAM/Zipp lockring torque is 40 N·m (354 in-lb).
2. The Zipp lockring (thin) must be used with a 140 mm or 160 mm rotor.

Spoke Clearance

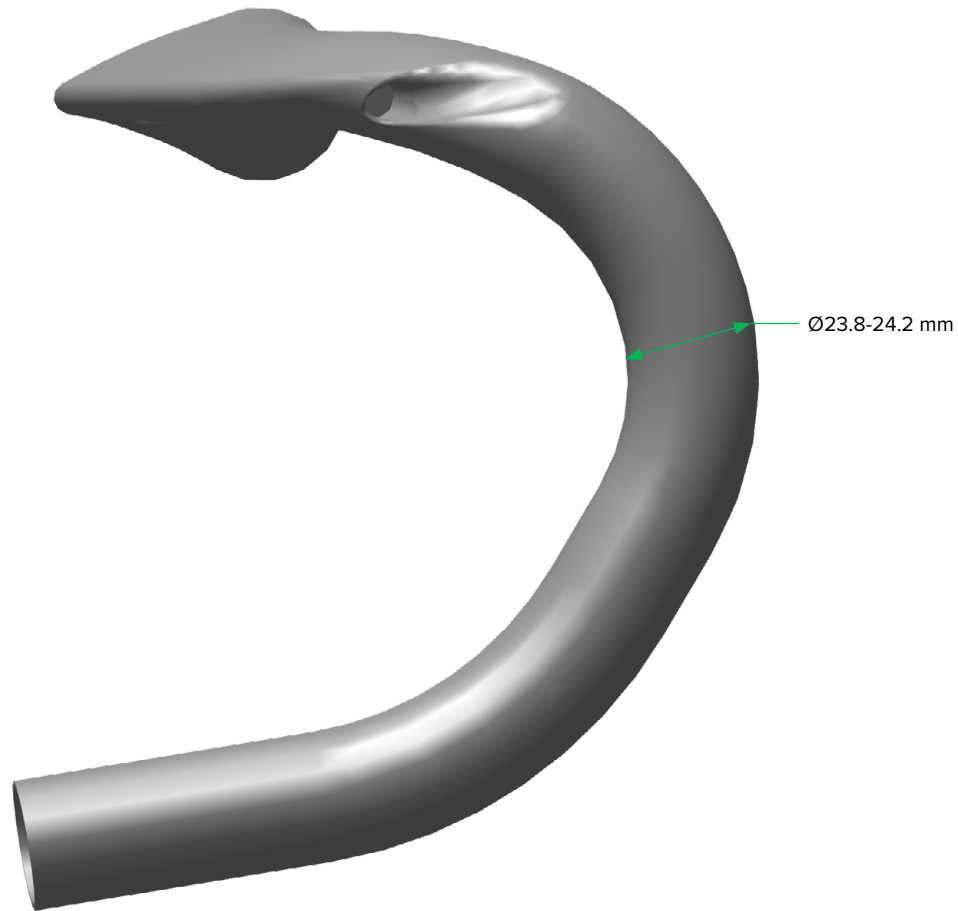
Road Disc Brakes



- 1 Wheel designer to determine the safe clearance distance from the caliper to account for wheel flex and tolerance stack.
- 2 Caliper body will not extend beyond this datum. Datum accounts for caliper manufacturing tolerances and variation in pad advancement.
- 3 Caliper position shown for 160 mm rotor.

Dropbar Guidelines

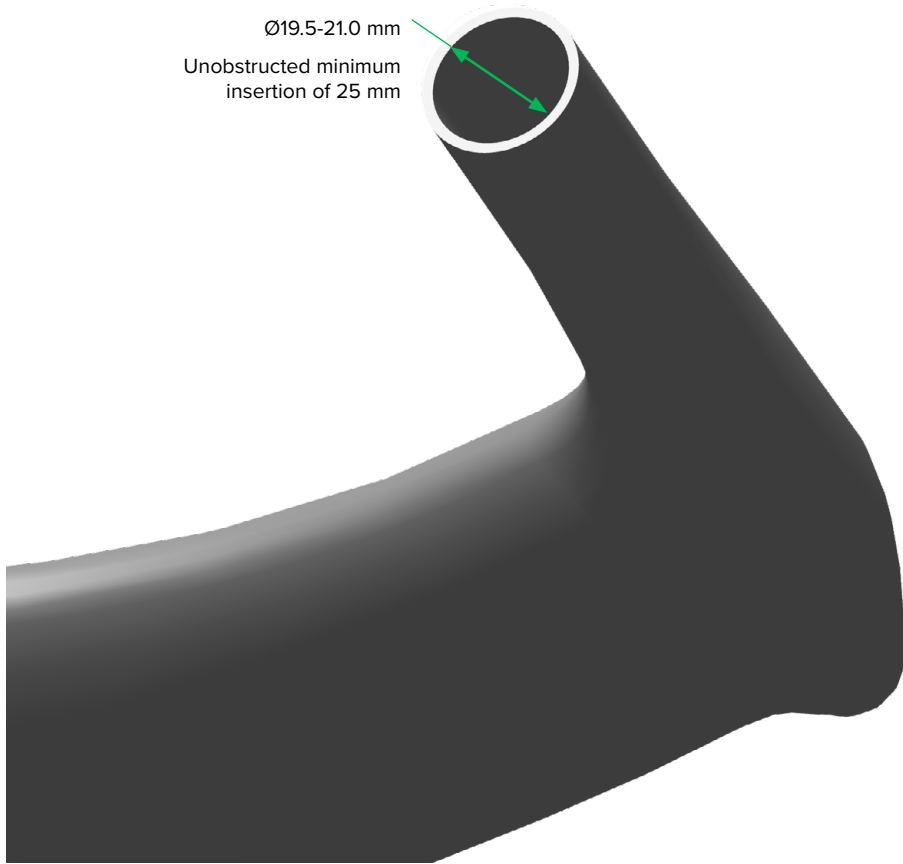
All Road Shift-Brakes and Brake Levers



S-900 Aero HRD

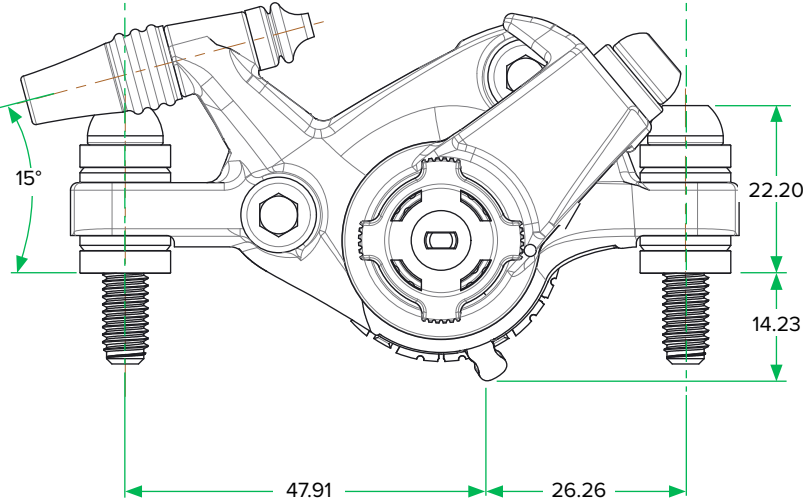
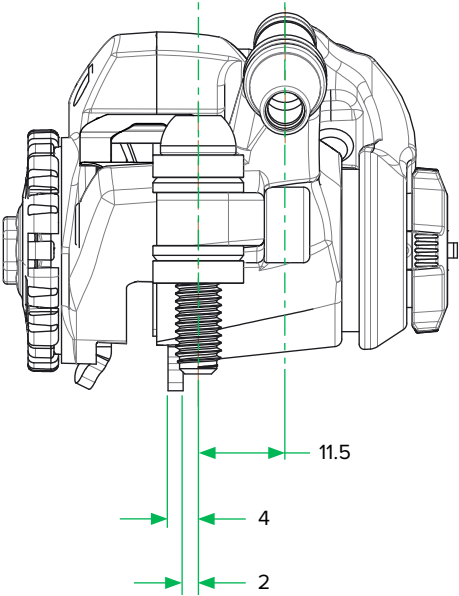
Hydraulic Aero Brake Lever Bar Guidelines

Ø19.5-21.0 mm
Unobstructed minimum
insertion of 25 mm



BB7/ BB5 Road

Mechanical Disc Brake Clearance



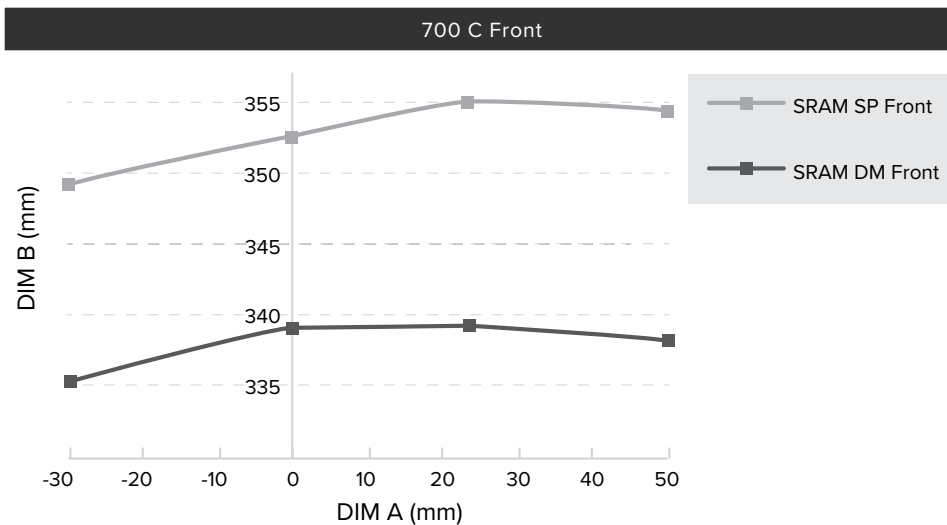
Front Rim Brake Caliper

Direct Mount and Single Pivot Design Dimensions

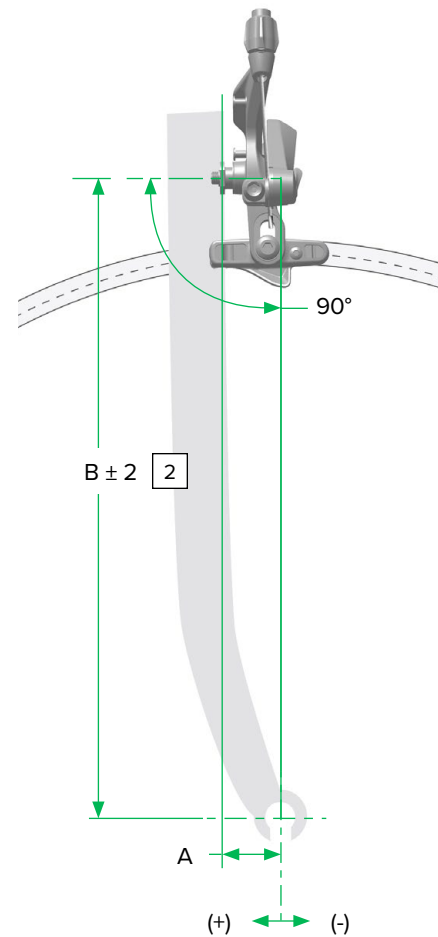
Brake Caliper Pivot Location

700 C	A		-30	0	25	50
	B ±2	SRAM DM Front	335.9	339	339.5	338
	SRAM SP Front	349	353.5	355	354.5	

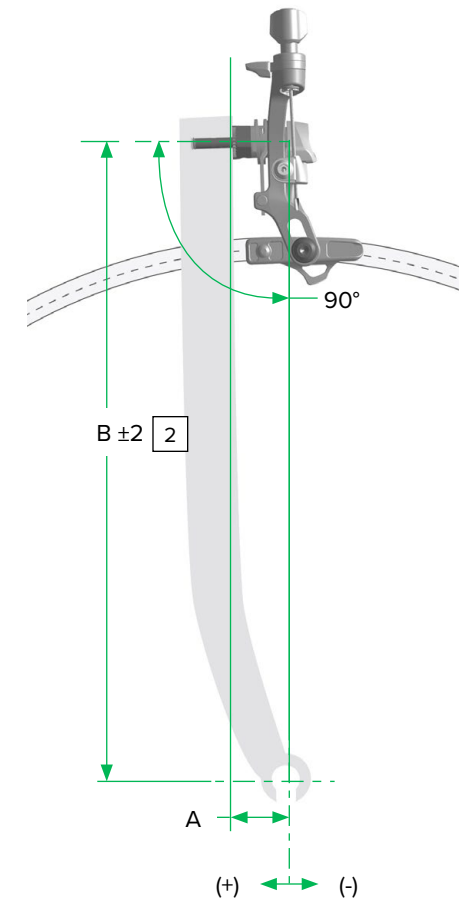
- 1 For increased tire clearance, make mounting features to the + side of the "B" dimension tolerance limit.
- 2 For 650c wheels, subtract 26 mm from the 700c "B" dimensions.
- 3 Mount only to the front side of the fork.



Direct Mount Front Rim Brake Caliper



Single Pivot Front Rim Brake Caliper



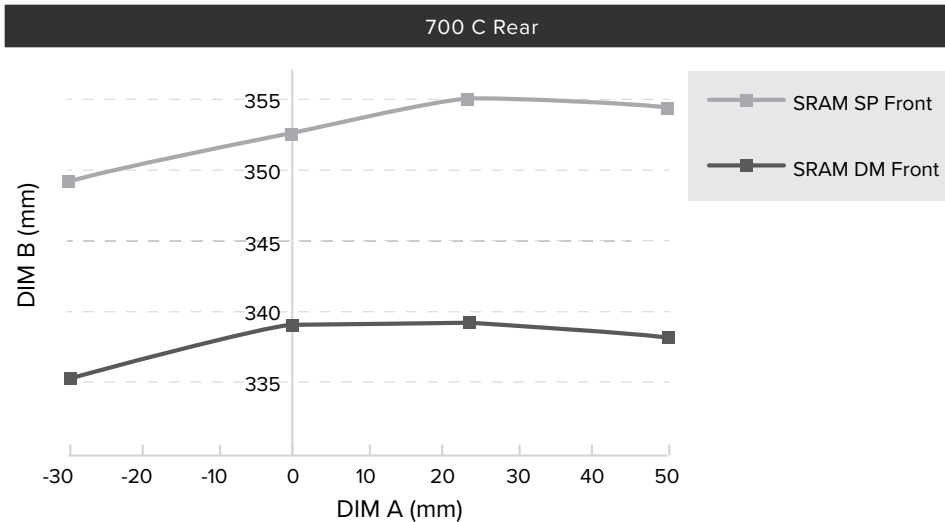
Rear Rim Brake Caliper

Direct Mount and Single Pivot Design Dimensions

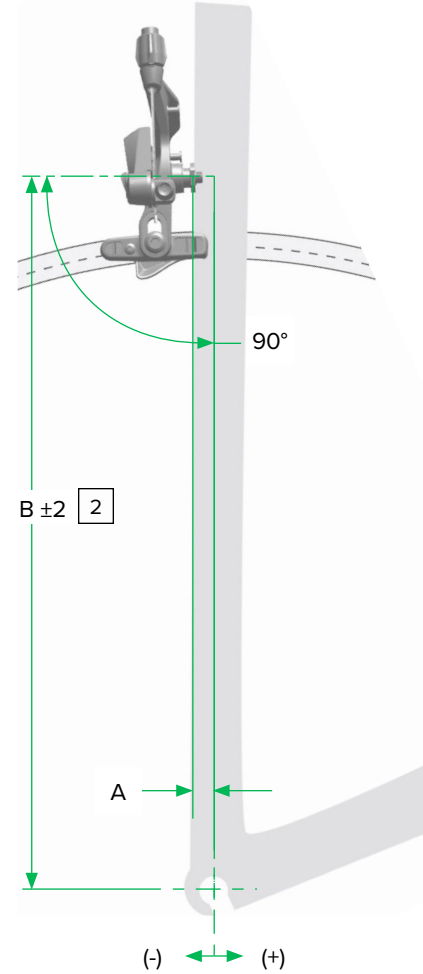
Brake Caliper Pivot Location

700 C	A		-30	0	25	50
	B ±2	SRAM DM Front	335.9	339	339.5	338
SRAM SP Front		349	353.5	355	354.5	

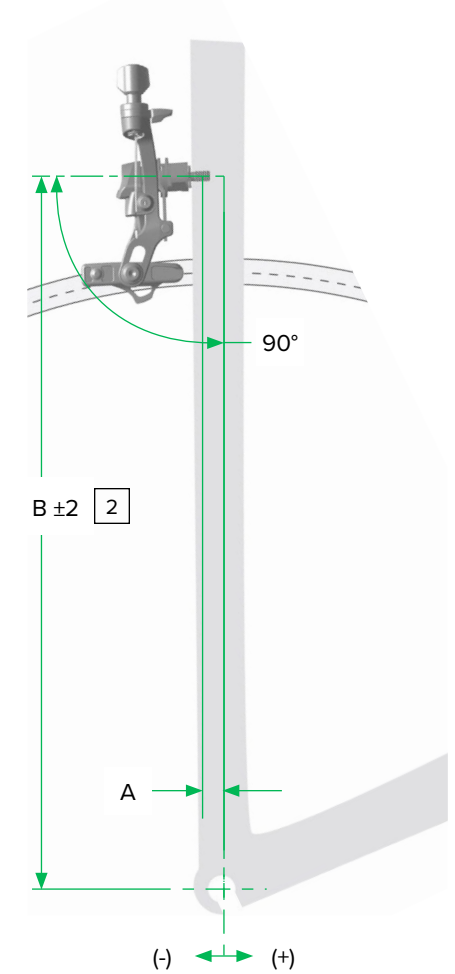
- 1 For increased tire clearance, make mounting features to the + side of the "B" dimension tolerance limit.
- 2 For 650c wheels, subtract 26 mm from the 700c "B" dimensions.
- 3 Mount only to the back side of the seatstay. Do not mount under bottom bracket or on the front side of the seatstay.



Direct Mount Rear Rim Brake Caliper

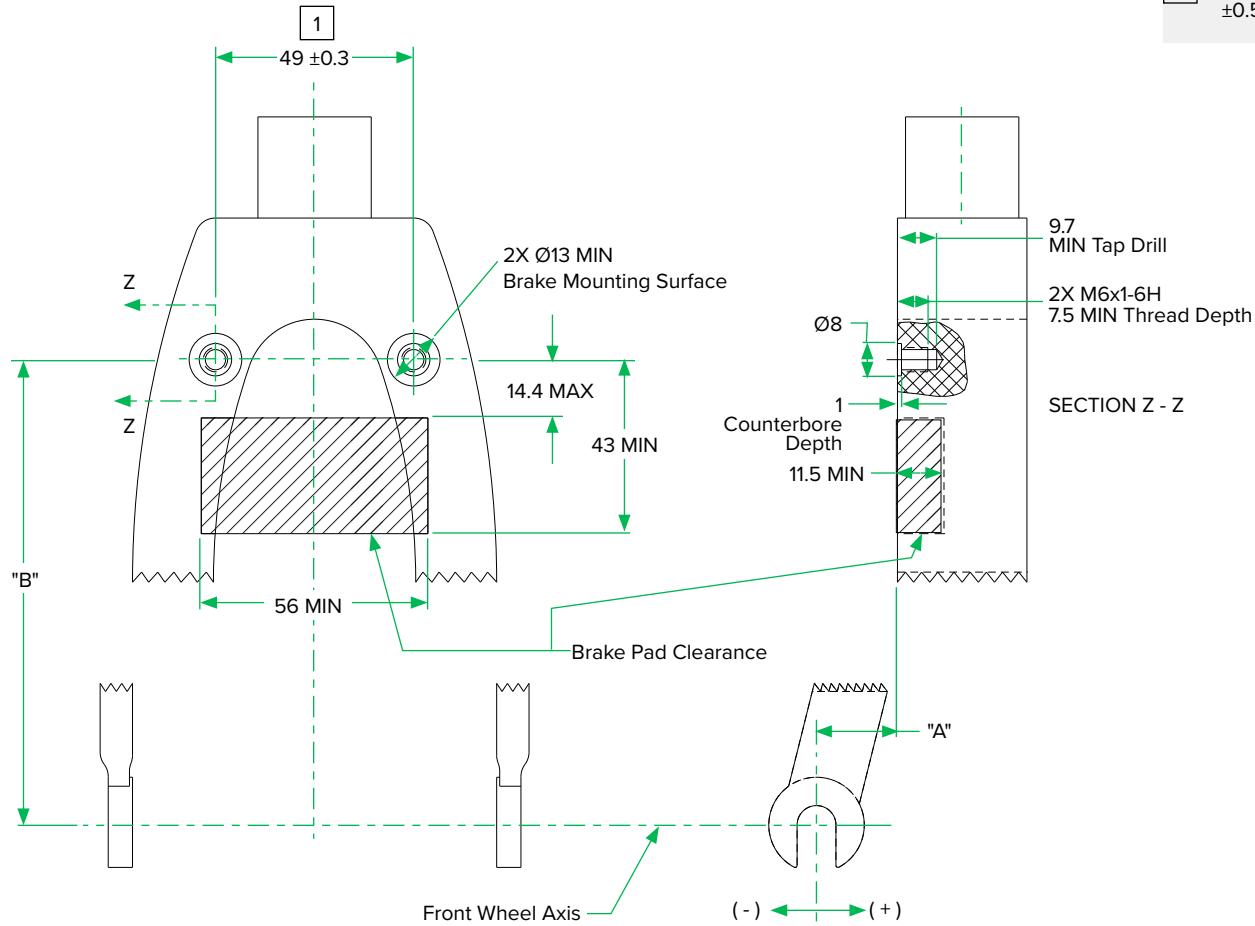


Single Pivot Rear Rim Brake Caliper



Front Direct Mount

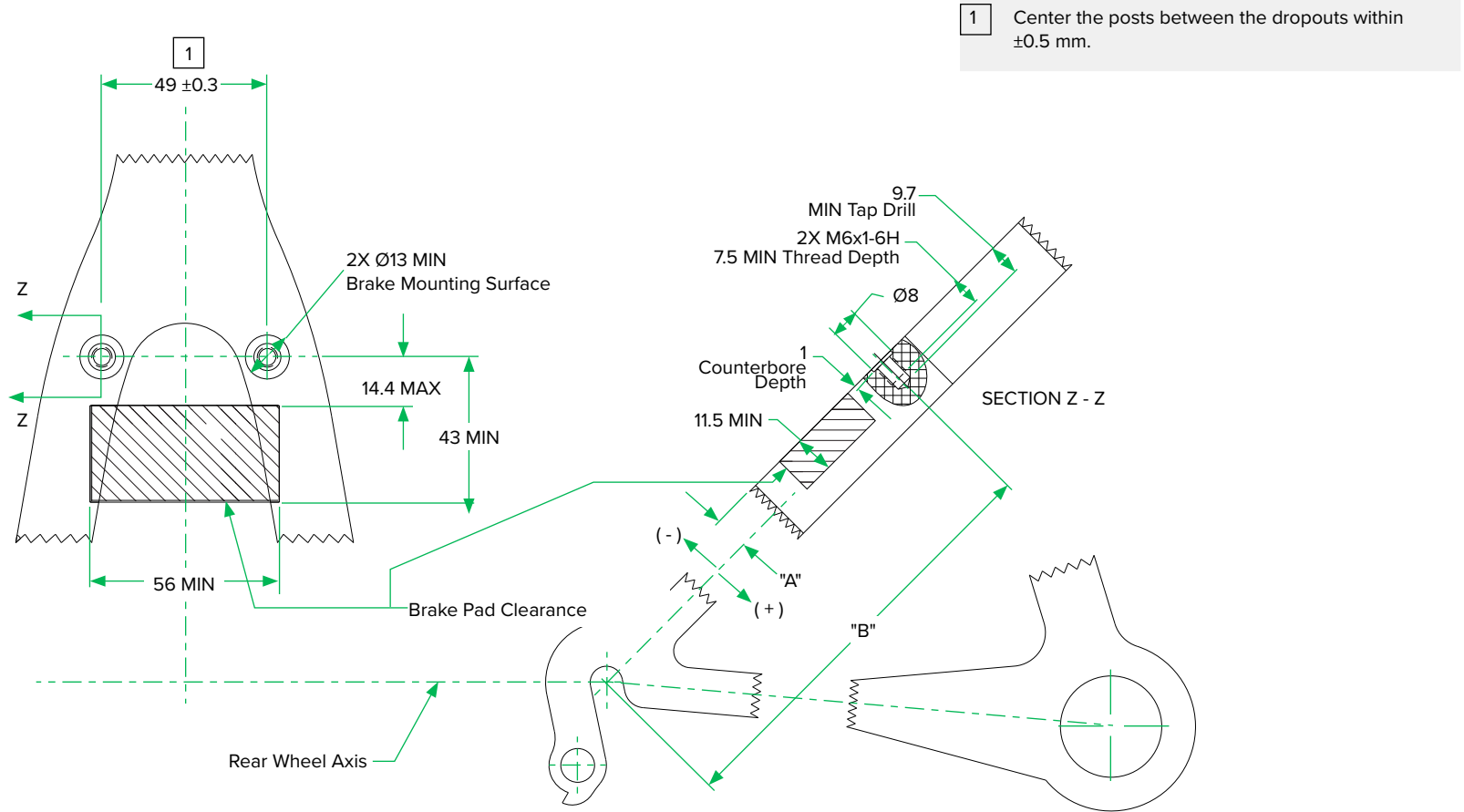
Mounting Dimensions



1 Center the posts between the dropouts within ±0.5 mm.

Rear Direct Mount

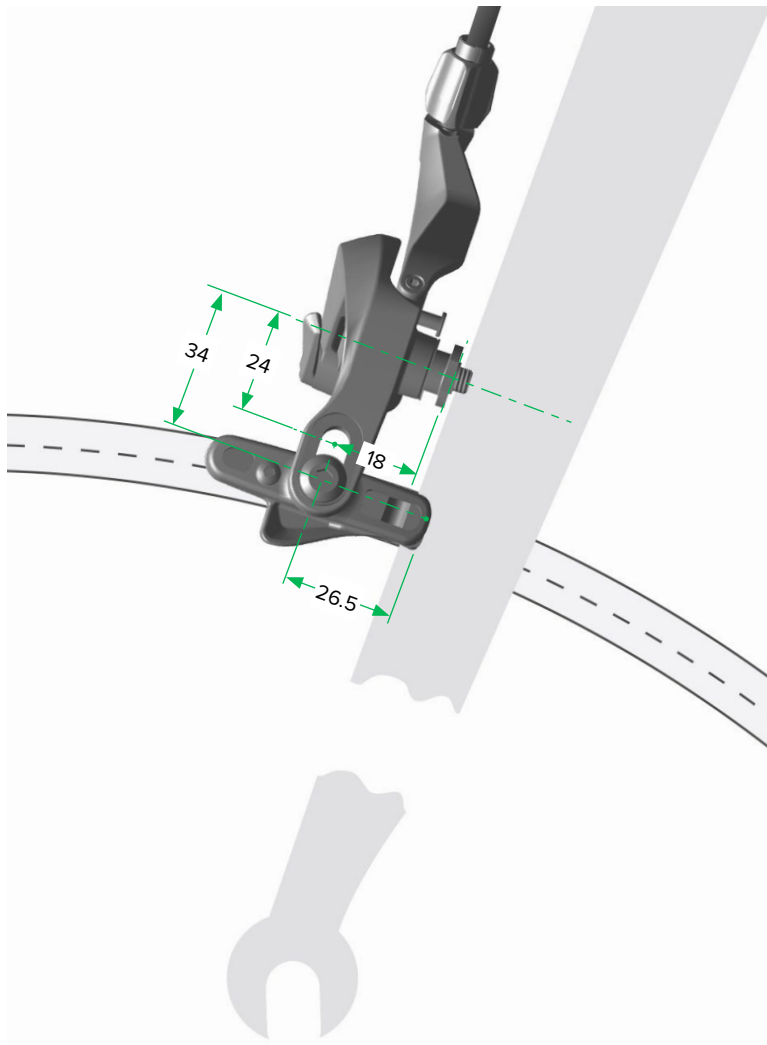
Mounting Dimensions



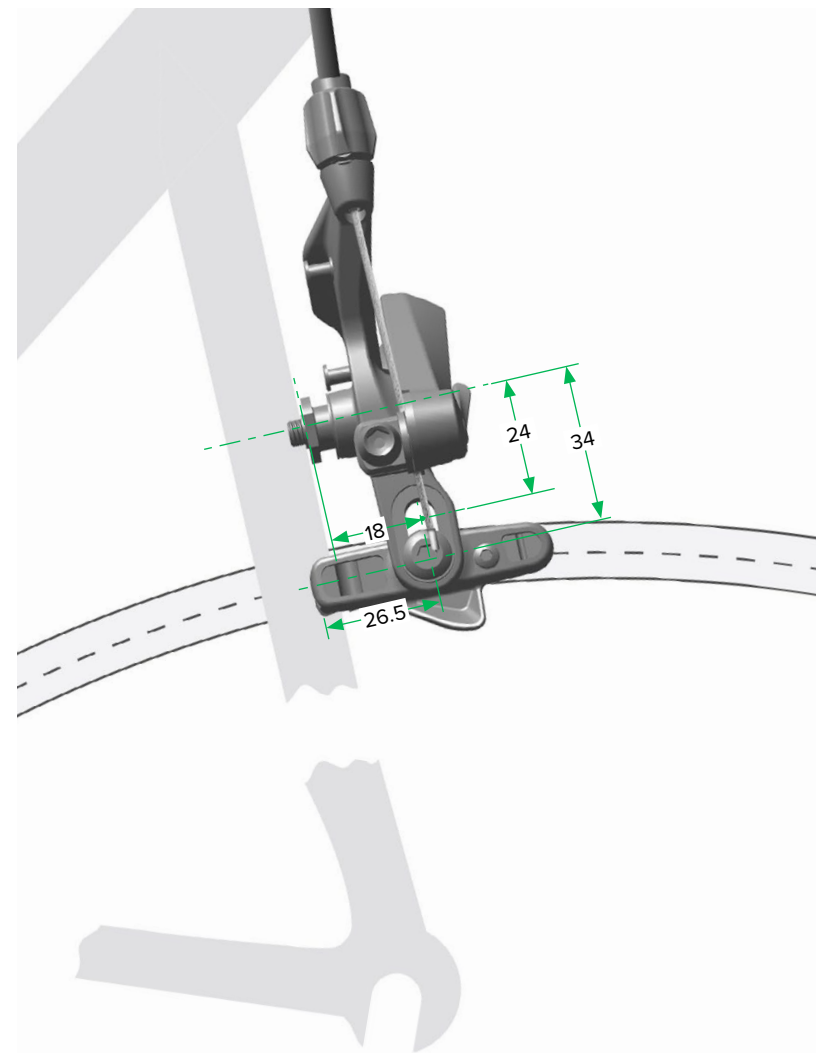
Direct Mount

Rim Brake Caliper Design Dimensions

Front Rim Brake Caliper



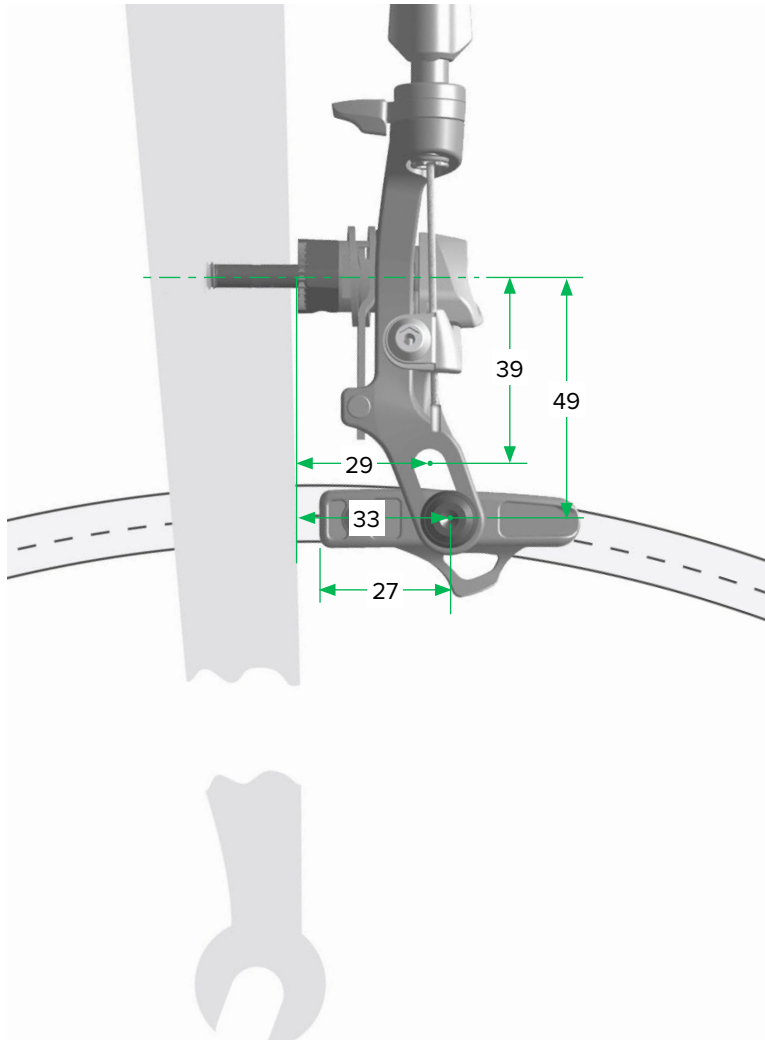
Rear Rim Brake Caliper



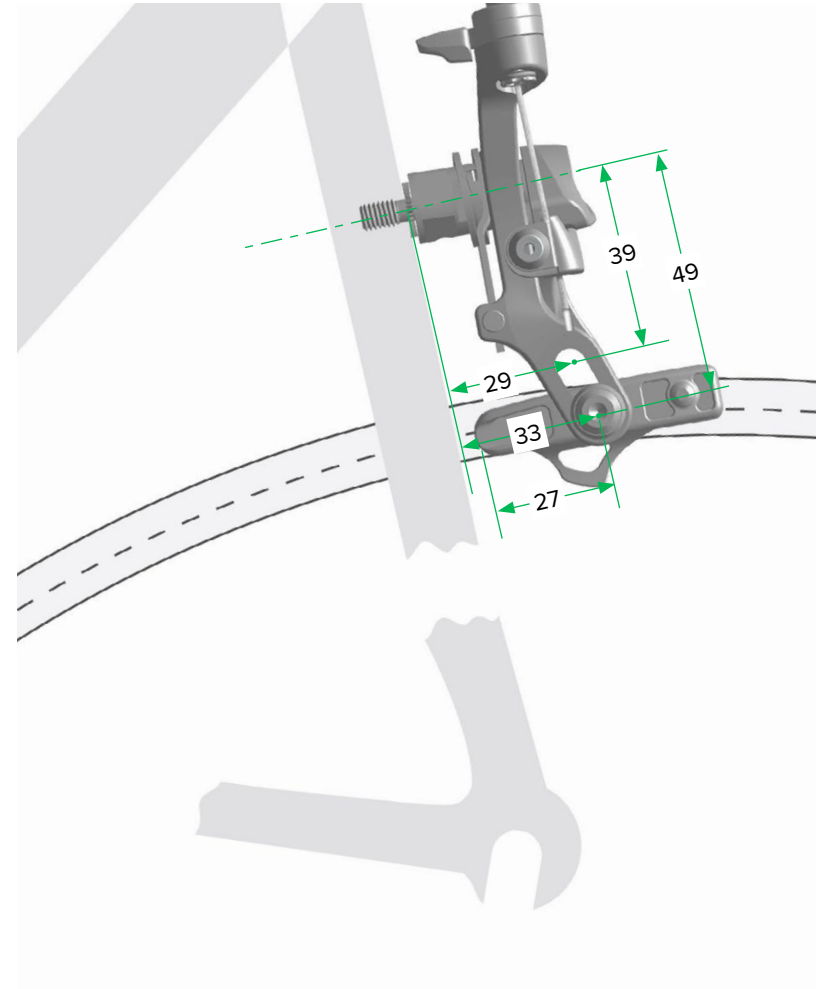
Single-Post Mount

Rim Brake Caliper Design Dimensions

Front Rim Brake Caliper



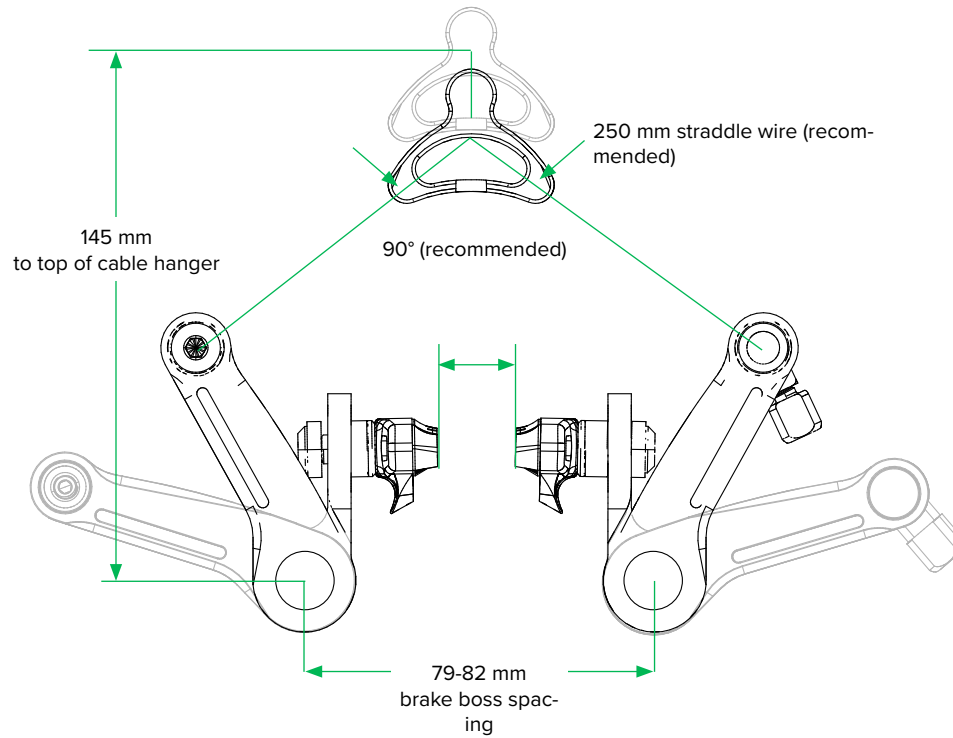
Rear Rim Brake Caliper



Shorty Ultimate

Dual Mounted Brake Caliper

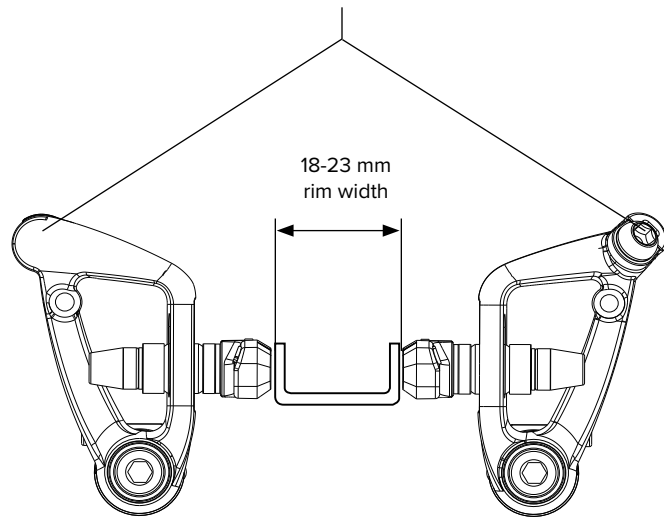
1 For wheel rims wider than 23 mm, consult the spare parts catalog on www.sram.com/service for part numbers.



Shorty 6/ Shorty 4

Cable Carrier and Straddle Cable Length

	Length of straddle cable	Opening angle of straddle cable	Designed width of Shorty	Total height	Designed height	Total width	Pivot width	Opening
	A (mm)	C	D (mm)	H (mm)	h (mm)	W (mm)		
CCC Type S	63	100°	31.78	92.94	56.80	51.61	63.21	39.65
CCC Type A	73	95°		106.12		53.82	67.64	44.08
CCC Type B	82	87°		116.28		56.45	72.89	49.33
CCC Type C	106	80°		138.00		68.14	96.27	72.71
CCC Type D	93	90		122.56		65.76	91.52	67.96



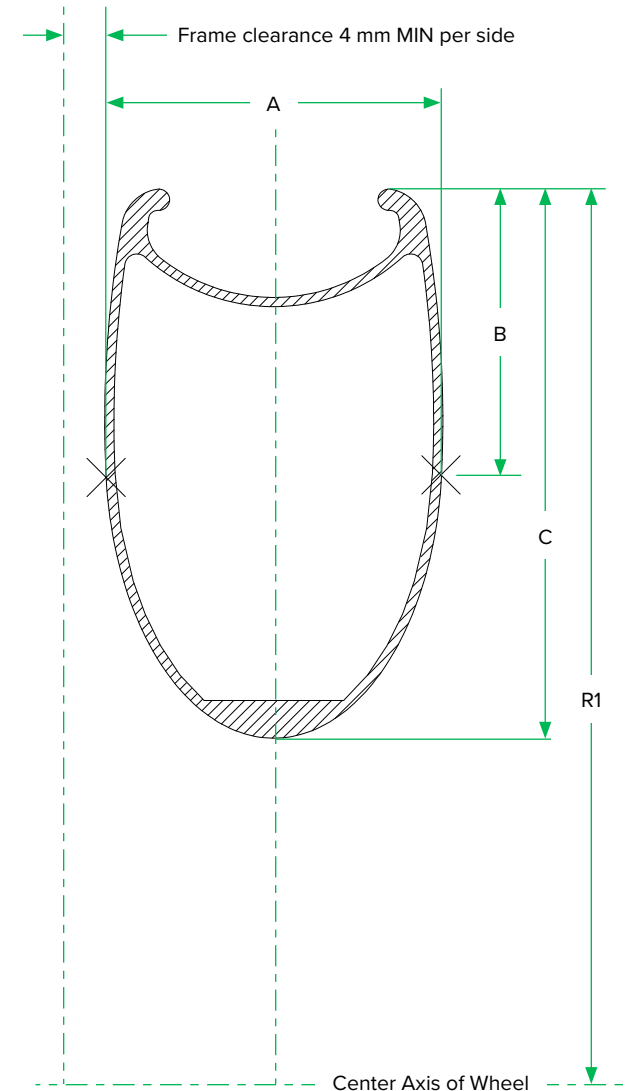
Wheels and Hubs

Zipp Wheels

Rim/Disc Design Parameters

	MAX Width	Internal Width (mm)	Depth at MAX Width	MAX Depth	Radius to Center Axis
	A (mm)		B (mm)	C (mm)	R1 (mm)
30 Course Clincher Tubeless Disc-brake	25	21	5.45	26	316.6
30 Course Clincher Tubeless Rim-brake		21	10		
202 Firecrest Carbon Tubeless Disc-brake	28.7	21	6.9	32	316.67
202 NSW Carbon Tubeless Disc-brake		21			
303 S Carbon Tubeless Disc-brake	27.32	23	3.52	45.15	317.165
303 Firecrest 650b Carbon Tubeless Disc-brake	29.88	21	21.19	45.5	297.95
303 Firecrest Carbon Tubeless Disc-brake	27.5	25	0	30	316.85
303 Firecrest Carbon Tubeless Rim-brake	26.58	21	13.05	45.41	317.13
303 NSW Carbon Tubeless Rim-brake		21			
303 Firecrest Carbon Tubular Disc-brake	28.05	n/a	19.31	45.6	316.86
303 Firecrest Carbon Tubular Rim-brake		n/a			
353 NSW Carbon Tubeless Disc-brake	30	25	1.20 - 5.50**	45.2	317.1
404 Firecrest Carbon Tubeless Disc-brake	27.68	23	0	58	316.975
404 Firecrest Carbon Tubeless Rim-brake	27.74	19	22.05	58.71	316.4
404 NSW Carbon Tubeless Disc-brake		19	22.05	58.71	316.4
404 NSW Carbon Tubeless Rim-brake		19	22.05	58.71	316.4
454 NSW Carbon Tubeless Disc-brake TSS	27.5	23	1.20 - 14.50**	58	316.85

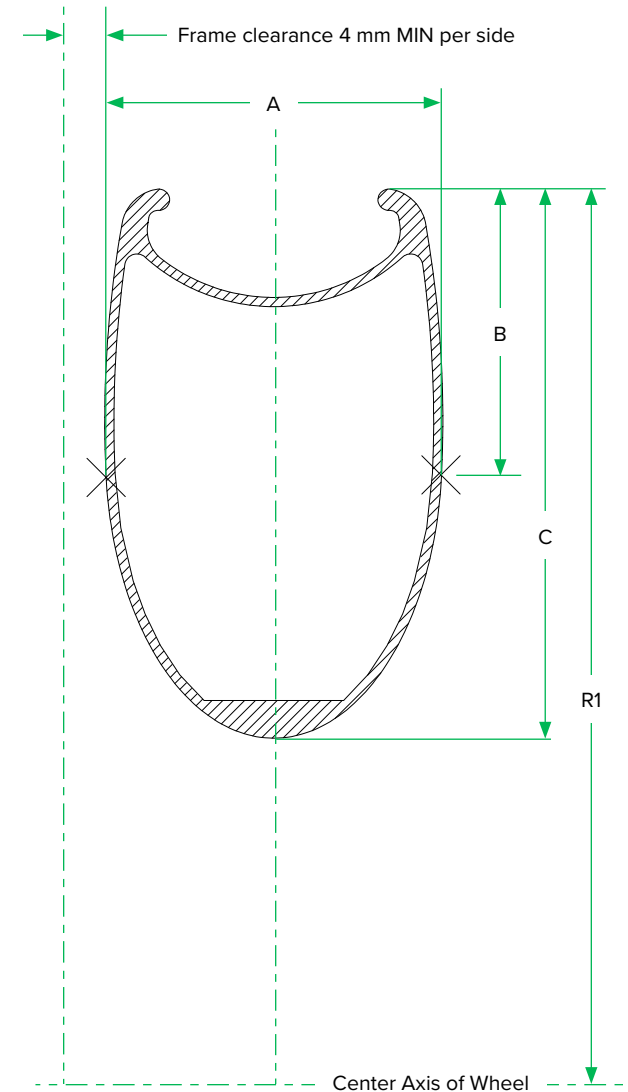
** Endpoints points of vertical line at max width.



Zipp Wheels

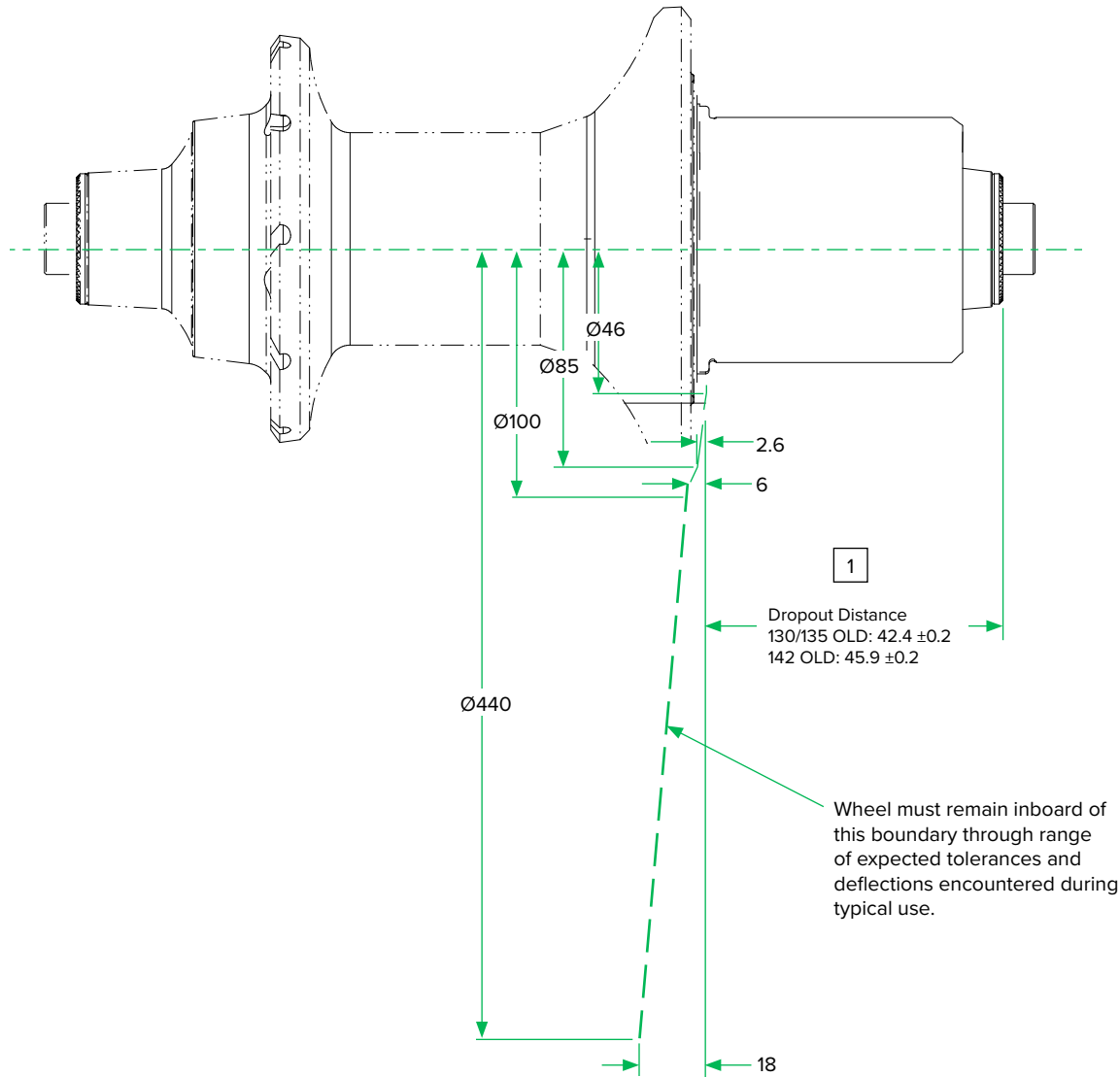
Rim/Disc Design Parameters Continued

	MAX Width	Internal Width (mm)	Depth at MAX Width	MAX Depth	Radius to Center Axis
	A (mm)		B (mm)	C (mm)	R1 (mm)
454 NSW Carbon Tubeless Disc-brake	26.51	19	22.17	58.23	316.145
454 NSW Carbon Tubeless Rim-brake		19			
454 NSW Carbon Tubular Disc-brake	26.52	n/a	22.25	57.92	316.23
454 NSW Carbon Tubular Rim-brake		n/a			
808 Firecrest Carbon Tubeless Disc-brake	28.024	19	35.54	82.5	316.6
808 Firecrest Carbon Tubeless Rim-brake		19			
808 NSW Carbon Tubeless Disc-brake		19			
808 NSW Carbon Tubeless Rim-brake		19			
858 NSW Carbon Tubeless Disc-brake	23.66	18	7.3	83.66	316.19
858 NSW Carbon Tubeless Rim-brake		18			
101 EXPLR Tubeless DB 650	34.3	27	2.65	16.47	298.15
101 EXPLR Tubeless DB 700		27			317.08
Super-9 Carbon Tubular Disc-brake	27.5	n/a	2.46	N/A	317.36
Super-9 Carbon Tubular Rim-brake		n/a			
Super-9 Tubular Track		n/a			
Super-9 Carbon Tubeless Rim-brake	27.48	18	7.3	N/A	316.23
Super-9 Carbon Tubeless Disc-brake		18			
Super-9 Carbon Clincher Track		16			



Rear Derailleur Wheel Spoke Clearance

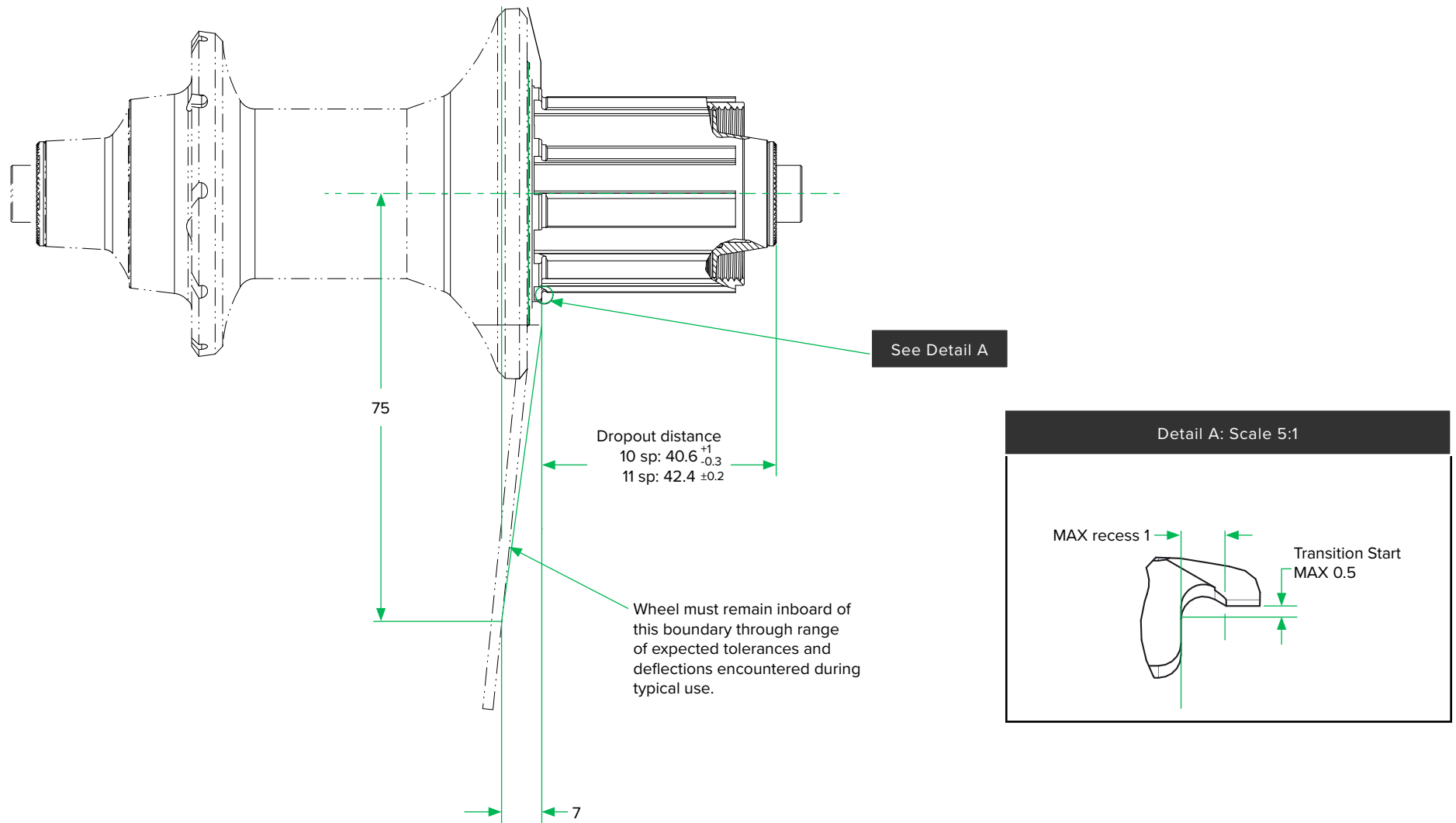
XDR



1 Refer to <http://xddriverbody.com/> for freehub driver body specifications.

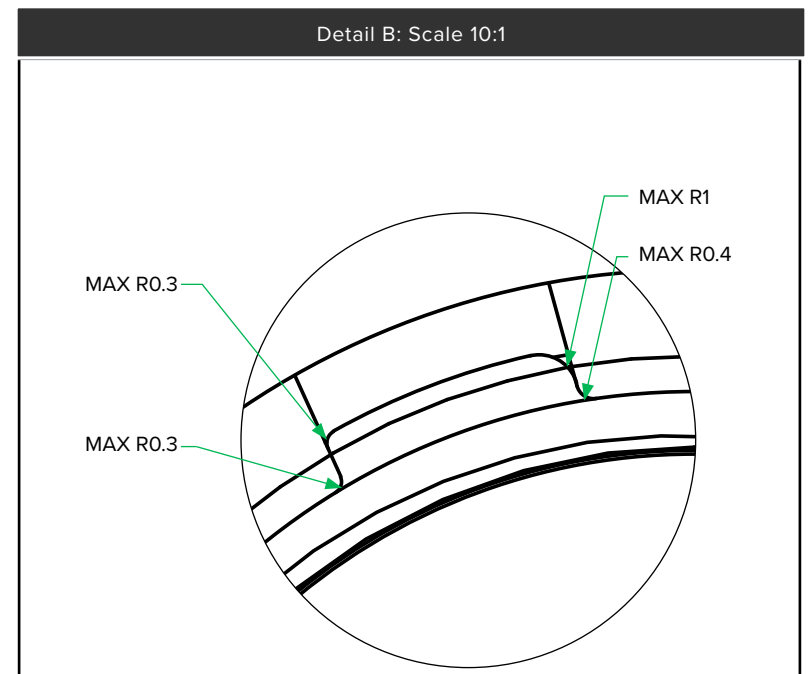
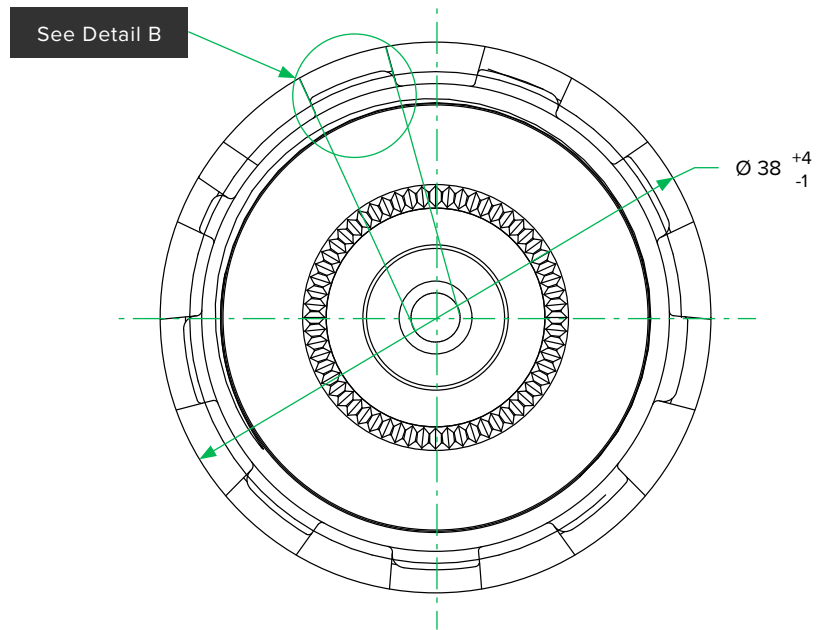
Driver and Wheel Standard

10 and 11 speed



Driver and Wheel Standard

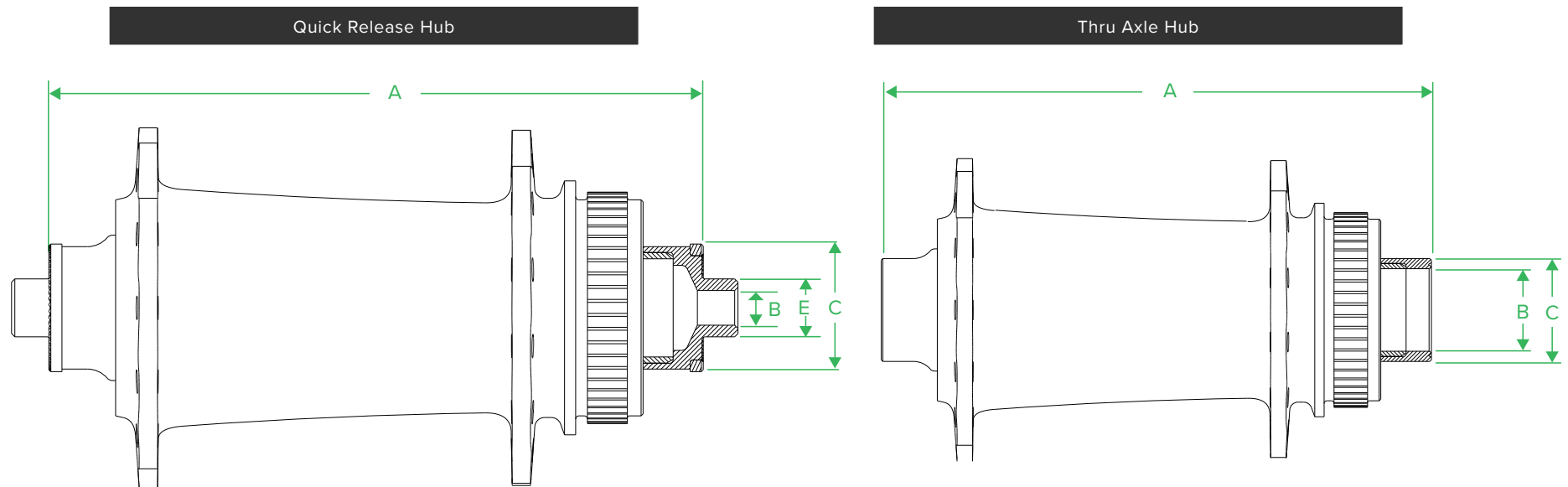
10 and 11 speed



Zipp Hubs with Center Locking Disc Brake Mount

Front Hub Specifications

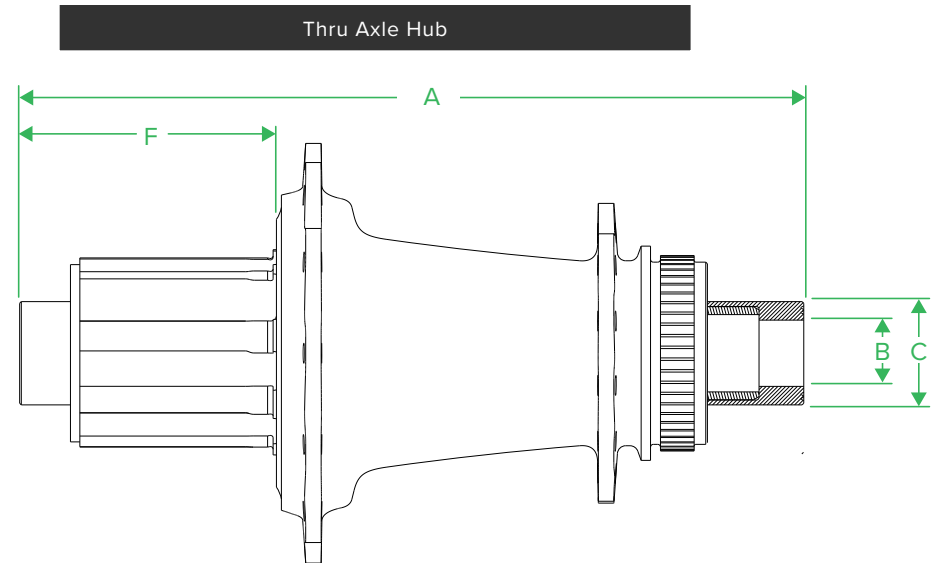
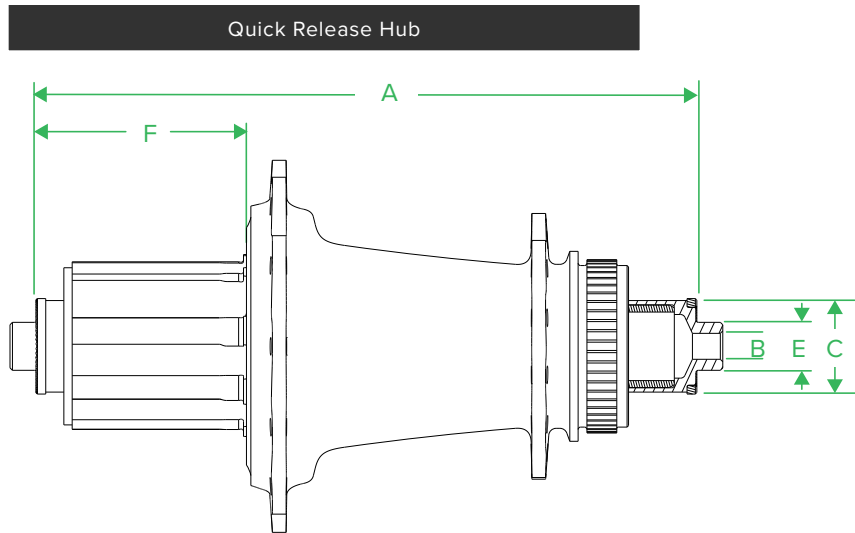
	A (mm)	B (mm)	C (mm)	E (mm)
9x10 Quick Release Hub	100.0 ± 0.5	Ø 5.3 ± 0.1	Ø 19.5 ± 0.1	Ø 8.85 ± 0.05
12x100 Thru Axle Hub		Ø 12.0 ± 0.1	Ø 18.7 ± 0.1	N/A
15x100 Thru Axle Hub		Ø 15.0 ± 0.1		



Zipp Hubs with Center Locking Disc Brake Mount

Rear Hub Specifications

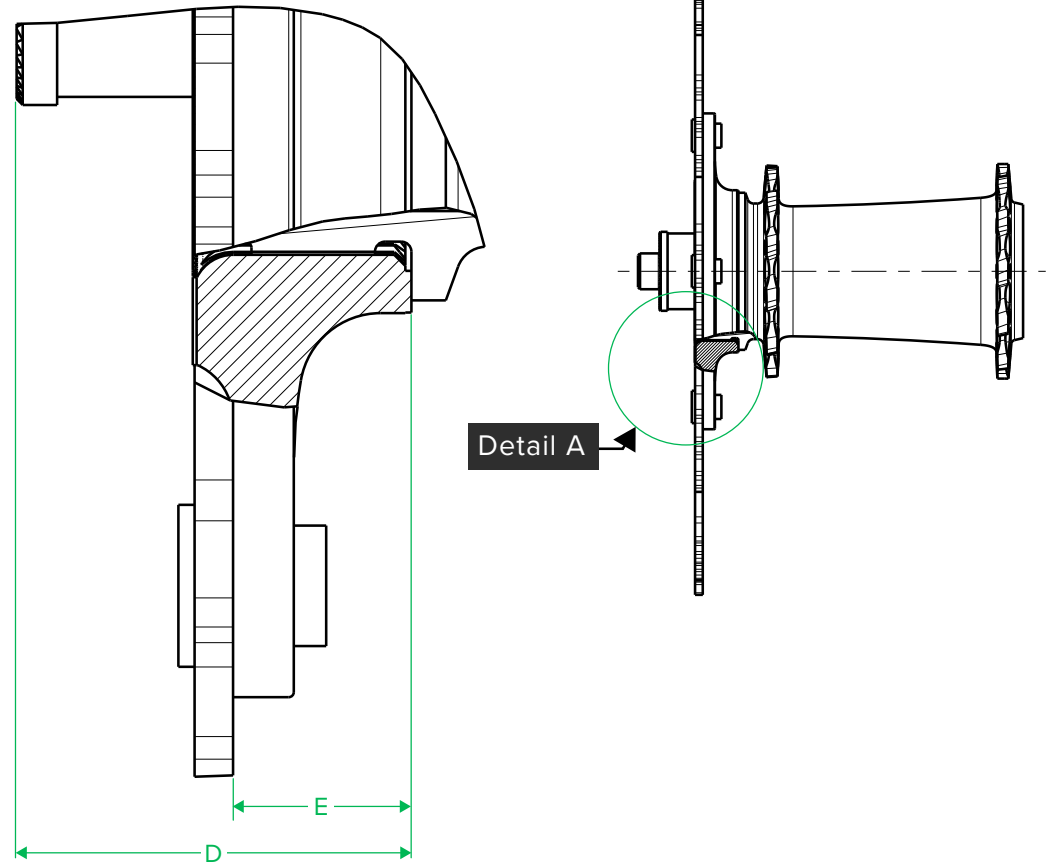
	A (mm)	B (mm)	C (mm)	E (mm)	F (mm)
10x135 Quick Release Hub	135.0 ± 0.5	Ø 5.3 ± 0.1	Ø 19.5 ± 0.1	Ø 9.8 ± 0.1	42.4 ± 0.2
12x135 Thru Axle Hub		Ø 12.0 ± 0.1	Ø 18.7 ± 0.1	N/A	
12x142 Thru Axle Hub	142.0 ± 0.5				45.9 ± 0.2



Zipp Hubs with Center Locking Disc Brake Mount

Front and Rear Hub Distance to Rotor

	D (mm)		E (mm)	
	CLX	CLX-R	CLX	CLX-R
9x10 Quick Release Hub	19.5	CLX-R	8.5	9.0
12x100 Thru Axle Hub				
15x100 Thru Axle Hub				
10x135 Quick Release Hub	24.25			
12x135 Thru Axle Hub	27.25			
12x142 Thru Axle Hub				

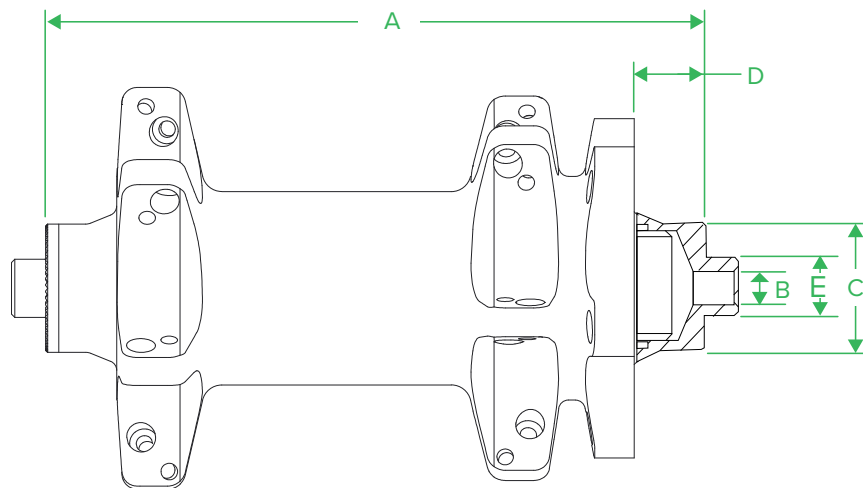


Zipp Hubs with ISO 6 Bolt Disc Brake Mount

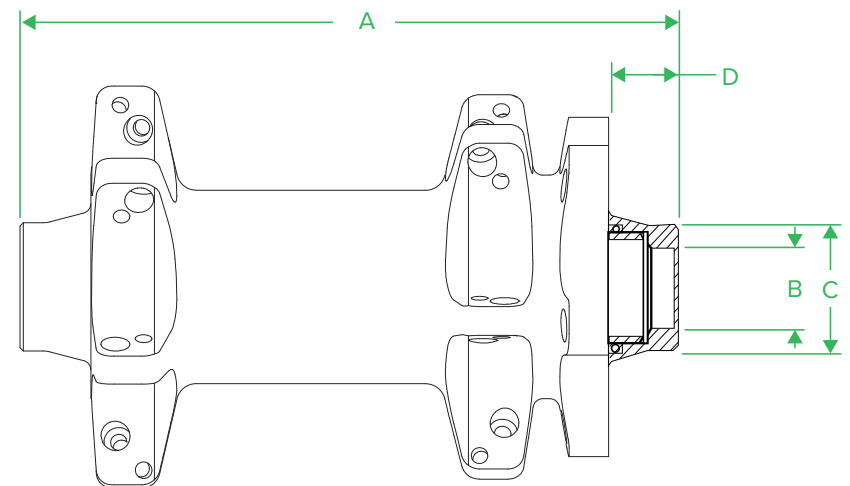
Front Hub Specifications

	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
9x100 Quick Release Hub	100.0 ± 0.5	Ø 5.3 ± 0.1	Ø 19.5 ± 0.1	10.5 ± 0.3	Ø 8.85 ± 0.05
12x100 Thru Axle Hub		Ø 12.0 ± 0.1	Ø 19.0 ± 0.1		N/A
15x100 Thru Axle Hub		Ø 15.0 ± 0.1	Ø 19.5 ± 0.1		
9x100 Thru-bolt Hub		Ø 9.0 ± 0.1			

Quick Release Hub



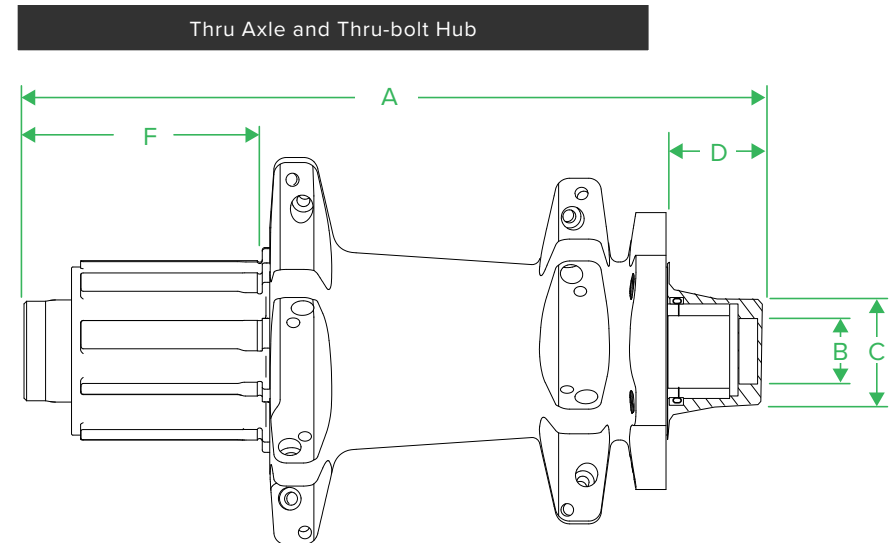
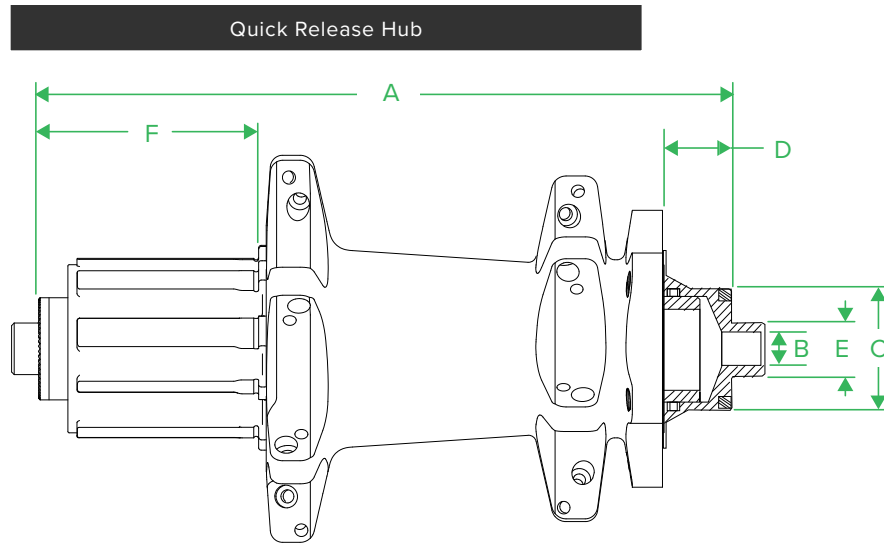
Thru Axle and Thru-bolt Hub



Zipp Hubs with ISO 6 Bolt Disc Brake Mount

Rear Hub Specifications

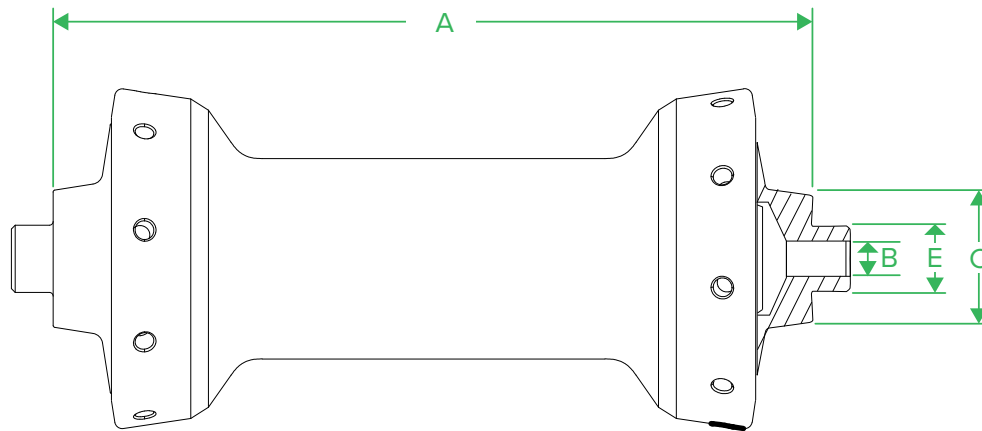
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
10x135 Quick Release Hub	135.7 +0.3/-1.0	$\text{Ø } 5.3 \pm 0.1$	$\text{Ø } 19.5 \pm 0.1$	15.5 \pm 0.2	$\text{Ø } 9.85 \pm 0.05$	42.4 \pm 0.2
12x135 Thru Axle Hub		$\text{Ø } 12.0 \pm 0.1$	$\text{Ø } 19.0 \pm 0.1$			
12x142 Thru Axle Hub	142.7 +0.3/-1.0	$\text{Ø } 10.0 \pm 0.1$	$\text{Ø } 19.5 \pm 0.1$	19.0 \pm 0.2	N/A	45.9 \pm 0.2
10x135 Thru-bolt Hub	135.7 +0.3/-1.0			15.5 \pm 0.2		42.4 \pm 0.2



Zipp Rim Brake Hubs

Front Hub Specifications

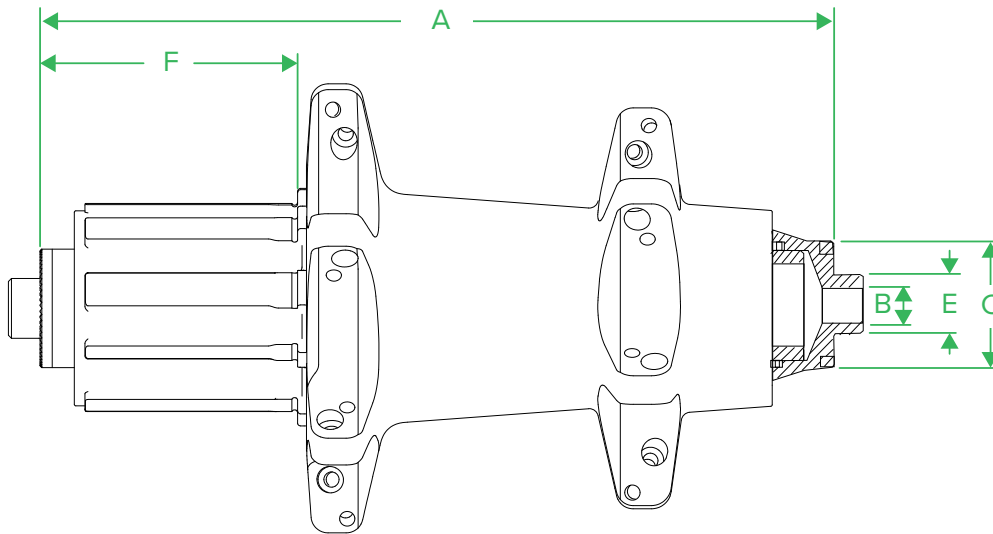
	A (mm)	B (mm)	C (mm)	E (mm)
9x100 Quick Release Hub	100 ± 0.5	$\text{Ø } 5.3 \pm 0.1$	$\text{Ø } 18.3 \text{ MAX}$	$\text{Ø } 8.85 \pm 0.05$



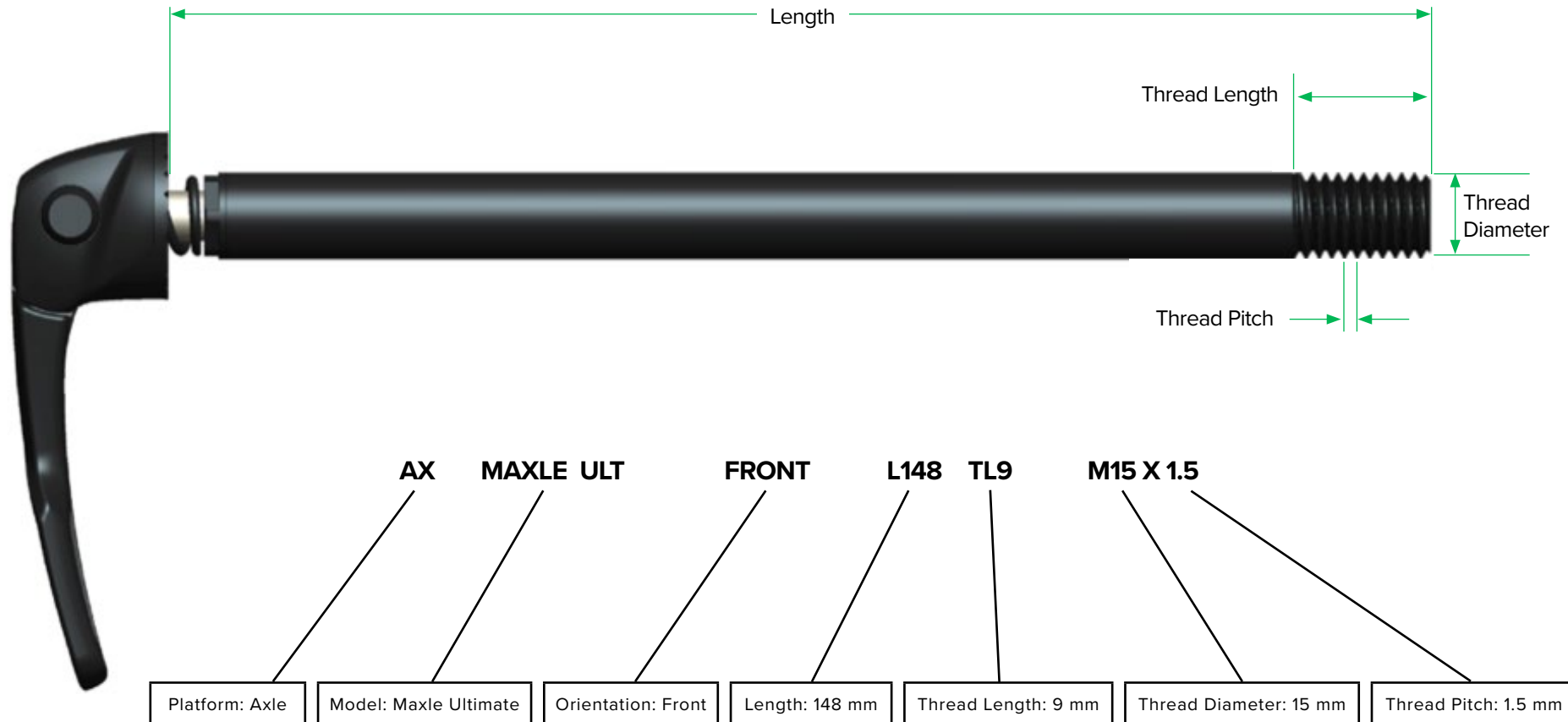
Zipp Rim Brake Hubs

Rear Hub Specifications

10x130 Quick Release Hub	A (mm)	B (mm)	C (mm)	E (mm)	F (mm)
	130.0 ± 0.5	Ø 5.3 ± 0.1	Ø 19.5 ± 0.1	Ø 9.8 ± 0.1	42.4 ± 0.2



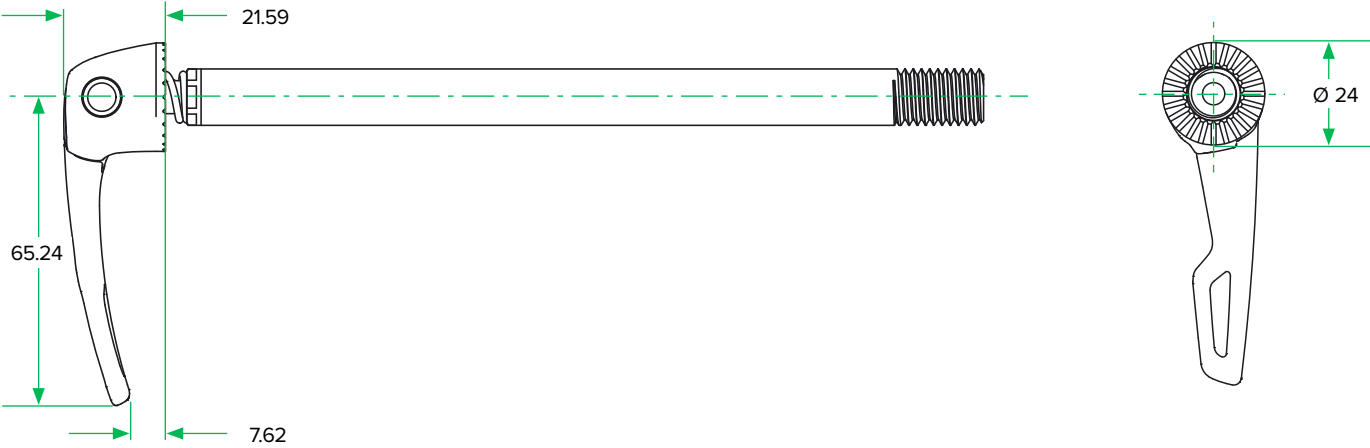
Maxle Description Decoder



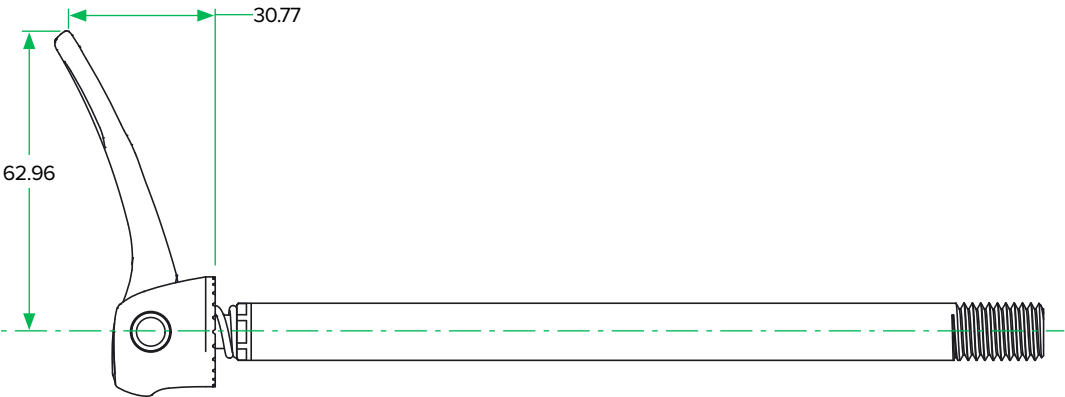
Maxle Ultimate

Frame / Fork Clearance

Lever in Closed Position

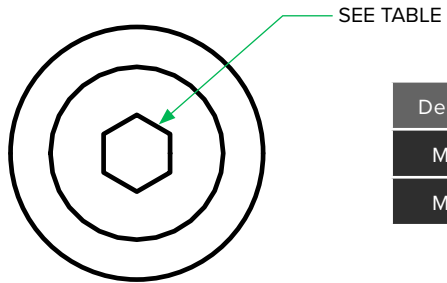
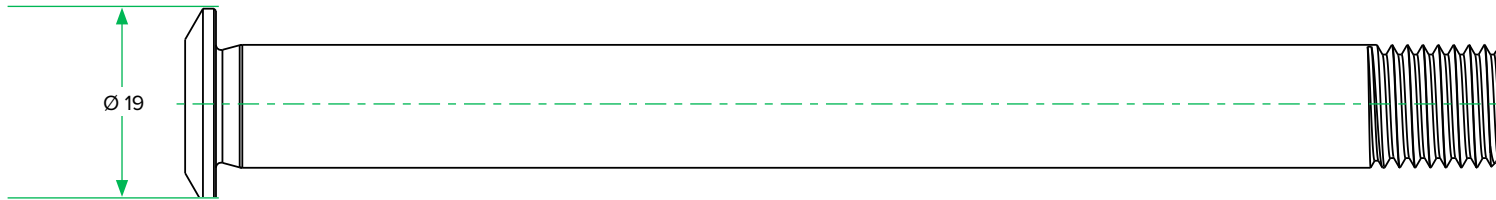


Lever in Open Position



- 1 Drawing is not to scale.
- 2 Customer is responsible for ensuring hub, frame, and axle compatibility.
- 3 The frame manufacturer is responsible for ensuring the frame and/or fork assemblies using Maxles are compliant with existing safety standards.
- 4 Head translates along the Maxle axis approximately 1.46 mm when lever is moved from open to closed.

Maxle Stealth



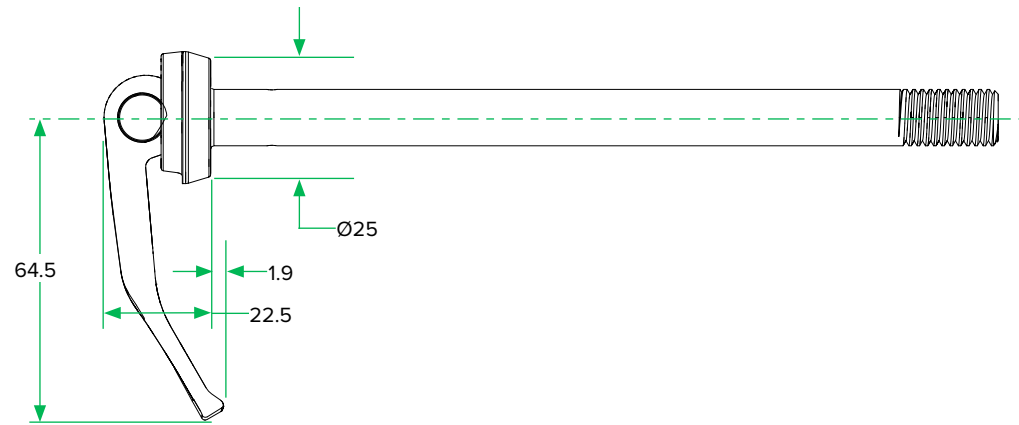
Description	Hex Size	Torque Value
Maxle 12	5	9-13.5 N•m
Maxle 15	6	9-13.5 N•m

- 1 Drawing is not to scale.
- 2 Customer is responsible for ensuring hub, frame, and axle compatibility.
- 3 The frame manufacturer is responsible for ensuring the frame and/or fork assemblies using Maxles are compliant with existing safety standards.

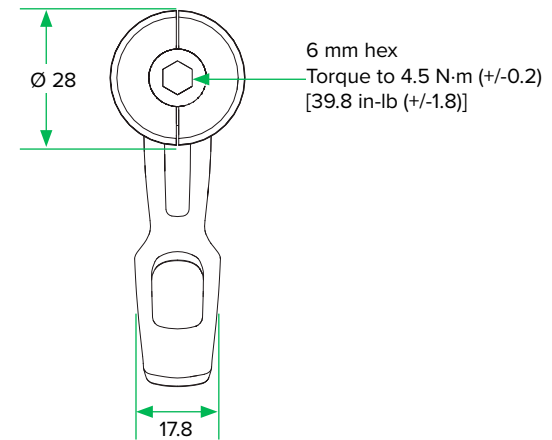
Maxle Lite & Maxle

Frame / Fork Clearance

Lever in Closed Position



Lever in Open Position

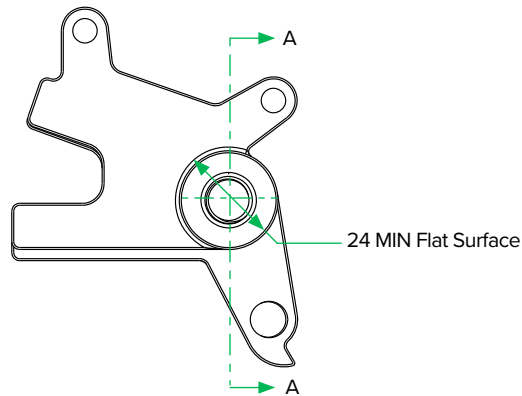
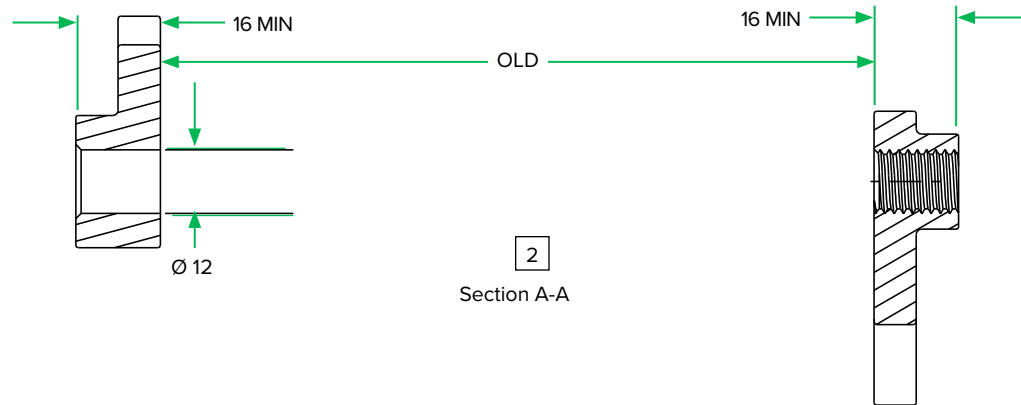
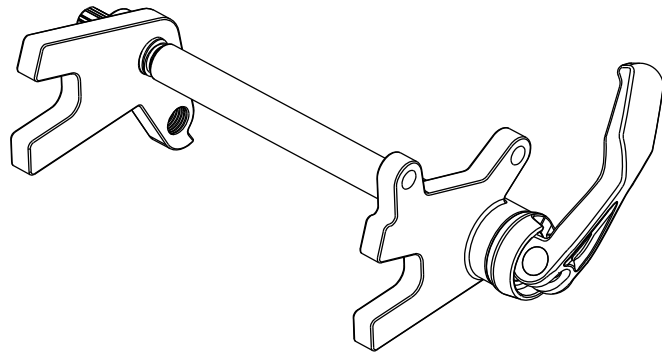


- 1 Drawing is not to scale.
- 2 Customer is responsible for ensuring hub, frame, and axle compatibility.
- 3 The frame manufacturer is responsible for ensuring the frame and/or fork assemblies using Maxles are compliant with existing safety standards.

Maxle, Maxle Lite, Maxle Ultimate, Maxle Stealth

Rear Frame Specification

Frame Dropouts with Maxle Installed

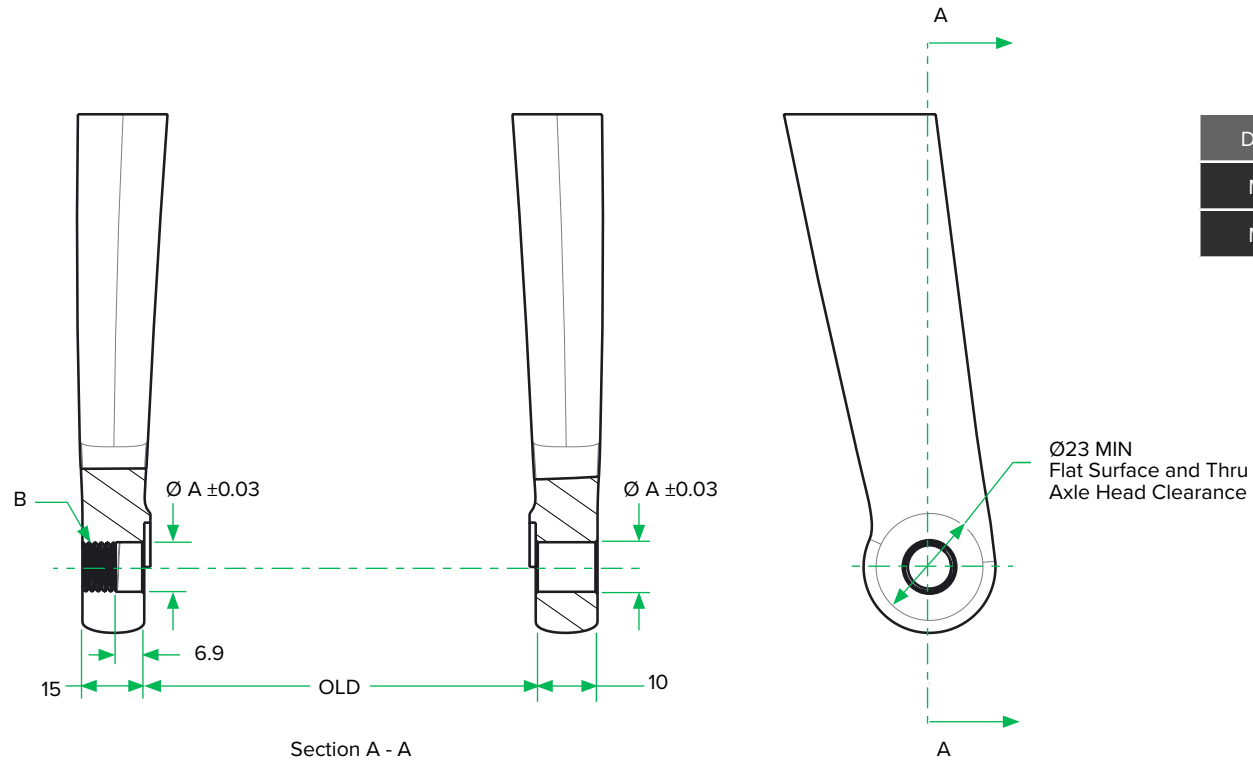


Part Number	Description
00.4318.009.001	AX MAXLE ULT REAR L174 TL20 M12X1.75
00.4318.009.013	AX MAXLE ULT REAR L180 TL20 M12X1.75
00.4318.017.004	AX MAXLE STLTH REAR L174 TL20 M12X1.75
00.4318.017.005	AX MAXLE STLTH REAR L180 TL20 M12X1.75

- 1 Drawing is not to scale.
- 2 Dimensions apply to the standard Maxle sizes in the table.
- 3 Frame designers may request a custom Maxle for their specific frame dropouts. However, frame designers are responsible for ensuring compatibility between their frame and custom Maxle.

Maxle, Maxle Lite, Maxle Ultimate, Maxle Stealth

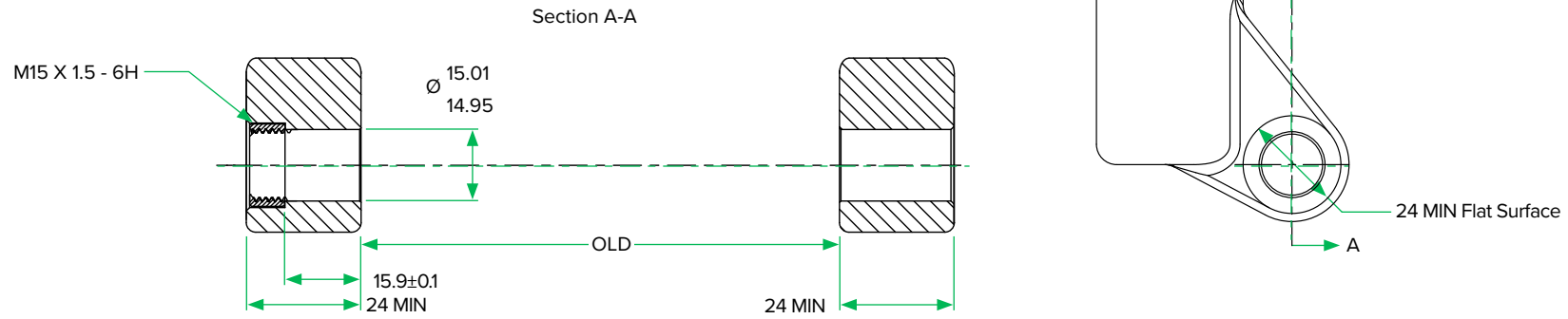
Fork Specification



Description	A	B
MAXLE 15	14.98	M15 X 1.5 - 6H
MAXLE 12	12.03	M12 X 1.5 - 6H

Maxle, Maxle Lite, Maxle Ultimate, Maxle Stealth

Fork Specification



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