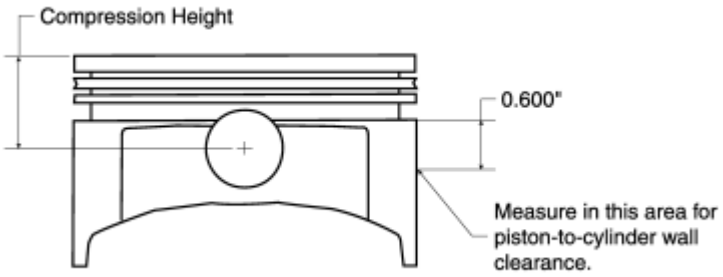
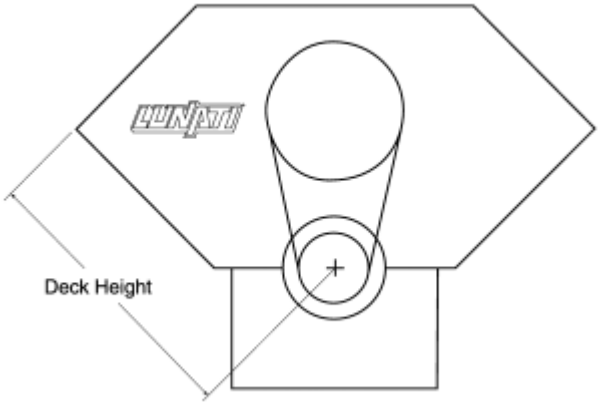
What compression piston do I need?



Before selecting a piston, the desired compression height must be known. As shown, compression height is the distance between the centerline of the pin bore and the top of the piston. To determine the compression, three things about the engine must first be known: **block height**, **connecting rod length** and **crankshaft stroke length**.



1. Calculate Block Height Top↑

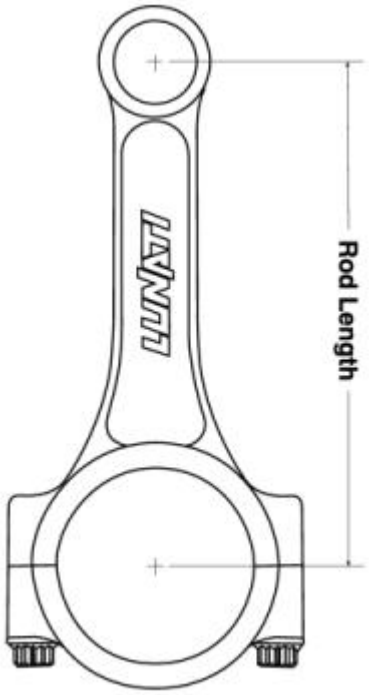
Deck height is measured from the crankshaft centerline to the deck (cylinder head mounting surface) of the block.

Stock Chevrolet V-8 Block Heights

Displacement Cubic Inches	Liters	Deck Height (inches)
302	4.9	9.025
305	5.0	9.025
327	5.4	9.025
350	5.7	9.025
350(LT5)	5.7	9.025
350(LS1)	5.7	9.240
364(LQ4)	6.0	9.240
383	6.3	9.025
400	6.6	9.025
396	6.5	9.800
402	6.6	9.800
427	7.0	9.800
454	7.4	9.800
502	8.2	9.800

Stock Ford V-8 Block Heights

Displacement Cubic Inches	Liters	Deck Height (inches)
289	4.7	8.206
302	5.0	8.206
302(Boss)	5.0	8.201-8.210
302(SVO)	5.0	8.201-8.210
351 W ('69-'70)	5.8	9.480
351 W ('71-'96	5.8	9.503
351 (SVO 9.2)	5.8	9.206
351C (Boss)	5.8	9.206
351M	5.8	10.297
429 STD ('68-'70)	7.0	10.300
429 STD ('70 1/2-'71)	7.0	10.310
429 CJ/SCJ ('72-'73)	7.0	10.322
429 Boss (S)	7.0	10.300
429 Boss (T)	7.0	10.300
460	7.5	10.322
281 (modular)	4.6	8.937
331 (modular)	5.4	10.079



2. Calculating Connecting Rod Length Top↑

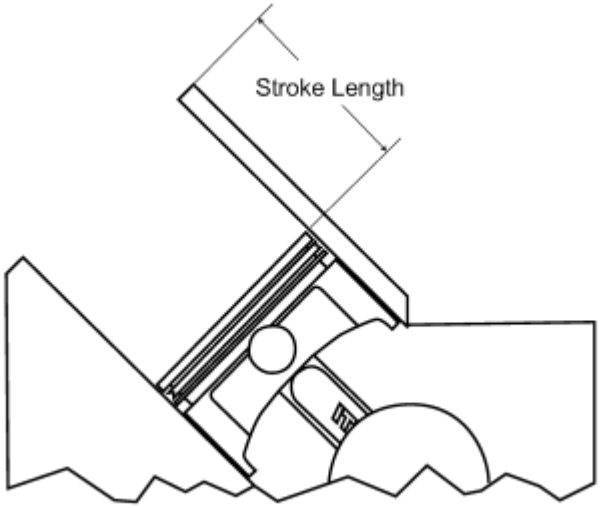
Connecting rod length is measured between the centers of the "big end" (journal end - rotating) and the "little end" (piston pin end - reciprocating).

Stock Chevrolet V-8 Connecting Rod Lengths

Displacement Cubic Inches	Liters	Big End Dia. (inches)	Rod Length (inches)
302	4.9	2.1000	5.7000
305	5.0	2.1000	5.7000
327	5.4	2.1000	5.7000
350	5.7	2.1000	5.7000
350(LT5)	5.7	2.1000	5.7400
350(LS1)	5.7	2.2500	6.0980
383	6.3	2.1000	6.0000
400	6.6	2.1000	5.5650
396	6.5	2.2000	6.1350
402	6.6	2.2000	6.1350
427	7.0	2.2000	6.1350
454	7.4	2.2000	6.1350
502	8.2	2.2000	6.1350

Stock Ford V-8 Connecting Rod Lengths

Displacement Cubic Inches	Liters	Big End Dia. (inches)	Rod Length (inches)
289	4.7	2.1232	5.1550
302	5.0	2.1232	5.0900
302(Boss)	5.0	2.1226	5.1500
302(SVO)	5.0	2.1226	5.1500
351 W ('69-'70)	5.8	2.3110	5.9560
351 W ('71-'96	5.8	2.3110	5.9560
351 (SVO 9.2)	5.8	2.3110	5.7800
351C (Boss)	5.8	2.3110	5.7800
351M	5.8	2.3107	6.5800
429 STD ('68-'70)	7.0	2.500	6.6050
429 STD ('70 1/2-'71)	7.0	2.500	6.6050
429 CJ/SCJ ('72-'73)	7.0	2.500	6.6050
429 Boss (S)	7.0	2.500	6.5490
429 Boss (T)	7.0	2.500	6.6050
460	7.5	2.500	6.6050
281 (modular)	4.6	2.0863	5.9331
331 (modular)	5.4	2.0863	6.6575



3. Calculate Stroke Length Top↑

Stroke length is twice the distance from the centerline of the crankshaft main bearing journals to the centerline of the connecting rod journals. It is also the distance the piston moves up and down in the cylinder.

Stock Chevrolet V-8 Bore & Stroke

Displacement Cubic Inches	Liters	Bore (inches)	Stroke (inches)
302	4.9	4.000	3.000
305	5.0	3.740	3.480
327	5.4	4.000	3.250
350	5.7	4.000	3.480
350(LT5)	5.7	3.898	3.661
350(LS1)	5.7	3.898	3.622
364(LQ4)	6.0	4.000	3.622
383	6.3	4.000	3.800
400	6.6	4.125	3.750
396	6.5	4.094	3.766
402	6.6	4.125	3.766
427	7.0	4.250	3.766
454	7.4	4.250	4.000
502	8.2	4.470	4.000

Stock Ford V-8 Bore & Stroke

Displacement Cubic Inches	Liters	Bore (inches)	Stroke (inches)
289	4.7	4.000	2.870
302	5.0	4.000	3.000
302(Boss)	5.0	4.000	3.000
302(SVO)	5.0	4.000	3.000
351 W ('69-'70)	5.8	4.000	3.500
351 W ('71-'96	5.8	4.000	3.500
351 (SVO 9.2)	5.8	4.000	3.500
351C (Boss)	5.8	4.000	3.500
351M	5.8	4.000	3.500
429 STD ('68-'70)	7.0	4.360	3.590
429 STD ('70 1/2-'71)	7.0	4.360	3.590
429 CJ/SCJ ('72-'73)	7.0	4.360	3.590
429 Boss (S)	7.0	4.360	3.590
429 Boss (T)	7.0	4.360	3.590
460	7.5	4.360	3.850
281 (modular)	4.6	3.552	3.543
331 (modular)	5.4	3.552	4.165

How Compression Height Is Calculated:

Compression height = block height - rod length - (0.5 X stroke)		
	Example:	**block height** = 11.685"
		rod length = 7.500"
		stroke = 5.500"
Compression height = block height - rod length - (0.5 X stroke)		
Compression height = 11.685 - 7.500 - (0.5 X 5.500)		
Compression height = 1.435"		