

**4.0L V8  
Selected Block**

1992 Soarer/Lexus SC 400  
For Lextreme Powertrain 2020 S. Hacienda Blvd. # D Hacienda Heights California 91745  
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Sunday, May 25, 2003 11:05AM

**GENERAL ENGINE SPECIFICATIONS**

AGENERAL SPECIFICATIONS TABLE

Application	Specification
Displacement	244 Cu. In. (4.0L)
Bore	3.44" (87.4 mm)
Stroke	3.25" (82.5 mm)
Compression Ratio	10.0:1
Fuel System	PFI
Horsepower @ RPM	250 @ 5600
Torque Ft. Lbs. @ RPM	260 @ 4400

**CRANKSHAFT, MAIN & CONNECTING  
ROD BEARINGS SPECIFICATIONS**

CRANKSHAFT, MAIN & CONNECTING ROD BEARINGS TABLE

Application	In. (mm)
Crankshaft	
End Play	
Standard	.0008-.0087 (.020-.220)
Wear Limit	.0118 (.300)
Runout	.0031 (.080)
Main Bearings	
Journal Diameter (1)	
Size Mark "00"	2.63779 (67.0000)
Size Mark "01"	2.63775 (66.9999)
Size Mark "02"	2.63772 (66.9980)
Size Mark "03"	2.63767 (66.9968)
Size Mark "04"	2.63763 (66.9960)
Size Mark "05"	2.63759 (66.9950)
Size Mark "06"	2.63755 (66.9940)
Size Mark "07"	2.63751 (66.9930)
Size Mark "08"	2.63748 (66.9920)
Size Mark "09"	2.63744 (66.9910)
Size Mark "10"	2.63740 (66.9899)
Size Mark "11"	2.63736 (66.9889)
Size Mark "12"	2.63732 (66.9879)
Journal Out-Of-Round	.0008 (.020)
Journal Taper	.0008 (.020)
Oil Clearance	
Standard	.0010-.0018 (.025-.045)
Wear Limit	.0022 (.056)
Connecting Rod Bearings	
Journal Diameter (2)	

Size Mark "1"	.....	2.0470-2.0472	(51.994-52.000)
Size Mark "2"	.....	2.0468-2.0470	(51.988-51.994)
Size Mark "3"	.....	2.0465-2.0468	(51.982-51.988)
Journal Out-Of-Round	.....	.0008	(.020)
Journal Taper	.....	.0008	(.020)
Oil Clearance			
Standard	.....	.0011-.0021	(.027-.053)
Wear Limit	.....	.0026	(.066)

- (1) - Main bearing journal diameter is identified by size mark on crankshaft. See Fig. 52.
- (2) - Connecting rod bearing journal diameter is identified by size mark on crankshaft. See Fig. 50.

## CONNECTING RODS SPECIFICATIONS

### CONNECTING RODS TABLE

Application		In. (mm)
Bore Diameter		
Pin Bushing	.....	.8663-.8668 (22.004-22.017)
Crankpin (1)		
Size Mark "1"	.....	2.1654-2.1656 (55.000-55.006)
Size Mark "2"	.....	2.1656-2.1658 (55.006-55.012)
Size Mark "3"	.....	2.1658-2.1661 (55.012-55.018)
Size Mark "4"	.....	2.1661-2.1663 (55.018-55.024)
Maximum Bend	.....	.0020 Per 3.94 (.050 Per 100.1)
Maximum Twist	.....	.0059 Per 3.94 (.150 Per 100.1)
Side Play		
Standard	.....	.0063-.0114 (.160-.290)
Wear Limit	.....	.0138 (.350)

- (1) - Crankpin diameter is identified by size mark on connecting rod cap. See Fig. 50.

## PISTONS, PINS & RINGS SPECIFICATIONS

### PISTONS, PINS & RINGS TABLE

Application		In. (mm)
Pistons		
Clearance		
Standard	.....	.0008-.0016 (.020-.040)
Wear Limit	.....	.0024 (.061)
Diameter (1)		

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Size Mark "1"	.....	3.4437-3.4441	(87.470-87.480)
Size Mark "2"	.....	3.4441-3.4445	(87.480-87.490)
Size Mark "3"	.....	3.4445-3.4449	(87.490-87.500)
Pins			
Diameter	.....	.8660-.8665	(21.996-22.009)
Piston Fit	.....		(2)
Rod Fit			
Standard	.....	.0002-.0004	(.005-.010)
Wear Limit	.....	.002	(.05)
Rings			
No. 1			
End Gap			
Standard	.....	.0098-.0177	(.249-.450)
Wear Limit	.....	.0413	(1.049)
Side Clearance	.....	.0008-.0024	(.020-.060)
No. 2			
End Gap			
Standard	.....	.0138-.0236	(.350-.600)
Wear Limit	.....	.0472	(1.200)
Side Clearance	.....	.0006-.0022	(.015-.055)
No. 3 (Oil)			
End Gap			
Standard	.....	.0059-.0197	(.150-.500)
Wear Limit	.....	.0433	(1.100)

- (1) - Piston diameter is determined by size mark on top of piston. See Fig. 35.
- (2) - With piston heated to 140°F (60°C), piston pin should slide into piston with thumb pressure.

## CYLINDER BLOCK SPECIFICATIONS

### CYLINDER BLOCK TABLE

Application In. (mm)

#### Cylinder Bore Standard Diameter (1)

Size Mark "1"	.....	3.4449-3.4453	(87.500-87.510)
Size Mark "2"	.....	3.4453-3.4457	(87.510-87.520)
Size Mark "3"	.....	3.4457-3.4461	(87.520-87.530)

#### Main Bearing Bore Inside Diameter (2)

Size Mark "00"	.....	2.83464	(72.0000)
Size Mark "01"	.....	2.83468	(72.0008)
Size Mark "02"	.....	2.83472	(72.0019)
Size Mark "03"	.....	2.83476	(72.0029)
Size Mark "04"	.....	2.83480	(72.0040)
Size Mark "05"	.....	2.83484	(72.0050)
Size Mark "06"	.....	2.83488	(72.0060)

Size Mark "07"	.....	2.83492 (72.0070)
Size Mark "08"	.....	2.83496 (72.0080)
Size Mark "09"	.....	2.83500 (72.0090)
Size Mark "10"	.....	2.83503 (72.0100)
Size Mark "11"	.....	2.83507 (72.0108)
Size Mark "12"	.....	2.83511 (72.0118)
Size Mark "13"	.....	2.83515 (72.0130)
Size Mark "14"	.....	2.83520 (72.0140)
Size Mark "15"	.....	2.83523 (72.0148)
Size Mark "16"	.....	2.83528 (72.0161)
Maximum Deck Warpage	.....	.0028 (.070)

- (1) - Cylinder bore diameter is identified by size mark on cylinder block. See Fig. 36. Maximum diameter is 3.4539" (87.729 mm).
- (2) - Main bearing bore diameter is identified by size mark on cylinder block oil pan flange. See Fig. 52.

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### VALVES & VALVE SPRINGS SPECIFICATIONS

#### VALVES & VALVE SPRINGS TABLE

Application	Specification
Intake Valves	
Face Angle	..... 44.5°
Minimum Margin	..... .020" (.50 mm)
Minimum Refinish Length	..... 3.7185" (94.450 mm)
Stem Diameter	..... .2350-.2356" (5.969-5.985 mm)
Exhaust Valves	
Face Angle	..... 44.5°
Minimum Margin	..... .020" (.50 mm)
Minimum Refinish Length	..... 3.7953" (96.400 mm)
Stem Diameter	..... .2348-.2354" (5.964-5.981 mm)
Valve Springs	
Free Length	..... 1.717" (43.61 mm)
Out-Of-Square	..... .079" (2.00 mm)
	Lbs. @ In. (kg @ mm)
Pressure	
Valve Closed	.... 41.9-46.3 @ 1.295 (19.0-21.0 @ 32.89)

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### CYLINDER HEAD SPECIFICATIONS

#### CYLINDER HEAD TABLE

Application	Specification
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Maximum Warpage	
Cylinder Block Surface .....	.0039" (.099 mm)
Manifold Surface .....	.0039" (.099 mm)
Valve Seats	
Intake Valve	
Seat Angle .....	45°
Seat Width .....	.039-.055" (.99-1.40 mm)
Exhaust Valve	
Seat Angle .....	45°
Seat Width .....	.039-.055" (.99-1.40 mm)
Valve Guides	
Intake Valve	
Valve Guide Cylinder Head Bore I.D.	
Standard Valve	
Guide .....	.4331-.4341" (11.000-11.027 mm)
Oversize Valve	
Guide .....	.4350-.4361" (11.050-11.077 mm)
Valve Guide I.D. ....	.2366-.2374" (6.010-6.030 mm)
Valve Stem-To-Guide Oil Clearance	
Standard .....	.0010-.0024" (.025-.060 mm)
Wear Limit .....	.0031" (.080 mm)
Exhaust Valve	
Valve Guide Cylinder Head Bore I.D.	
Standard Valve	
Guide .....	.4331-.4341" (11.000-11.027 mm)
Oversize Valve	
Guide .....	.4350-.4361" (11.050-11.077 mm)
Valve Guide I.D. ....	.2366-.2374" (6.010-6.030 mm)
Valve Stem-To-Guide Oil Clearance	
Standard .....	.0012-.0026" (.030-.065 mm)
Wear Limit .....	.0039" (.100 mm)

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### CAMSHAFT SPECIFICATIONS

#### CAMSHAFT TABLE

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Application	In. (mm)
End Play	
Standard .....	.0016-.0035 (.040-.090)
Wear Limit .....	.0047 (.120)
Journal Diameter	
Exhaust Camshaft	
Thrust Journal (1) .....	.9433-.9439 (23.959-23.975)
All Others .....	1.0612-1.0618 (26.954-26.970)
Journal Runout .....	.0031 (.079)
Lobe Height	

**4.0L V8Selected Blo**

Intake	
Standard	1.6421-1.6461 (41.710-41.810)
Wear Limit	1.6362 (41.560)
Exhaust	
Standard	1.6500-1.6539 (41.910-42.010)
Wear Limit	1.6441 (41.760)
Oil Clearance	
Standard	
Exhaust Camshaft	
Thrust Bearing	.0010-.0024 (.025-.061)
All Other Bearings	.0012-.0026 (.030-.066)
Wear Limit	.0039 (.099)
Gear Backlash	
Standard	.0008-.0079 (.020-.200)
Wear Limit	.0118 (.300)

(1) - Exhaust camshaft thrust journal is the small camshaft journal.

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**VALVE LIFTERS SPECIFICATIONS**

**VALVE LIFTERS TABLE**

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Application	In. (mm)
Bore Diameter	1.2205-1.2211 (31.000-31.016)
Lifter Diameter	1.2191-1.2195 (30.966-30.975)
Oil Clearance	
Standard	.0009-.0020 (.023-.051)
Wear Limit	.0028 (.071)

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**END OF ARTICLE**