

**4.0L V8
Selected Block**

1992 Lexus SC 400

For Lextreme Powertrain 2020 S. Hacienda Blvd. # D Hacienda Heights California 91745

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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.

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) |

CYLINDER HEAD SPECIFICATIONS

CYLINDER HEAD TABLE

| Application | Specification |
|-------------|-----------------------------|
| | 4.0L V8 Selected Blo |

| | |
|-------------------------------------|---------------------------------|
| 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) |

CAMSHAFT SPECIFICATIONS

CAMSHAFT TABLE

| | |
|--------------------------|-------------------------------|
| ----- | |
| 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 | |

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| | |
|--------------------------|-------------------------------|
| 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.

VALVE LIFTERS SPECIFICATIONS

VALVE LIFTERS TABLE

| 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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