| California Environmental Protection Agency AIR RESOURCES BOARD | S & S CYCLE, INC. | EXECUTIVE ORDER M-044-0017 New On-Road Motorcycle Engines |
|---|---|---|

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-02-003;

**IT IS ORDERED AND RESOLVED:** That the engine and emission control systems produced by the manufacturer are certified for use as a replacement engine in two-wheeled motorcycles as described below. Production engines shall be in all material respects identical to those for which certification is granted.

| MODEL YEAR | ENGINE FAMILY | EVAPORATIVE FAMILY | ENGINE DISPLACEMENTS (cc) | CLASS |
|---|---|---|---|---|
| 2007 | 7SSXC0096155 | 7SSXE0066161 | 1564, 1522, 1458, 1438, 1340, 1290 | III |

| SPECIAL FEATURES & EMISSION CONTROL SYSTEMS | ENGINE MODEL | * = not applicable |
|---|---|---|
| EM | 1564 cc: V96E<br>1522 cc: V93E<br>1458 cc: V89E<br>1438 cc: V88E<br>1340 cc: V80E<br>1290 cc: V79E | |

ABBREVIATIONS: EM=engine modification TWC=three-way catalyst OC=oxidizing catalyst WUTWC/WUOC=warm-up TWC/OC O2S=oxygen sensor HO2S=heated O2S EGR=exhaust gas recirculation AIR=secondary air injection PAIR=pulsed AIR MFI=multi port fuel injection SFI=sequential MFI TBI=throttle body fuel injection DFI=direct fuel injection TC/SC=turbo/super charger CAC=charge air cooler 2 (prefix)=parallel (2) (suffix)=in series

**The above-listed engine is certified to replace the existing engines of Harley-Davidson models that use the engines and evaporative systems listed on the supplemental data sheet for this executive order.**

The following are the exhaust hydrocarbons (HC) and carbon monoxide (CO) standards, or designated HC standard as applicable, and certification levels in grams per kilometer (g/km), and evaporative standard and certification level in grams per test (g/test) for this engine/evaporative family. The designated HC standard, as applicable, shall be listed on the permanent tune-up label.

| HC (g/km) | | | | CO (g/km) | | EVAPORATIVE (g/test) | |
|---|---|---|---|---|---|---|---|
| CORPORATE AVERAGE STANDARD | DESIGNATED STANDARD | (DIRECT) STANDARD | CERTIFICATION LEVEL | STANDARD | CERTIFICATION LEVEL | STANDARD | CERTIFICATION LEVEL |
| * | * | 1.4 | 0.6 | 12 | 6 | 2.0 | 1.0 |

**BE IT FURTHER RESOLVED:** That certification to the designated HC standard listed above, as applicable, is subject to the following terms, limitations and conditions:

The designated HC standard shall be the exhaust emission limit for this engine family and cannot be changed during the model year. It serves as the HC exhaust standard applicable to this engine family for determining compliance with Title 13, California Code of Regulations, Sections 1958(b) and 2101.

**BE IT FURTHER RESOLVED:** That the Executive Officer has been provided all materials required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Code of Regulations, Sections 2035 et seq.).

**BE IT FURTHER RESOLVED:** That this executive order does not provide an opinion as to the effect that the use of the aforementioned engine family as a replacement engine may have on the original vehicle manufacturer's warranty, either expressed or implied, for the vehicle applications listed on the supplemental data sheet of this executive order.

**BE IT FURTHER RESOLVED:** That compliance with "California Evaporative Emission Standards and Test Procedures for 2001 And Subsequent Model Motor Vehicles" has been demonstrated for the use of the aforementioned engine family as a replacement engine in the listed vehicle applications.

**BE IT FURTHER RESOLVED:** That the vehicles listed on the supplemental data sheet of this Executive Order and equipped with engines in this engine family are exempted from compliance with the Air Resources Board's "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" pursuant to Executive Order G-70-16-E.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

**This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.**

Executed at El Monte, California on this 26 day of February 2007.

Annette Hebert, Chief
Mobile Source Operations Division

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# Model Designation / Engine Replacement List

M-044-0017

| MY 1984 | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLT | FHL | FLHB | FLHC | FLHP | FLHT | FLHTC | FLHTP | FLTC | FLHS | FXB | FXE | FXEF | FXR | FXRP | FXRS | FXRT | FXS | FXST | FXSB | FXWG |
| Displacement | 1338.6 | | | | | | | | | | | | | | | | | | | | |
| Eng Family | EV1340 | | | | | | | | | | | | | | | | | | | | |
| Eng Code | 80-EV-1 | | | | | | | | | | 80-EV-2 | | | | | | | | | | |
| Emis Cont | EM | | | | | | | | | | | | | | | | | | | | |
| EIM | 490 | 350 | | | | | | | 340 | 330 | 290 | | | | | | | | | | |
| RLP | 169.4 | 145.6 | | | | | | | 143.6 | 141.8 | 133.4 | | | | | | | | | | |

| MY 1985 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLT | FLTC | FXE | FXEF | FXR | FXRDG | FXRP | FXRS | FXRT | FXS | FXST | FXSB | FXWG |
| Displacement | 1338.6 | | | | | | | | | | | | |
| Eng Family | EV1340 | | | | | | | | | | | | |
| Eng Code | 80-EV-1 | | 80-EV-2 | | | | | | | | | | |
| Emis Cont | EM | | | | | | | | | | | | |
| EIM | 490 | 340 | 290 | | | | | | | | | | |
| RLP | 169.4 | 143.6 | 133.4 | | | | | | | | | | |

| MY 1986 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLT | FLHT | FLHTP | FLHTC | FLTC | FXE | FXEF | FXR | FXRDG | FXRP | FXRS | FXRT | FXS | FXST | FXSB | FXWG |
| Displacement | 1338.6 | | | | | | | | | | | | | | | |
| Eng Family | EV1340 | | | | | | | | | | | | | | | |
| Eng Code | 80-EV-5 | | | | | 80-EV-6 | | | | | | | | | | |
| Emis Cont | EM | | | | | | | | | | | | | | | |
| EIM | 490 | 350 | | | 340 | 290 | | | | | | | | | | |
| RLP | 169.4 | 145.6 | | | 143.6 | 133.4 | | | | | | | | | | |

| MY 1987 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLTC | FXRP | FXRS | FLHTP | FLHTC | FLST | FXR | FXRT | FLHT | FXST | FXSTC | FXLR | FXRC |
| Displacement | 1338.6 | | | | | | | | | | | | |
| Eng Family | EV1340 | | | | | | | | | | | | |
| Eng Code | 80-EV-7 | 80-EV-8 | | 80-EV-7 | | 80-EV-8 | | | 80-EV-7 | 80-EV-8 | | | |
| Emis Cont | EM | | | | | | | | | | | | |
| EIM | 490 | | | | | 440 | | | | | | | |
| RLP | 169.4 | | | | | 163.7 | | | | | | | |

| MY 1988 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLTC | FLHS | FXRP | FLHTP | FLHTC | FXRS | FXRT | FLST | FXST | FXSTC | FXLR | FXR | FXSTS |
| Displacement | 1339 | | | | | | | | | | | | |
| Eng Family | EV1340 | | | | | | | | | | | | |
| Eng Code | 80-EV-9 | | | | | | | | | | | | |
| Emis Cont | EM | | | | | | | | | | | | |
| EIM | 490 | | | | | 440 | | | | | | | |
| RLP | 169.4 | | | | | 163.7 | | | | | | | |

| MY 1989 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLTC | FXRP | FLHTP | FLHTC | FLHS | FLHTC U | FLTC U | FLST | FXST | FXSTC | FXLR | FXR | FXSTS | FXSTL | FXRS | FXRT |
| Displacement | 1338 | | | | | | | | | | | | | | | |
| Eng Family | EV1340 | | | | | | | | | | | | | | | |
| Eng Code | 80-EV-9 | | | | | | | | | | | | | | | |
| Emis Cont | EM | | | | | | | | | | | | | | | |
| EIM | 490 | | | | | | | 440 | | | | | | | | |
| RLP | 169.4 | | | | | | | 163.7 | | | | | | | | |

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# Model Designation / Engine Replacement List

M-044-0017

| MY 1990 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLHS | FLHTC | FLHTC U | FLHTP | FLTC | FLTC U | FXRP | FLST | FLSTC | FLSTF | FXDS | FXR | FXRS | FXRS C | FXRS S | FXRT | FXST | FXSTC | FXSTS |
| Displacement | 1338 | | | | | | | | | | | | | | | | | | |
| Eng Family | EV1340 | | | | | | | | | | | | | | | | | | |
| Eng Code | 80-EV-11 | | | | | | 80-EV-13 | | | | | | | | | | | | |
| Emis Cont | EM | | | | | | | | | | | | | | | | | | |
| EIM | 490 | | | | | | 440 | | | | | | | | | | | | |
| RLP | 169.4 | | | | | | 163.7 | | | | | | | | | | | | |

| MY 1991 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLHS | FLHTC | FLHTC U | FLHTP | FLTC | FLTC U | FLSTC | FLSTF | FXDS | FXR | FXRP | FXRS | FXRS C | FXRS S | FXRT | FXSTC | FXSTS | FXLR | FXDB |
| Displacement | 1338 | | | | | | | | | | | | | | | | | | |
| Eng Family | EV1340 | | | | | | | | | | | | | | | | | | |
| Eng Code | 80-EV-11 | | | | | | 80-EV-13 | | | | | | | | | | | | |
| Emis Cont | EM | | | | | | | | | | | | | | | | | | |
| EIM | 490 | | | | | | 440 | | | | | | | | | | | | |
| RLP | 169.4 | | | | | | 163.7 | | | | | | | | | | | | |

| MY 1992 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLHS | FLHTC | FLHTC U | FLHTP | FLTC U | FLSTC | FLSTF | FXDB-D | FXR | FXRP | FXRS | FXRS C | FXRS S | FXRT | FXSTC | FXSTS | FXLR | FXDC |
| Displacement | 1338 | | | | | | | | | | | | | | | | | |
| Eng Family | EV1340 | | | | | | | | | | | | | | | | | |
| Eng Code | 80-EV-15 | | | | | 80-EV-17 | | | | | | | | | | | | |
| Emis Cont | EM | | | | | | | | | | | | | | | | | |
| EIM | 490 | | | | | 440 | | | | | | | | | | | | |
| RLP | 169.4 | | | | | 163.7 | | | | | | | | | | | | |

| MY 1993 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLTC U | FLHTC U | FLHTC | FLHTP | FLHS | FLSTC | FLSTF | FLSTN | FXDWG | FXR | FXRP | FXRS C | FXRS S | FXRT | FXSTC | FXSTS | FXLR | FXDL |
| Displacement | 1338 | | | | | | | | | | | | | | | | | |
| Eng Family | EV1340 | | | | | | | | | | | | | | | | | |
| Eng Code | 80-EV-15 | | | | | 80-EV-17 | | | | | | | | | | | | |
| Emis Cont | EM | | | | | | | | | | | | | | | | | |
| EIM | 490 | | | | | 440 | | | | | | | | | | | | |
| RLP | 169.4 | | | | | 163.7 | | | | | | | | | | | | |

| MY 1994 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLTC U | FLHTC U | FLHTC | FLHTP | FLSTF | FLHR | FLHS | FLSTN | FXDWG | FXR | FXRP | FXSTC | FXSTS | FXLR | FXDL | FXDS C | FLSTC |
| Displacement | 1338 | | | | | | | | | | | | | | | | |
| Eng Family | RHD1.3P1GARA | | | | | | | | | | | | | | | | |
| Eng Code | 80-EV-19 | | | | | | 80-EV-21 | | | | | | | | | | |
| Emis Cont | EM | | | | | | | | | | | | | | | | |
| EIM | 490 | | | | | | 440 | | | | | | | | | | |
| RLP | 169.4 | | | | | | 163.7 | | | | | | | | | | |

| MY 1995 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLTC U | FLHTC U | FLHTC | FLHTP | FLHT | FLHR | FLSTC | FLSTF | FLSTN | FXDWG | FXSTC | FXSTS | FXD | FXDS C | FXSTB | FXDS | FLHTC UI |
| Displacement | 1338 | | | | | | | | | | | | | | | | |
| Eng Family | SHD1.3P1GOAA | | | | | | | | | | | | | | | | SHD1.3P8GARA |
| Eng Code | 80-EV-23 | | | 80-EV-19 | 80-EV-23 | | 80-EV-25 | | | | | | | | | | 80-FI-1 |
| Emis Cont | Oxidation Catalytic Converter | | | | | | | | | | | | | | | | Sequential Multiport Fuel Injectio |
| EIM | 560 | | | | | | 440 | | | | | | | | | | 560 |

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# Model Designation / Engine Replacement List

| | | | | |
|---|---|---|---|---|
| RLP | 177.3 | 163.7 | 177.3 | |

| MY 1996 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLHTC U | FLHTC | FLHR | FLHT | FLSTC | FLSTF | FXDL | FLSTN | FXDWG | FXSTC | FXSTS | FXD | FXDS C | FXSTSB | FLHTC U | FLHTC I | FLHR I |
| Displacement | 1338 | | | | | | | | | | | | | | | | |
| Eng Family | THD1.3P1GOAA | | | | | | | | | | | | | | THD1.3P8GARA | | |
| Eng Code | 80-EV-27 | | | | | | 80-EV-29 | | | | | | | | 80-FI-2 | | |
| Emis Cont | Oxidation Catalytic Converter | | | | | | | | | | | | | | Sequential Multiport Fuel Injectio | | |
| EIM | 560 | | | | | | 440 | | | | | | | | 560 | | |
| RLP | 177.3 | | | | | | 163.7 | | | | | | | | 177.3 | | |

| MY 1997 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLHTCU | FLHTC | FLHR | FLHT | FLSTC | FLSTF | FLSTS | FXDL | FXDWG | FXSTC | FXSTS | FXD | FXDS C | FXSTSB | FLHTC U | FLHTC I | FLHR I |
| Displacement | 1338 | | | | | | | | | | | | | | | | |
| Eng Family | VHD1.3P1GAAA | | | | | | | | | | | | | | VHD1.3P8GARA | | |
| Eng Code | 80-EV-27 | | | | | | 80-EV-29 | | | | | | | | 80-FI-3 | | |
| Emis Cont | Oxidation Catalytic Converter | | | | | | | | | | | | | | Sequential Multiport Fuel Injectio | | |
| EIM | 560 | | | | | | 440 | | | | | | | | 560 | | |
| RLP | 177.3 | | | | | | 163.7 | | | | | | | | 177.3 | | |

| MY 1998 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLHTCU | FLHTC | FLHR | FLHT | FLTR | FLSTC | FLSTF | FLSTS | FXDL | FXDWG | FXSTC | FXSTS | FXD | FXDS C | FXSTSB | FLHTC U | FLHTC I | FLHR I | FLTRI | FLHRC I | FLHP I | FLHTP I | FLTCRI |
| Displacement | 1338 | | | | | | | | | | | | | | | | | | | | | | |
| Eng Family | WHDXC01.3CCA | | | | | | | | | | | | | | | WHDXC01.3AEA | | | | | | | |
| Eng Code | 80-EV-27 | | | | | | 80-EV-29 | | | | | | | | | 80-FI-3 | | | | | | | |
| Emis Cont | Oxidation Catalyst | | | | | | | | | | | | | | | Sequential Multiport Fuel Injection | | | | | | | |
| EIM | 560 | | | | | | 440 | | | | | | | | | 560 | | | | | | | |
| RLP | 177.3 | | | | | | 163.7 | | | | | | | | | 177.3 | | | | | | | |

| MY 1999 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | FLSTC | FLSTF | FLSTS | FXST | FXSTC | FXSTS | FXSTB | FLHTC U | FLHTC I | FLHR I | FLTRI | FLHRC I | FLHP I | FLHTP I | FLTCRI |
| Displacement | 1338 | | | | | | | | | | | | | |
| Eng Family | XHDXC01.3CCA | | | | | | | XHDXC01.3AEA | | | | | | |
| Eng Code | 80-EV-29 | | | | | | | 80-FI-3 | | | | | | |
| Emis Cont | Oxidation Catalyst | | | | | | | Sequential Multiport Fuel Injection | | | | | | |
| EIM | 440 | | | | | | | 560 | | | | | | |
| RLP | 163.7 | | | | | | | 177.3 | | | | | | |