| California Environmental Protection Agency AIR RESOURCES BOARD | YAMAHA MOTOR CO., LTD. | Executive Order: U-M-004-0239<br>New Off-Highway Recreational Vehicles/Engines<br>Page 1 of 2 |
|---|---|---|

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 1 and 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: The engine and exhaust emission control systems produced by the manufacturer are certified as described below for off-highway recreational vehicles. Production vehicles shall be in all material respects the same as those for which certification is granted. The manufacturer shall ensure that character "C" or "3" is not used in the eighth (8th) position of the vehicle identification number (VIN) of all vehicles in the engine family listed below. Violation of this VIN provision may result in incorrect registration of the vehicles.

| Model Year | Engine Family | Vehicle Category | Fuel Type(s) | Strokes per cycle |
|---|---|---|---|---|
| 2013 | DYMXX.449BDB | OFMC | GAS | 4 |

| Special Features & Emission Control Systems (ECS) | Engine(cc) |
|---|---|
| SFI | 449 |

Following are the exhaust emission standards, or designated standard as applicable, and certification levels for this engine family. The designated standard, as applicable, shall be shown on the permanent emission control label. Vehicles within this engine family shall not discharge any crankcase emissions into the ambient atmosphere in conformance with Title 13, California Code of Regulations, Section (13 CCR) 2412(i).

| Exhaust Emissions (G/KM) | | | |
|---|---|---|---|
| Pollutant | CERT | STD | DES_STD |
| HC | 0.18 | 1.2 | * |
| HC+NOx | 0.39 | * | * |
| CO | 2.5 | 15.0 | |

BE IT FURTHER RESOLVED: Certification to the designated standard listed above, as applicable, is subject to the following terms, limitations and conditions. The designated standard shall be the exhaust limit for this engine family for the model year and cannot be changed by the manufacturer. It serves as the exhaust standard applicable to this engine family for determining engine family compliance, and compliance with the corporate average standard in accordance with 13 CCR 2412(b), 13 CCR 2412(d), and 13 CCR 2414.

BE IT FURTHER RESOLVED: The listed vehicles shall comply with 13 CCR 1965 and 13 CCR 2413 (emission control labels). The vehicles shall also be subject to 13 CCR 2414 (enforcement and recall provisions).

BE IT FURTHER RESOLVED: For the off-highway recreational vehicles listed above, the manufacturer has submitted materials to demonstrate certification compliance with the evaporative emission requirements in 13 CCR 2412 (b)(2), as applicable.

Vehicles 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. Vehicles in this family that are produced for any other model-year are not covered by this Executive Order.**

**See Attachment A for vehicle descriptions.**

Executed at El Monte, California on this 19th day of July 2012.

J. Lourenco

Annette Hebert, Chief
Mobile Source Operations Division

# ATTACHMENT A

| Make | Model | Vehicle Category | Engine (cc) | Rated Power (kW) | EIM (kg) | TRANS | Emission Controls |
|---|---|---|---|---|---|---|---|
| YAMAHA | WR450FD | OFMC | 449 | 17.5 | 210 | M5 | SFI |

**ABBREVATIONS:**

GENERAL: 13 CCR 1958, etc.=Title 13, California Code of Regulations, Section 1958, etc.; 40 CFR86.401-90, etc.=Title 40, Code of Federal Regulations, Section 86.401-90, etc.;

HIGHWAY MOTORCYCLE & OFF-HIGHWAY RECREATIONAL VEHICLE CATEGORIES: ATV or ATVA=all terrain vehicle conforming to the California definition in 13 CCR 2411(a); ATVB=Off-highway or non-road recreational vehicles that meet USEPA definition for an all-terrain vehicle or USEPA definition for an off-road utility vehicle and, in addition, meet one or more CARB definitions for an all terrain vehicle, off-road utility vehicle, off-road sport vehicle, and/or sand car; EGC=electric golf cart; HMC=on-road or highway motorcycle; HMC-IA / -IB=HMC below 50 cc / 50 cc to below 170 cc; HMC II=HMC 170 cc to below 280 cc; HMC-III=HMC 280 cc and above; OFMC=off-road motorcycle; SC=sand car above 1000 cc; OFRSV=off-road sport vehicle, including otherwise sand car but with 1000 cc engine or smaller; OFRUV=off-road utility vehicle;

FUEL TYPES: CLNG=natural gas in either CNG or LNG form; CNG / LNG=compressed / liquefied natural gas; DF_CNG/GAS=dual-fuel CNG or gasoline, etc; DSL=diesel; GAS=gasoline; LPG=propane or liquefied petroleum gas;

EMISSION CONTROL SYSTEMS & SPECIAL FEATURES: AFS / HAFS=air fuel ratio sensor / heated AFS; (prefix) 2, 3, 4=2, 3, or 4 catalysts, sensors, TC, SC, CAC, etc. in parallel arrangement; (parenthetic suffix) (2), (3), (4)=2, 3, or 4 catalysts, sensors, TC, SC, CAC, etc. in series arrangement; AIR / PAIR=secondary / pulsed air injection; CAC=charge air cooler; DDI / IDI=direct / indirect diesel injection; EGR=exhaust gas recirculation; EM=engine modification; O2S / HO2S=oxygen sensor / heated O2S; OC=oxidation catalyst; TC=turbocharger; TBI / MFI / SFI / DGI=throttle body / multi port / sequential / direct gasoline fuel injection; TRANS=transmission type; TWC=three way catalyst; SC=supercharger; TWC+OC=TWC plus OC in same container; (prefix) WU=warm-up catalyst;

CERTIFICATION EMISSION LEVELS & STANDARDS: bhp=brake hp; cc=cubic centimeter; CERT=certification emission level; CID=cubic inch displacement; CO=carbon monoxide; CO2=carbon dioxide; D+HS=diurnal plus hot soak evaporative emissions; DES_STD=manufacturer designated standard; EIM=equivalent inertia mass; EVAP=evaporative family; FEL=family emission limit; g=gram; gal=gallon; g/bhp-hr=grams per brake horsepower-hour; g/km=grams per kilometer; g/kW-hr=grams per kilowatt-hour; g/m2-day=grams per square meter per day; g/test=grams per test; HC=(total) hydrocarbons; hp=horsepower; hr=hour; K=1000 miles; kg=kilograms; km=kilometer; kW=kilowatt; L=liter; m2=square meter; mi=mile; mg=milligram; NOX=oxides of nitrogen; NMHC=non methane hydrocarbons; PEVAP=permeation evaporative family; STD=emission standard; *=not applicable; (superscript) o=degree (temperature); oF=degree Fahrenheit; oC=degree Celsius.