State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER C-U-07-017A

Small Off-Road Engine Evaporative Emission System Components

Fluid Routing Solutions
Model Fluoroperm
Fuel Hose

WHEREAS, pursuant to California Health and Safety Code, sections 39600, 39601, and 43013, the California Air Resources Board (ARB) has established a certification process for evaporative emission system components designed to control gasoline emissions from small off-road engines (SORE), as described in California Code of Regulations, title 13, section 2767.1;

WHEREAS, pursuant to California Health and Safety Code, section 43013, ARB has established criteria and test procedures for determining the compliance of evaporative emission system components with the design requirements in Cal. Code Regs., title 13, section 2754;

WHEREAS, pursuant to Cal. Code Regs., title 13, section 2767.1, ARB Executive Officer may issue an executive order (EO) if he or she determines that the SORE evaporative emission system components conform to the applicable performance requirements set forth in Cal. Code Regs., title 13, section 2754; and

WHEREAS, pursuant to California Health and Safety Code, sections 39515 and 39516, ARB Executive Officer issued EO G-05-008 delegating to the Chief of ARB Monitoring and Laboratory Division (MLD) the authority to certify SORE evaporative system components.

NOW, THEREFORE, I, Michael T. Benjamin, Chief of MLD, find that the Fluid Routing Solutions Fluoroperm fuel hose identified in Table 1 is certified for use in small off-road equipment fuel hose and conforms to the performance requirements set forth in Cal. Code Regs., title 13, section 2754, when tested at a constant temperature of 40 °C, pursuant to Society of Automotive Engineers Specification J1527 and GM9665P, using an approved test fuel of California Phase II Certification Fuel.

IT IS ORDERED AND RESOLVED that the following SORE fuel hose identified in Table 1 is certified for use in small off-road equipment and will emit evaporative emissions up to the reported permeation rate.

Table 1

Models and Specifications for Fluid Routing Solutions Fluoroperm Fuel Hoses		
Fuel Hose Models and Sizes		
Model Numbers for Current Reinforced SAE J30R9 Constructions	Nominal Internal Diameter (Inches)	
54-7250	0.250 ± 0.016	
54-8250	0.250 ± 0.016	
54-7300	0.300 ± 0.016	
54-7312	0.312 ± 0.016	
54-7375	0.375 ± 0.016	
54-7500	0.500 ± 0.023	
Nominal Inside Diameters* (Inches)	Minimum Fluoroelastomer (FKM) Barrier Thickness (Inches)	Certified Permeation Rate (grams/meter^2/day)
0.25 ± 0.016 or greater	0.020 ± 0.005	10

IT IS FURTHER ORDERED that Fluid Routing Solutions shall provide a warranty to equipment manufacturers purchasing the Fluid Routing Solutions Fluoroperm fuel hose. The warranty must conform to the requirements of Cal. Code Regs., title 13, section 2760.

IT IS FURTHER ORDERED that the certified Fluid Routing Solutions Fluoroperm fuel hose shall be installed in accordance with manufacturer installation and use instructions for Fluid Routing Solutions Fluoroperm fuel hose. A copy of this EO and fuel hose installation and use instructions shall be provided to manufacturers purchasing Fluid Routing Solutions Fluoroperm fuel hose for installation on small off-road engines and equipment introduced into commerce in California.

IT IS FURTHER ORDERED that the Fluid Routing Solutions Fluoroperm fuel hose introduced into commerce in California shall be clearly identified by a permanent identification showing the manufacturer's name, model number, and EO number. **

IT IS FURTHER ORDERED that any alteration to the Fluid Routing Solutions Fluoroperm fuel hose certified hereby is prohibited. Any alteration or modification of the design approved by this EO will require the manufacturer to apply for a new EO.

IT IS FURTHER ORDERED that the Fluid Routing Solutions Fluoroperm fuel hose shall be compatible with fuels in common use in California at the time of certification and any modifications to comply with future California fuel requirements shall be approved in writing by the Executive Officer or Executive Officer's delegate.

IT IS FURTHER ORDERED that the component certification of the Fluid Routing Solutions Fluoroperm fuel hose can be referenced in certification applications for small off-road engines and equipment that use SORE unless the Executive Officer finds that the Fluid Routing Solutions Fluoroperm fuel hose no longer meets the performance requirements set forth in Cal. Code Regs., title 13, section 2754 when tested pursuant to Cal. Code Regs., title 13, section 2765.

Executed at Sacramento, California, this 19th day of April 2016.

Dr. Michael T. Benjamin, Chief
Monitoring and Laboratory Division

* At the manufacturer's request, EO C-U-07-017A was issued to amend C-U-07-017 to include the larger internal diameter Fluoroperm fuel hoses. The larger hoses that are manufactured using the same materials and processes were intended to be covered in the original EO. No new permeation test data was needed to amend the EO because the 0.25" fuel hose size is still the family representative and the original permeation data is still valid.

**Previously named Mark IV Automotive before being purchased by Fluid Routing Solutions, this manufacturer was assigned the code AIS by the Rubber Manufacturing Association. Used in conjunction with this code, the manufacturing company is also required to include a distinct orange yarn inside all hoses produced at the Lexington, Tennessee facility. Fluid Routing Solutions has been granted permission to use alternate labeling for Fluoroperm fuel hoses. The alternate labeling must include the CARB EO number and the United States Environmental Protection Agency (U.S. EPA) approved evaporative component labeling. The format will include "FRG" for Fluid Routing Group as the manufacturer name, "FLU" for the fuel hose model name that designates the fluoroelastomer barrier, and C-U-07-017A. Interim fuel hose models may be labeled with AIS and C-U-07-017A.