

**State of California
AIR RESOURCES BOARD**

EXECUTIVE ORDER Q-19-109

Small Off-Road Engine Evaporative Emission Control System Components

**Centro Incorporated
RotoLoPerm® Fuel Tanks**

WHEREAS, pursuant to California Health and Safety Code, sections 39600, 39601, and 43013, the California Air Resources Board (CARB) has established a certification process for evaporative emissions control 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, CARB has established criteria and test procedures for determining the compliance of evaporative emissions control system components with the design requirements in Cal. Code Regs., tit. 13, § 2754;

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

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

NOW, THEREFORE, I, Catherine Dunwoody, Chief of MLD, find that the Centro Incorporated RotoLoPerm® crosslinked polyethylene and ethylene vinyl alcohol (EVOH) multilayer fuel tank family representative, model 03108, conforms with the 1.5 grams/meter²/day permeation performance requirement set forth in Cal. Code Regs., tit. 13, § 2754, when tested at a constant temperature of 40 °C pursuant to test procedure TP-901 Amended September 18, 2017 and using an approved test fuel of CARB LEV III Certification Fuel as defined in part II, section A.100.3.1.2 of the *California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light Duty Trucks, and Medium-Duty Vehicles*, as last amended September 2, 2015.

IT IS ORDERED AND RESOLVED that the Centro Incorporated RotoLoPerm® fuel tank models listed in Table 1 with minimum EVOH barrier wall thicknesses of 0.5 millimeters are certified for use in SORE equipment with engine displacement sizes greater than 80 cc.

Table 1

| Specifications for Centro Incorporated RotoLoPerm® Fuel Tank Family | | | |
|---------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------|---------------------------|
| Minimum EVOH Barrier Wall Thickness (millimeters) | Volume/Internal Surface Area Ratio (liters/meter ²) | Test Emission Rate (grams/meter ² /day) | |
| 0.5 | 43.36 | 0.46 | |
| Fuel Tank Models and Specifications | | | |
| Model or Part Numbers | Internal Surface Area (meters ²) | Nominal Capacities (liters) | Total Capacities (liters) |
| 37327 | 0.536 | 22.71 | 25.01 |
| 40885 | 0.762 | 25.59 | 34.58 |
| 40886 | 0.812 | 25.43 | 33.46 |
| 46191 | 0.933 | 24.01 | 30.39 |
| 31483 | 0.728 | 19.30 | 26.08 |
| 31447 | 0.396 | 9.46 | 13.22 |
| 31733 | 0.668 | 25.28 | 31.60 |
| 41565 | 0.824 | 30.79 | 40.51 |
| 41566 | 0.758 | 23.99 | 31.56 |
| 37336 | 0.562 | 18.43 | 23.63 |
| 31528 | 0.573 | 18.53 | 23.45 |
| 33941 | 0.610 | 18.93 | 24.14 |
| 34549 | 0.730 | 22.92 | 29.38 |
| 36768 | 0.946 | 29.73 | 36.25 |
| 36766 | 0.932 | 26.02 | 35.17 |
| 37337 | 0.714 | 26.64 | 36.00 |
| 44761 | 0.567 | 17.59 | 23.45 |
| 36484 | 0.835 | 29.19 | 36.49 |
| 36485 | 0.859 | 26.18 | 34.45 |
| 36783 | 0.670 | 20.91 | 25.82 |
| 36785 | 0.662 | 18.49 | 24.32 |

Continued

Table 1 Continued

| Model or Part Numbers | Internal Surface Area (meters ²) | Nominal Capacities (liters) | Total Capacities (liters) |
|-----------------------|----------------------------------------------|-----------------------------|---------------------------|
| 36870 | 1.153 | 40.25 | 51.60 |
| 36772 | 0.874 | 26.11 | 33.05 |
| 36745 | 0.995 | 30.28 | 44.28 |
| 42204 | 0.543 | 21.78 | 26.24 |
| 37189 | 0.795 | 26.50 | 33.14 |
| 03108* | 0.393 | 13.25 | 17.04 |
| 39542 | 1.092 | 45.42 | 55.59 |
| 37980 | 0.720 | 19.29 | 24.12 |
| 38588 | 0.888 | 24.99 | 33.77 |
| 36831 | 0.629 | 21.89 | 28.43 |
| 36833 | 0.638 | 22.78 | 28.84 |
| 39286 | 0.684 | 21.17 | 25.82 |
| 39034 | 0.611 | 24.23 | 29.92 |
| 39036 | 1.000 | 32.58 | 40.23 |
| 50429 | 0.617 | 18.31 | 24.74 |
| 39000 | 0.726 | 21.39 | 27.43 |
| 38996 | 0.741 | 19.17 | 25.56 |
| 39281 | 0.819 | 23.23 | 28.33 |
| 39282 | 0.801 | 22.41 | 27.32 |
| 39748 | 0.787 | 27.58 | 33.23 |
| 39862 | 0.811 | 18.93 | 38.02 |
| 39836 | 0.870 | 33.98 | 43.02 |
| 40486 | 1.562 | 37.97 | 49.00 |
| 40384 | 1.023 | 33.78 | 41.20 |
| 40568 | 0.667 | 17.67 | 21.81 |
| 39407 | 1.028 | 27.86 | 34.83 |
| 40297 | 0.777 | 28.39 | 33.89 |
| 41400 | 0.754 | 25.14 | 30.28 |
| 41264 | 0.649 | 18.36 | 23.19 |
| 40252 | 0.757 | 22.12 | 29.50 |

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Table 1 Continued

| Model or Part Numbers | Internal Surface Area (meters ²) | Nominal Capacities (liters) | Total Capacities (liters) |
|-----------------------|----------------------------------------------|-----------------------------|---------------------------|
| 39893 | 0.965 | 33.54 | 40.90 |
| 35580 | 0.645 | 17.39 | 23.19 |
| 42103 | 0.765 | 20.86 | 27.81 |
| 41015 | 1.583 | 51.48 | 62.14 |
| 42537 | 0.839 | 27.18 | 33.15 |
| 42498 | 0.794 | 26.55 | 33.61 |
| 42707 | 0.584 | 20.86 | 28.19 |
| 42638 | 0.795 | 24.73 | 32.97 |
| 42639 | 0.754 | 25.51 | 33.13 |
| 42705 | 0.794 | 27.21 | 33.18 |
| 42703 | 0.842 | 25.88 | 34.97 |
| 46101 | 0.832 | 25.79 | 34.38 |
| 46102 | 0.832 | 25.44 | 34.38 |
| 43721 | 1.114 | 22.98 | 29.84 |
| 43528 | 0.693 | 26.44 | 31.86 |
| 42412 | 0.335 | 7.39 | 9.24 |
| 42294 | 0.509 | 8.85 | 11.81 |
| 43041 | 0.635 | 15.79 | 20.78 |
| 43067 | 0.663 | 18.79 | 22.91 |
| 43036 | 0.846 | 26.60 | 35.00 |
| 43037 | 0.862 | 28.43 | 37.90 |
| 43030 | 0.768 | 22.17 | 29.96 |
| 43031 | 0.798 | 26.63 | 32.48 |
| 43022 | 0.467 | 9.93 | 12.90 |
| 43024 | 0.467 | 10.72 | 13.75 |
| 43277 | 0.447 | 15.92 | 19.89 |
| 44728 | 1.628 | 80.41 | 96.87 |
| 43492 | 0.808 | 23.95 | 30.32 |
| 43493 | 0.792 | 26.41 | 31.82 |
| 45532 | 0.928 | 26.36 | 34.23 |

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Table 1 Continued

| Model or Part Numbers | Internal Surface Area (meters ²) | Nominal Capacities (liters) | Total Capacities (liters) |
|-----------------------|----------------------------------------------|-----------------------------|---------------------------|
| 45531 | 0.957 | 26.78 | 35.23 |
| 45766 | 0.552 | 18.27 | 24.04 |
| 45838 | 0.948 | 26.12 | 35.30 |
| 46098 | 0.684 | 25.73 | 31.38 |
| 46578 | 0.452 | 14.85 | 20.07 |
| 47182 | 1.075 | 27.08 | 32.63 |
| 47507 | 0.635 | 22.46 | 28.07 |
| 46892 | 1.161 | 39.08 | 52.82 |
| 46894 | 0.987 | 31.54 | 39.92 |
| 47562 | 0.592 | 24.72 | 30.15 |
| 47268 | 0.714 | 29.08 | 37.28 |
| 47569 | 0.748 | 20.80 | 27.01 |
| 47570 | 0.746 | 18.71 | 24.30 |
| 47699 | 1.257 | 46.13 | 56.26 |
| 47921 | 0.569 | 20.59 | 25.73 |
| 48240 | 0.698 | 25.43 | 33.02 |
| 48589 | 0.849 | 19.08 | 25.10 |
| 47922 | 0.444 | 13.46 | 17.04 |
| 48720 | 0.751 | 31.96 | 39.45 |
| 48264 | 0.645 | 22.50 | 27.77 |
| 48968 | 0.827 | 25.92 | 32.40 |
| 49127 | 0.686 | 19.07 | 24.45 |
| 49128 | 0.701 | 18.77 | 25.03 |
| 49423 | 0.883 | 25.63 | 34.18 |
| 49425 | 0.895 | 29.93 | 37.41 |
| 49682 | 0.723 | 22.42 | 27.34 |
| 49484 | 0.571 | 16.73 | 20.41 |
| 50087 | 0.792 | 32.88 | 43.27 |
| 50176 | 0.813 | 27.09 | 36.60 |
| 36951 | 0.580 | 22.49 | 27.10 |

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Table 1 Continued

| Model or Part Numbers | Internal Surface Area (meters ²) | Nominal Capacities (liters) | Total Capacities (liters) |
|-----------------------|----------------------------------------------|-----------------------------|---------------------------|
| 50445 | 0.709 | 31.61 | 38.08 |
| 50597 | 1.103 | 30.15 | 40.20 |
| 50598 | 1.118 | 29.58 | 39.43 |
| 48564 | 0.822 | 24.43 | 32.58 |
| 48207 | 0.803 | 22.83 | 29.27 |
| 48209 | 0.815 | 23.96 | 29.95 |
| 50149 | 0.664 | 30.28 | 36.93 |
| 51156 | 0.827 | 27.35 | 34.19 |
| 51740 | 0.970 | 25.63 | 32.44 |
| 51741 | 0.971 | 25.62 | 31.63 |
| 45672 | 0.640 | 21.35 | 26.03 |
| 52122 | 0.700 | 20.11 | 25.45 |
| 52123 | 0.724 | 19.85 | 26.11 |
| 52414 | 0.830 | 26.20 | 32.34 |
| 52471 | 0.944 | 26.26 | 35.49 |
| 52568 | 0.670 | 14.84 | 18.55 |
| 52726 | 0.670 | 14.08 | 18.53 |
| 52809 | 0.812 | 33.60 | 42.00 |
| 36606 | 0.304 | 9.44 | 11.65 |
| 39195 | 0.294 | 7.44 | 8.97 |
| 31727 | 0.650 | 22.74 | 28.79 |
| 34523 | 0.568 | 14.34 | 19.38 |
| 34497 | 0.755 | 35.49 | 45.50 |
| 34477 | 0.494 | 18.18 | 23.31 |
| 34713 | 0.724 | 25.61 | 33.26 |
| 38542 | 1.228 | 45.68 | 57.10 |
| 39197 | 0.563 | 14.45 | 19.52 |
| 37239 | 0.200 | 2.99 | 4.03 |
| 38160 | 0.445 | 17.26 | 22.12 |
| 38162 | 0.445 | 17.48 | 22.12 |

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Table 1 Continued

| Model or Part Numbers | Internal Surface Area (meters ²) | Nominal Capacities (liters) | Total Capacities (liters) |
|-----------------------|----------------------------------------------|-----------------------------|---------------------------|
| 38142 | 0.902 | 27.01 | 35.08 |
| 38141 | 0.888 | 28.03 | 33.77 |
| 37949 | 0.803 | 22.17 | 28.42 |
| 41978 | 1.247 | 52.63 | 64.97 |
| 42924 | 0.702 | 28.46 | 37.94 |
| 42182 | 0.905 | 40.77 | 54.37 |
| 51080 | 0.815 | 24.56 | 29.95 |
| 51079 | 0.803 | 24.00 | 29.27 |
| 51970 | 1.023 | 22.65 | 28.32 |
| 36643 | 0.533 | 18.89 | 23.32 |
| 35311 | 0.762 | 19.98 | 25.95 |

IT IS FURTHER ORDERED that Centro Incorporated RotoLoPerm® shall provide a warranty to equipment manufacturers purchasing any Centro Incorporated RotoLoPerm® fuel tank models listed in Table 1. The warranty must conform to the requirements of Cal. Code Regs., tit. 13, § 2760.

IT IS FURTHER ORDERED that the certified Centro Incorporated RotoLoPerm® fuel tank models listed in Table 1 shall be installed in accordance with manufacturer's installation and use instructions for Centro Incorporated RotoLoPerm® models listed in Table 1. A copy of this EO and fuel tank installation and use instructions shall be provided to original equipment manufacturers purchasing Centro Incorporated RotoLoPerm® fuel tank models listed in Table 1 for installation on small off-road engines and equipment introduced into commerce in California.

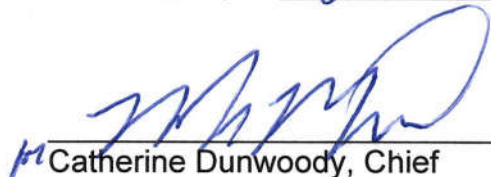
IT IS FURTHER ORDERED that the Centro Incorporated RotoLoPerm® fuel tank models listed in Table 1 and introduced into commerce in California shall be clearly identified by a permanent identification showing the manufacturer's name, model number, and EO number.

IT IS FURTHER ORDERED that any alteration to the Centro Incorporated RotoLoPerm® fuel tank models listed in Table 1 and certified hereby is prohibited. Any alteration or modification of the designs approved by this EO will require the manufacturer to apply for a new EO.

IT IS FURTHER ORDERED that the Centro Incorporated RotoLoPerm® fuel tank models listed in Table 1 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 Centro Incorporated RotoLoPerm® fuel tank models listed in Table 1 can be referenced in certification applications for small off-road engines and equipment that use small off-road engines through model year 2023 unless the Executive Officer finds that the Centro Incorporated RotoLoPerm® fuel tank models listed in Table 1 no longer meet the design requirements set forth in Cal. Code Regs., tit. 13, § 2754.

Executed at Sacramento, California, this 18th day of October 2019.



Catherine Dunwoody, Chief
Monitoring and Laboratory Division

** Manufacturer-designated representative for the RotoLoPerm® fuel tank family*