



Off-Road Equipment

SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT

2023



Off-Road Equipment Topics

- ▶ Project Types
- ▶ Maximum Funding & Eligible Costs
- ▶ What Do I Need to Apply?
- ▶ Inspections
- ▶ Construction/LSI Fleet/Off-Road Agriculture
- ▶ ***Updates and Requirements***

CARL Moyer Program

1. Proven 25+ year Program
2. Provides 80-85% Funding
3. Achieves Great Emission Reductions
4. Flexibility in Equipment Replacement Selection

Pros



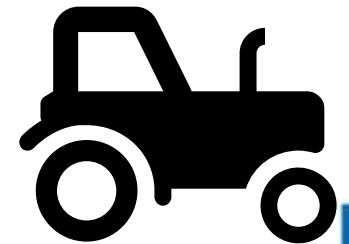
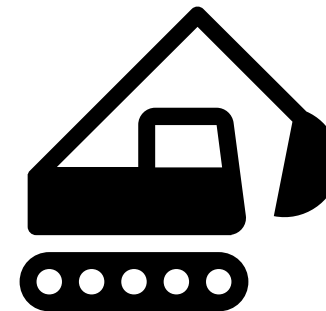
1. Reimbursement (not a voucher)
2. Lengthy Process
3. Must Scrap Existing Equipment
4. Reporting Requirements
5. Detailed Invoicing Process

Cons



General Eligibility

- ▶ Diesel-powered (Compression-ignition engines)
- ▶ Greater than or equal to 25 HP
- ▶ Self-propelled
- ▶ Existing uncontrolled, Tier 1, Tier 2, and Tier 3 engines are eligible for replacement/repower



Off-Road Project Types



Off-Road
Construction
Equipment



Large-Spark
Ignition (LSI)
Equipment



Agricultural
Farm
Equipment



Surplus Off-
Road Opt-In
NOx (SOON)



Eligible Project Types

| Project Type | Eligible Funding |
|--------------|---|
| Replacement | Replacing uncontrolled, Tier 1, 2, or 3 to Tier 4-Final* |
| Repower | Repowering uncontrolled, Tier 1 or 2 to Tier 3; or to Tier 4 Final, if available* |
| Retrofit | Retrofit of uncontrolled to Tier 3 engines |

*Per the November 2022 Amendments to the Off-Road Regulation

What Does Carl Moyer Program Pay For?

| Project Type | What Costs Are Covered | What Costs Are <u>NOT</u> Covered |
|--------------|---|---|
| Replacement | Up to 80% of the equipment cost* | <ul style="list-style-type: none"> Operating costs, including fuel Administrative costs, including reporting Maintenance costs (except retrofit filter cleaning if included in original quotes) Equipment warranty costs unless included in the new vehicle |
| Repower | Up to 85% of the repower costs (engine + related parts+ installation labor)* | |
| Retrofit | 100% of the retrofit costs (after treatment system + installation labor + maintenance during project life)* | |

*Applicant must show itemized costs in the form of a vendor quote



Application Requirements



Equipment Usage Records

*Past 24-months (such as maintenance records, usage logs, etc.)



Proof of Ownership

*Owned for prior 24-months (such as bill of sale, tax depreciation, etc.)



Vendor Quotes

*All quotes must be dated within 90 days prior to application submittal date



DOORS Printout

*Compliance Status Page (e.g., DOORS Fleet Compliance Snapshot)

Quote Sample

| MACHINE SPECIFICATIONS | |
|--|--------------|
| Description | Reference No |
| 415ZBL BHL ST(C3.4)TIER 4 HRC | 462-5265 |
| HYDRAULICS, MP, 3FCN/5BNK | 462-5274 |
| PRODUCT LINK, SATELLITE, PL631E | 447-0048 |
| CANOPY | 462-5275 |
| SEAT BELT, 3" SUSPENSION | 206-1748 |
| TIRES, 12.5 80/16.9-24, GYTI | 464-9639 |
| COUNTERWEIGHT, 530 LBS | 337-9695 |
| HITCH 3 POINT | 462-5281 |
| BUCKET-MP, 1.3 CYD | 337-7436 |
| CUTTING EDGE, TWO PIECE | 9R-5321 |
| INSTRUCTIONS ANSI | 462-7172 |
| SERIALIZED TECHNICAL MEDIA KIT | 421-8926 |
| RADIO READY HEADLINER, CANOPY | 398-2875 |
| KIT, DUAL TILT CYLINDER | 470-5247 |
| FAN, STANDARD CAB/ CANOPY | 454-6610 |
| SECURITY SYSTEM, KEYPAD | 387-6570 |
| BATTERY, HEAVY DUTY | 457-2797 |
| COUNTERWEIGHT, 198 LBS | 463-6939 |
| BOX, BLADE/SCARIFIER | 461-9717 |
| PACK, DOMESTIC TRUCK | 0P-0210 |
| SHIPPING/STORAGE PROTECTION | 461-6839 |
| RUST PREVENTATIVE APPLICATOR | 462-1033 |
| WORKLIGHTS (4) HALOGEN LAMPS | 491-6733 |
| LANE 3 ORDER | 0P-9003 |
| Engine Manufacturer: Caterpillar | |
| Engine Model: C3.4B | |
| Engine Net HP: 68 | |
| Engine Family Name: JFPXL03.4CDC | |
| Engine Tier Level: Tier 4 Final | |
| Engine Displ.: 3.4 liters | |
| Machine Sale Price \$ 99,000.00 | |
| Sales Tax, OC County (7.75%) \$ 7,672.50 | |
| Grand Total \$ 106,672.50 | |

WARRANTY
 Standard Warranty 12 Months/ Unlimited Hours Total Machine
 Extended Warranty 36 Months/ 5000 Hours Extended Powertrain & Hydraulic Warranty

F.O.B./TERMS
 Foothill Ranch- Quote based on Orange County Delivery

Accepted by _____ on _____

 Signature

Applicants MUST provide vendor quotes with their application to document cost of the replacement, repower and/or retrofit project

- All quotes must be obtained within 90 days prior to application submittal

Elements of a Complete Vendor Quote:

- Equipment/Engine Cost
- Sales Tax
- Warranty Info
- Engine Year, HP, & Tier
- Corresponding Engine Family and CARB Executive Order

| | |
|--|--|
| Engine Manufacturer: Caterpillar | |
| Engine Model: C3.4B | |
| Engine Net HP: 68 | |
| Engine Family Name: JFPXL03.4CDC | |
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DOORS Fleet Compliance Snapshot

California Environmental Protection Agency
AIR Resources Board

Calendars | A-Z Index

DOORS Home | Message Center | e-ROAR and Other Tools | Hi AQMD, Log Out

Owner Information | Vehicle & Engine | VDECS | **Compliance Snapshot**

Engine Repower | Low-Use | Vehicle Funding | Non Standard Engine | Non Diesel Engine | Long-Term Rental

DOORS ID: 00000 | Company Name: SCAQMD Example | Fleet Type: Off-Road Diesel

-- DOORS Disclaimer --

Fleet Compliance Snapshot

As of Today (April 10, 2019) Refresh Fleet Data

Your fleet, as currently reported, has met the off-road regulation performance requirements through the January 1, 2023 compliance date. Per regulation section 2449.1, you will need to take action prior to December 31, 2023 in order for your fleet to be in compliance on January 1, 2024.

*This determination is based on the make up of your CURRENT fleet in DOORS, which includes age and horsepower of engines, retrofits (if any), vehicles sold (credits, if any), exempt vehicles such as Low-Use (if any), subfleets (if any), and other credits (if any).

| Current Fleet Statistics | |
|---------------------------------------|-----------------|
| Fleet Size: | Small |
| Number of Vehicles: | |
| In Fleet Average: | 15 |
| Low-Use: | 0 |
| Exempt Not Low-Use: | 0 |
| Vehicles in Fleet: | 15 |
| Horsepower (in fleet average): | 1,800 |
| Total Fleet Horsepower: | 1,800 |
| First Compliance Date: | January 1, 2019 |
| Next Required Compliance Date: | January 1, 2024 |



Inspections

Pre-Inspection

- Inspector verifies the old equipment/engine is operational
- Verification of engine make, model, year, HP
- If information does not match or unavailable, must provide engine documentation from manufacturer
- To prepare for application process, we encourage you to check your engine tags beforehand!

Post-Inspection

- Inspector verifies the new equipment/engine information
- Verification of new engine make, model, year, HP, serial, Tier data, and family number

Destruction Inspection

- Inspector verifies old equipment/engine has been permanently destroyed
- Existing equipment/engine must be destroyed within 60 days of being replaced.
- Destruction method must meet the 2017 Carl Moyer Program Guidelines, Chapter 5 (page 5-10 & 5-14 to 5-15)

South Coast AQMD will not pay invoices until pre, post, and destruction inspections have been completed and reports reviewed!

Inspections (Cont'd)

- ▶ Example - Verification of Engine HP and Year:

Photo of Engine Label



Engine Year/HP Verification from Engine Manufacturer

ENGINE TEST [4TF44477] **AUGUST 18, 2017**
 (4TF44477)-ENGINE (22N01806)-MACHINE For Help Desk Phone Numbers [Click here](#)
 Sales Model: 3116 Tested Date: 17Apr1998 Shipped Date: 23Apr1998
 Built Date: 20Apr1998 Plant: Gosselies Cell Number: 11
 Tested: B

| Test Element | Eng Updates | Test Value | Test Spec Value | Measure |
|------------------------|-------------|------------|-----------------|--|
| Spec Number | | 2T9423 | 2T9423 | |
| Arrangement Number | | 1471753 | 1471753 | |
| Corr FI Power | | 130 | 133 | HP <input checked="" type="checkbox"/> |
| Speed | | 2,202 | 2,200 | RPM <input checked="" type="checkbox"/> |
| COR FL FUEL RATE | | 6.8 | 7.1 | GAL/HR <input checked="" type="checkbox"/> |
| CSFC | | 0.372 | 0.376 | LB/HP-HR <input checked="" type="checkbox"/> |
| Adj Boost | | 35.2 | 34.6 | IN HG |
| Fuel Pressure | | 60 | 58 | PSI <input checked="" type="checkbox"/> |
| Oil Pressure | | 64 | 59 | PSI <input checked="" type="checkbox"/> |
| TQ COR FUEL RATE | | 5.8 | 5.8 | GAL/HR |
| TQ CK CSFC | | 0.351 | 0.361 | LB/HP-HR |
| TQ CK ADJ BST | | 23.1 | 22.5 | IN HG |
| Torg CK Speed | | 1,501 | 1,500 | RPM |
| TQ CK COR TQ | | 409 | 408 | LB.FT |
| Low Idle Speed | | 825 | 825 | RPM |
| Low Idle Oil Pressure | | 32 | 31 | PSI |
| High Idle Speed | | 2,339 | 2,335 | RPM |
| FL Static Fuel Setting | | 0.346 | 0.346 | IN |
| FT Static Fuel Setting | | 0.346 | 0.346 | IN <input checked="" type="checkbox"/> |
| Timing Dim | | 2.574 | 2.565 | IN |
| Advertised Power | | | 121 | hp |
| Advertised Speed | | | 2,200 | RPM |

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Off-Road Project Types

Agricultural Farm Equipment



What is an Agricultural Operation?

- Agricultural operations include, but are not limited to, activities such as the raising and harvesting of crops from soil, the raising of fowl or animals, logging, and forestry operations
- Equipment used in over half of its annual operating hours for agricultural operations are not subject to the In-Use Off-Road Diesel-Fueled Fleet Regulation.
- The maximum project life for all off-road farm equipment replacement projects is 10 years

Farm Equipment May Include:

- Tractors, harvesters, and other field equipment
- Forklifts for loading/unloading produce in field or at first processing site
- Backhoes and other equipment used to maintain farm property
- Trucks used in the field to move produce, fertilizer, etc.

For further details, please consult ARB FAQ document:
<https://www.arb.ca.gov/msprog/ordiesel/guidance/ag-operations.pdf>

Off-Road Project Types

Large-Spark Ignition (LSI) Fleet

Eligible funding must have at least 3 years of emission reductions that are surplus to the LSI Fleet Regulation

| LSI Fleet Type | Eligibility for Moyer Funding |
|--|---|
| Large/Medium Forklift Fleets (4+ units) | Must meet final average emission level applicable on 1/1/2013 |
| Non-Forklift Fleets (4+ units): <ul style="list-style-type: none"> Sweeper/Scrubbers Ground Support Equipment (GSE) Industrial Tow Tractors | Must meet final average emission level applicable on 1/1/2013 |
| Agricultural Crop Preparation Forklift Fleets (Model Year 1990+) | <ul style="list-style-type: none"> Must replace, repower or retrofit 100% of their fleet by 1/1/2012 <u>OR</u> Meet 3.0 g/bhp hr fleet average |



Off-Road Project Types Construction



| Fleet Size | First Compliance Date (per Off-Road Regulation)* | Minimum Emission Reduction Surplus (years) | Final Compliance Date (per Off-Road Regulation) | CMP Funding Availability / Operation Deadline for CMP Project |
|---------------------------|--|--|---|---|
| Small (0 - 2,500 HP) | 1/1/2019 | 2 | 1/1/2028 | 12/31/2026 |
| Medium (2,501 – 5,000 HP) | 1/1/2017 | 3 | 1/1/2023 | Ineligible |
| Large (>5,000 HP) | 1/1/2014 | 3 | 1/1/2023 | |

Off-Road Project Types Construction (Cont'd)

Large and Medium Fleets

- Eligible for Moyer funding ONLY if they meet final compliance requirements of the Off-Road Regulation
- If not compliant with the final compliance requirements, may still be eligible for SOON

Other Requirements

- For replacement engines >125% HP:
- Funding amount based on the cost of new engine/ equipment with HP no greater than 125% of existing engine HP



News and Updates

1

Off-Road Regulation Amendments (Nov. 2022)

The Regulation was amended on November 17, 2022, which updated the:

1. Off-Road Engine Tier Phase-Out Requirement
2. Ban on Adding Engine Tiers
3. Funding Opportunities for Moyer



| Off-Road Engine Tier Phase-Out Requirement | | | | | | |
|--|--------------|--------|---------------|--------|--------------|--------|
| Compliance Deadline – Shall Not Operate Beginning... | Large Fleets | | Medium Fleets | | Small Fleets | |
| | Tier | EMY | Tier | EMY | Tier | EMY |
| 1/1/2024 | 0 | <=1994 | - | - | - | - |
| 1/1/2026 | 1 | <=1999 | 0 | <=1994 | - | - |
| 1/1/2028 | 2 | <=2003 | 1 | <=1999 | 0 | <=1994 |
| 1/1/2030 | - | - | 2 | <=2003 | 1 | <=1999 |
| 1/1/2032 | - | - | - | - | 2 | <=2003 |

News and Updates (Cont'd)

2

Compliance Deadline - The following fleet types shall not add these engine tiers to their fleet



| Ban on Adding Engine Tiers | | | |
|----------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Engine Tiers | Large Fleets | Medium Fleets | Small Fleets |
| Tier 0 | Effective as of CCR Authorization | Effective as of CCR Authorization | Effective as of CCR Authorization |
| Tier 1 | 1/1/2013 | 1/1/2013 | 1/1/2016 |
| Tier 2 | 1/1/2018 | 1/1/2018 | 1/1/2023 |
| Tier 3 | 1/1/2024 | 1/1/2024 | 1/1/2024 |
| Tier 4 Interim | 1/1/2024 | 1/1/2024 | 1/1/2028 |

News and Updates (Cont'd)

3

Potential funding for Tier 4 Final or ZE
 replacements/repowers will be available for the
 existing tiers until the following dates:



| Funding Opportunities for Moyer | | | |
|--|--|-------------------------------|----------------------------|
| | <u>Large Fleets</u> | <u>Medium Fleets</u> | <u>Small Fleets</u> |
| Compliance Deadline (Final) | Must Meet Final Compliance | Must Meet Final Compliance | January 1, 2026 |
| Tier 0 | Not allowed | Not allowed | 12/31/2025 |
| Tier 1 | Not allowed | 12/31/2024 | 12/31/2027 |
| Tier 2 | 12/31/2024 | 12/31/2026 | 12/31/2029 |
| Tier 3 & Tier 4 | May be replaced or repowered without restriction to Tier 4 Final or Zero Emission | | |

Cost Effectiveness Changes

| Cost Effectiveness Type | Existing | Updated (Current) |
|---------------------------|-----------|-------------------|
| Off-Road Diesel-to-Diesel | \$30,000 | \$34,000 |
| Off-Road to Zero Emission | \$109,000 | \$522,000 |



APPLICATION DEADLINE

TUESDAY May 9, 2023
at 11:59 PM

APPLY ONLINE:
South Coast AQMD
Grant Management System at
www.gms.aqmd.gov

Contact Information



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Please direct general questions to:
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