

Summary of California On-Road and Cargo Handling Smoke-Test Standards & Procedures

		On-Road Vehicles		Cargo Handling Equipment (CHE)
		HDVIP (Random Roadside)	PSIP (Periodic Self-test)	
Vehicles Subject to Regulation	All heavy-duty commercial vehicles operated in California, regardless of where registered	Fleets of 2+ CA-registered commercial vehicles > 14,000 lbs. 6,000-14,000 lbs.	Annual PSIP In Change of Ownership smog area PSIP every 2yrs Smog check upon sale	<ul style="list-style-type: none"> Mobile equipment with compression ignition engines used at ports and intermodal railyards Annual Smoke-Test
Exemptions	Case-by-case from CARB & certain farm vehicles used for animal husbandry	<ul style="list-style-type: none"> 6,000 to 14,000 lbs. in Basic or Enhanced Smog Area < 6,000 lbs. GVW Engine model years less than 4-yrs-old 		Engine model years less than 4-yrs-old
Testing	<ul style="list-style-type: none"> Random Roadside or when visually inspected and found to be smoking SAE J1667 Snap Acceleration 	<ul style="list-style-type: none"> SAE J1667 Snap Acceleration Procedure 2013 & newer vehicles may opt to submit OBD data instead of smoke-testing 		<ul style="list-style-type: none"> SAE J1667 Snap Acceleration Procedure DPF retrofits tested upstream of DPF; OEM tested at pipe or stack as usual RTG Cranes: Pre-approved modified procedure (lift & lower method) Other modified methods as approved by EO
Interpreting Results	<ul style="list-style-type: none"> Smoke-meter averages the 3 test snaps Pass / Fail indicator may be wrong if meter does not have latest standards built-in. Manually compare the opacity reading to the current standard 			<ul style="list-style-type: none"> Calculate the average of the nearest 2 test snaps (out of 3) Most meters don't do this automatically (manual calculation)
Fail Procedures	Repair, show proof, & pay fine within 45 days (15 days if placed out-of-service by CHP)	<ul style="list-style-type: none"> Remove non-compliant vehicles from service Repair & Retest 		<ul style="list-style-type: none"> Remove non-compliant from service Repair & Retest Post-Repair: Within 5% of limit if still over

On-Road Opacity Standards (HDVIP & PSIP)			
By VDECS Engine Model Year	Opacity Limit	By Engine Model Year	Opacity Limit
Level 3 (DPF)	5%	2007 & Newer	5%
Level 2	20%	1997 -2006	20%
-	30%	1991 -1996	30%
2-Engine Crane driven by non-DPF off-road engine	40%	Pre 1991	40%

Cargo Handling Opacity Standards		
g/kw-hr	g/bhp-hr	Opacity Limit
> 0.54 or uncertified	Greater than 0.40	55%
0.42 to 0.54	0.31 to 0.40	45%
0.28 to 0.40	0.21 to 0.30	35%
0.15 to 0.27	0.11 to 0.20	25%
0.07 to 0.13	0.05 to 0.10	15%
Less than 0.07	Less than 0.05	5%
<ul style="list-style-type: none"> Find engine family on Emissions Control Label of engine Lookup standard on CARB website: http://www.arb.ca.gov/msprog/offroad/cert/cert.php 		

Opacity Test Record Keeping for PSIP (On-road) & Cargo Handling Equipment (CHE)

Maintain Records	
✓ 2 Years	
✓ Present upon CARB audit	
Vehicle	
✓ Opacity standard for tested vehicle	
✓ VIN	
✓ Engine Year	
✓ Engine Make	
✓ Engine Model	
Meter	
✓ Brand & Model	
✓ Date of Calibration <ul style="list-style-type: none"> • To manufacturer specifications • Every 6 mo. recommended 	
Meter Operator	
✓ Operator Name & Tester ID Number	
✓ If a test contractor: Name & address of contractor company	
Opacity Test	
✓ Test Date	
✓ Test Results (3 readings) <ul style="list-style-type: none"> • Test printout or copy/scan for audits 	
✓ Pass or Fail*	
Test Failure Records	
✓ Post Repair Test Date	
✓ Post repair opacity levels	
✓ Repair info specified in Section: <ul style="list-style-type: none"> • On-road: 2186(a), Title 13, CCR • CHE: 2479(j)(1)(D), Title 13, CCR 	

Post Repair Record Keeping Requirements

Repair Performed at a Repair Facility	
✓ Name, address, & phone of the facility	
✓ Name of mechanic	
✓ Date of the repair	
✓ Description of components, replacements, repairs, &/or adjustments	
✓ Itemized list of replaced components, including description, part num., & cost	
Repair Performed In-house	
✓ An itemized receipt for the parts used in the repair	
✓ A statement identifying the date and nature of the repairs made	

Voluntary OBD Submittal and Record Keeping (On-road Engine Model Years 2013 & Newer Only)

Maintain Records	OBD Data	Owner Information
<ul style="list-style-type: none"> ✓ 2 Years ✓ Present upon CARB audit 	<ul style="list-style-type: none"> ✓ MIL Status ✓ All stored emissions-related fault codes: <ul style="list-style-type: none"> ✓ Active ✓ Previous (if available) ✓ Pending ✓ Permanent ✓ Distance or engine run time: <ul style="list-style-type: none"> ✓ While MIL Activated ✓ Since memory cleared ✓ Number of warm up cycles since memory cleared 	<ul style="list-style-type: none"> ✓ Owner's Name ✓ Company or Agency ✓ Name & Title of Responsible Person ✓ Contact Phone Number ✓ Contact email (if any) ✓ Street Address ✓ Mailing Address
Vehicle <ul style="list-style-type: none"> ✓ License Plate Number ✓ VIN ✓ Engine Year ✓ Engine Make ✓ Serial Number (if available) 		
Test Records <ul style="list-style-type: none"> ✓ Name & Address of Test Facility (if applicable) ✓ OBD Data 	<ul style="list-style-type: none"> ✓ Status of each readiness indicator ✓ Calibration Verification Number ✓ OBD Requirements for engine ✓ Pass or fail? 	Test Failure Records <ul style="list-style-type: none"> ✓ Post Repair Test Date ✓ Post Repair OBD data meeting requirements of Section 2193(e) ✓ Repair info specified in Section 2186(a), Title 13, CCR

Post Repair Record Keeping Requirements

Repair Performed at a Repair Facility	Repair Performed In-house
<ul style="list-style-type: none"> ✓ Name, address, & phone of the facility ✓ Name of mechanic ✓ Date of the repair ✓ Description of components, replacements, repairs, &/or adjustments ✓ Itemized list of replaced components, including description, part num., & cost 	<ul style="list-style-type: none"> ✓ An itemized receipt for the parts used in the repair ✓ A statement identifying the date and nature of the repairs made