State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-6-447
Relating to Certification of New Motor Vehicles

GENERAL MOTORS CORPORATION

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Orders G-45-3 and G-45-4;

IT IS ORDERED AND RESOLVED: That 1989 model-year General Motors Corporation exhaust emission control systems are certified as described below for gasoline-powered medium-duty vehicles:

Engine Family	Displacement Liters (Cubic Inches)		Exhaust Emission Control Systems (Special Features)
KGC7.4T5HAC8	7.4	(454)	Air Injection - Pump Exhaust Gas Recirculation Oxygen Sensor Oxidation Catalyst Three-Way Catalyst (Central Fuel Injection) (On-Board Diagnostics)

Vehicle models, transmissions, engine codes and evaporative emission control families are listed on attachments.

The following are the emission standards for this engine family:

Loaded Vehicle Weight(lbs.)	Hydrocarbons (Grams per Mile)	Carbon Monoxide (Grams per Mile)	Nitrogen Oxides (Grams per Mile)
3751-5750	0.50	9.0	1.0
5751 & larger	0.60	9.0	1.5

The following are the certification emission values for this engine family:

Loaded Vehicle Weight(lbs.)	Hydrocarbons (Grams per Mile)	Carbon Monoxide (Grams per Mile)	Nitrogen Oxides (Grams per Mile)
3751-5750	0.15	2.7	0.9
5751 & larger	0.12	1.6	0.6

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Gasoline-Powered Motor Vehicles".

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" (Title 13, California Administrative Code, Section 2290) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's high altitude requirements and highway emission standards as stipulated in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles".

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the "California Motor Vehicle Tune-Up Label Specifications" (Title 13, California Administrative Code, Section 1965) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the vehicle models listed also comply with the "Malfunction and Diagnostic System for 1988 and Subsequent Model Year[s]..." (Title 13, California Administrative Code, Section 1968) for the aforementioned model year.

BE IT FURTHER RESOLVED: That for the listed vehicles, the manufacturer has submitted and the Executive Officer hereby approves the materials to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2035 et seq.).

Vehicles certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this order and attachment.

Executed at El Monte, California this 22nd day of February, 1988.

Bob Grosso for

K. D. Drachand, Chief
Mobile Source Division

17-KGC7.4T5HAC8-1A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

LIGHT DUTY TRUCKS AND MEDIUM DUTY VEHICLES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-447

Engine Family: KGC7.4T5HAC8

Evaporative Family: KFO-3H

Engine Displacement Liters (Cubic Inches) - Type: 7.4 (454) V-8

ABBREVIATIONS:

Ignition System
- CA-Centrifugal Advance
- EIC-Electronic Injection Control
- EI-Electronic Ignition
- ESAC-Electronic Spark Advance Control
- VA-Vacuum Advance
- VR-Vacuum Retard

ıel System
- :I, CL, DID, DIP, EFI, MFI
- nV-nVenturi Carburetor

GM Abbreviations
- A/C-Air Conditioning
- FC-Forward Control
- HD-Heavy Duty
- CI-Cubic Inch (Displacement)
- TBI-Throttle Body Injection
- RWD-Rear Wheel Drive
- 4x2-Two Wheel Drive
- 4x4-Four Wheel Drive
- 6x4-Four Wheel Drive

Exhaust Emission Cont System
- AIP-Air Injection Pump
- AIV-Air Injection Valve
- EGR-Exhaust Gas Recirculation
- EM-Engine Modification
- DBC-Dual Bed Catalyst
- HOS-Heated Oxygen Sensor
- OC-Oxidation Catalyst
- OS-Oxygen Sensor
- SPL-Smoke Puff Limiter or Throttle Delay
- TOC-Trap Oxidizer, Continual
- TOP-Trap Oxidizer, Periodical
- TR-Thermal Reactor
- TWC-Three-Way Catalyst
- WUOC-Warmup Oxidation Catalyst
- WUTWC-Warmup Three-Way Catalyst

Special Features
- CCV-Combustion Chamber Valve
- CFI-Central Fuel Injection
- DID-Diesel Injection-Direct
- DIP-Diesel Injection-Prechamber
- EFI-Electronic Fuel Injection
- IC-Intercooler/Aftercooler
- MFI-Mechanical Fuel Injection
- OBD-On Board Diagnostics
- TC-Turbocharger

Engine: Front (all Vehicles)

Drive: See Chassis Type (Page 2), all 4x2 vehicles are RWD.

ISSUED: 01-27-88

REV. NO.:

J185V/

17-KGC7.4T5HAC8-Index 1A

(For CARB Use Only)

(1989)

SUPPLEMENTAL DATA SHEETS AND CERTIFICATION REVIEW SHEET

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ISSUED: 01-27-88

REV. NO.: 001
002 (RC #4)
003
004

17-KGC7.4T5HAC8-2A

(For CARB Use Only)
(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
LIGHT DUTY TRUCKS AND MEDIUM DUTY VEHICLES

Manufacturer: General Motors Corporation
Executive Order No.: A-6-447
Engine Family: KGC7.4T5HAC8
Evaporative Family: KFO-3H
Engine Displacement Liters (Cubic Inches) - Type: 7.4 (454) V-8

VEHICLE MODELS:

C C 1 0 7 0 3 + E 6 3 (EXAMPLE)

Digit 1
Selling Division

C-Chevrolet
T-GMC Truck

Digit 2
Chassis Type

C-Conventional 4x2
G-Forward Control 4x2 (Body Frame Integral)
K-Conventional 4x4
M-Forward Control 4x2 (Body Frame Integral)
-Forward Control 4x2 (Conventional)
R-Conventional 4x2
S-S10/15 4x2
T-S10/15 4x4
V-Conventional 4x4

Digit 3
Series/GVWR Range

1-3400 to 7300 lbs
2-6400 to 8600 lbs
3-7400 to 14500 lbs

Digits 4 & 5
CA Dimension/Model Type

05-Blazer/Jimmy, Step-Van/Valve Van
06-S10/15
07-42"/Pickup, Chassis-Cab
08-FC or Motor Home Chassis, Step-Van/Value Van
09-56"/Suburban, Chassis-Cab, Pickup
10-60" FC Chassis, Chevy Van/Vandura, Sportvan/Rally, Chassis-Cab, Step-Van/Value Van
11-Motor Home Chassis
13-Chevy Van/Vandura, Sportvan/Rally, Cutaway Van/Vandura Special, Hi-Cube Van/Magnavan
14-84"/FC or Motor Home, Chassis, Chassis-Cab, Step-Van/Value Van
16-Cutaway Van/Vandura Special, Hi-Cube Van/Magnavan
18-Motor Home Chassis

Digits 6 & 7
Cab or Body Style

03-Conventional Cab (S10/15, C-K, R-V Models)
-Cutaway Van/Vandura Special, Hi-Cube Van/Magnavan (G Models)
05-Chevy Van/Vandura
06-Suburban/Sportvan/Rally with Panel Rear Doors
16-Blazer/Jimmy
32-Motor Home Chassis
42-Forward Control Chassis, Step-Van/Value Van
43-Bonus Cab, Crew Cab
53-Extended Cab (S10/15 Models)

Digits 8, 9 & 10
Body Ordering Code

ZW9-Base Body
C6P-HD Chassis; 8600 lb GVWR
C7C-HD Chassis; 10500 lb GVWR
C7E-HD Chassis; 11000 lb GVWR
E31-Hi-Cube Van (10' Steel 96" Wide)
E32-Step-Van/Value Van (Steel)
E33-Step-Van/Value Van (Aluminum)
E34-Hi-Cube Van (10' Steel 82" Wide)
E36-Hi-Cube Van/Magnavan (10'Aluminum)
E37-Utility Box (Aluminum)
E38-Hi-Cube Van/Magnavan (12' Steel)
E39-Hi-Cube Van/Magnavan (12' Aluminum)
E62-Stepside/Fenderside Pickup
E63-Fleetwide/Wideside Pickup

ISSUED: 01-27-88
REV. NO.:

0185V/

17-KGC7.4T5HAC8-3A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

LIGHT DUTY TRUCKS_____ MEDIUM DUTY VEHICLES_X_ GAS_____ DIESEL_____

Manufacturer: General Motors Corporation Executive Order No.: A-6-447

Engine Family: KGC7.4T5HAC8 Exhaust Emission Control System: AIP/EGR/TWC/OC/OS (CFI)(OBD)

Liter (CID): 7.4 (454) Engine Type: V-8

ENG CODE	VEH MODELS	TRANS TYPE	EQUIV TEST WEIGHT	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (TBI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
1	CC30903+E63	A-3	6000	16084371	17087021	17087189	25101074*
	CC30953		6500				25100464**
	CK30903+E63		6000				
	CK30953		6500				
2	CC30903+E63		6000				
	CC30953		6500				
	CK30903+E63		6000				
	CK30953		6500				

* Front
** Rear

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

ISSUED: 01-27-88 REV. NO.:

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17-KGC7.4T5HAC8-4A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

LIGHT DUTY TRUCKS_____ MEDIUM DUTY VEHICLES__X__ GAS_____ DIESEL_____

Manufacturer: General Motors Corporation Executive Order No.: A-6-447

Engine Family: KGC7.4T5HAC8 Exhaust Emission Control System: AIP/EGR/TWC/OC/OS (CFI)(OBD)

Liter (CID): 7.4 (454) Engine Type: V-8

ENG CODE	VEH MODELS	TRANS TYPE	EQUIV TEST WEIGHT	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (TBI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
1	CR20943	A-3	5500	16084371	17087021	17087189	25101074*
	CR20906		6000				25100464**
	CR30943		6500				25127585*1
	CV30903+E63		6000				25127586**1
	CV30943		6500				
	CG31305		5250				
	CG31306		6000				
	CR20943		6000				
	CR20906		6000				
	CR30943		6500				
	CV30903+E63		6000				
	CV30943		6500				
	CG31305		5250				
	CG31306		6000				

* Front
** Rear
*1 Front "G" Van Only
**1 Rear "G" Van Only

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

ISSUED: 01-27-88 REV. NO.:

185V/

17-KGC7.4T5HAC8-5A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

LIGHT DUTY TRUCKS_____ MEDIUM DUTY VEHICLES_X_ GAS_____ DIESEL_____

Manufacturer: General Motors Corporation Executive Order No.: A-6-447

Engine Family: KGC7.4T5HAC8 Exhaust Emission Control System: AIP/EGR/TWC/OC/OS (CFI)(OBD)

Liter (CID): 7.4 (454) Engine Type: V-8

ENG CODE	VEH MODELS	TRANS TYPE	EQUIV TEST WEIGHT	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (TBI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
3	CC30903+ZW9	A-3	8000	16084391	17087021	17087189	25101074*
	CC30953+ZW9						25100464**
	CK30903+ZW9						25127585*1
	CK30953+ZW9						25127586**1
	CG31603+E30		6500				
4	CC30903+ZW9		8000				
	CC30953+ZW9						
	CK30903+ZW9						
	CK30953+ZW9						
	CG31603+E30		6500				

* Front
** Rear
*1 Front "G" Van Only
**1 Rear "G" Van Only

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

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17-KGC7.4T5HAC8-6A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

LIGHT DUTY TRUCKS_____ MEDIUM DUTY VEHICLES__X__ GAS_____ DIESEL_____

Manufacturer: General Motors Corporation Executive Order No.: A-6-447

Engine Family: KGC7.4T5HAC8 Exhaust Emission Control System: AIP/EGR/TWC/OC/OS (CFI)(OBD)

Liter (CID): 7.4 (454) Engine Type: V-8

ENG CODE	VEH MODELS	TRANS TYPE	EQUIV TEST WEIGHT	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (TBI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
3	CR30903+ZW9	A-3	8000	16084391	17087021	17087189	25101074*
	CR30943+ZW9						25100464**
	CR31003+ZW9						25127585*1
	CR31403+ZW9						25127586**1
	CV30903+ZW9						
	CV30943+ZW9						
	CV31003+ZW9						
	CV31403+ZW9						
	CG31303+ZW9						
	CG31332+ZW9						
	CG31603+ZW9						
	CG31632+ZW9						
	CG31303+E31		6500				
	CG31303+E34		6000				
	CG31303+E36						
	CG31603+E38		6500				
	CG31603+E39		6000				
	CG31603+E30		6500				

* Front
** Rear
*1 Front "G" Van Only
**1 Rear "G" Van Only

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

ISSUED: 01-27-88 REV. NO.:

0185V/

17-KGC7.4T5HAC8-7A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

LIGHT DUTY TRUCKS_____ MEDIUM DUTY VEHICLES_X_ GAS_____ DIESEL_____

Manufacturer: General Motors Corporation Executive Order No.: A-6-447

Engine Family: KGC7.4T5HAC8 Exhaust Emission Control System: AIP/EGR/TWC/OC/OS (CFI)(OBD)

Liter (CID): 7.4 (454) Engine Type: V-8

ENG CODE	VEH MODELS	TRANS TYPE	EQUIV TEST WEIGHT	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (TBI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
4	CR30903+ZW9	A-3	8000	16084391	17087021	17087189	25101074*
	CR30943+ZW9						25100464**
	CR31003+ZW9						25127585*1
	CR31403+ZW9						25127586**1
	CV30903+ZW9						
	CV30943+ZW9						
	CV31003+ZW9						
	CV31403+ZW9						
	CG31303+ZW9						
	CG31332+ZW9						
	CG31603+ZW9						
	CG31632+ZW9						
	CG31303+E31		6500				
	CG31303+E34		6000				
	CG31303+E36						
	CG31603+E38		6500				
	CG31603+E39		6000				
	CG31603+E30		6500				

* Front
** Rear
*1 Front "G" Van Only
**1 Rear "G" Van Only

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

ISSUED: 01-27-88 REV. NO.:

J185V/

17-KGC7.4T5HAC8-8A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

LIGHT DUTY TRUCKS_____ MEDIUM DUTY VEHICLES__X__ GAS_____ DIESEL_____

Manufacturer: General Motors Corporation Executive Order No.: A-6-447

Engine Family: KGC7.4T5HAC8 Exhaust Emission Control System: AIP/EGR/TWC/OC/OS (CFI)(OBD)

Liter (CID): 7.4 (454) Engine Type: V-8

ENG CODE	VEH MODELS	TRANS TYPE	EQUIV TEST WEIGHT	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (TBI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
5	CC30903+E63	M-4	6000	16084411,	17087257,	17087189	25101074*
	CC30953		6500	16128241	17089093		25100464**
	CK30903+E63		6000				
	CK30953		6500				
6	CC30903+E63		6000				
	CC30953		6500				
	CK30903+E63						
	CK30953		7000				

* Front
** Rear

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

ISSUED: 01-27-88 REV. NO.: 002
004

0185V/11V

17-KGC7.4T5HAC8-9A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

LIGHT DUTY TRUCKS_____ MEDIUM DUTY VEHICLES__X__ GAS_____ DIESEL_____

Manufacturer: General Motors Corporation Executive Order No.: A-6-447

Engine Family: KGC7.4T5HAC8 Exhaust Emission Control System: AIP/EGR/TWC/OC/OS (CFI)(OBD)

Liter (CID): 7.4 (454) Engine Type: V-8

ENG CODE	VEH MODELS	TRANS TYPE	EQUIV TEST WEIGHT	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (TBI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
7	CC30903+ZW9 CC30953+ZW9 CK30903+ZW9 CK30953+ZW9		8000	16084431 16128241, 16128231	17087257, 17089093	17087189	25101074* 25100464**
8	CC30903+ZW9 CC30953+ZW9 CK30903+ZW9 CK30953+ZW9						

* Front
** Rear

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

ISSUED: 01-27-88 REV. NO.: 002
003

0185V/11V

17-KGC7.4T5HAC8-10A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

LIGHT DUTY TRUCKS_____ MEDIUM DUTY VEHICLES_X_ GAS_____ DIESEL_____

Manufacturer: General Motors Corporation Executive Order No.: A-6-447

Engine Family: KGC7.4T5HAC8 Exhaust Emission Control System: AIP/EGR/TWC/OC/OS (CFI)(OBD)

Liter (CID): 7.4 (454) Engine Type: V-8

ENG CODE	VEH MODELS	TRANS TYPE	EQUIV TEST WEIGHT	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (TBI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
5	CRZ0943	M-4	6000	16084411,	17087257,	17087189	25101074*
	VR30903+E63			16128241	17089093		25100464**
	VR30953		6500				
6	CRZ0943		6000				
	VR30903+E63						
	VR30953		6500				

* Front
** Rear

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

ISSUED: 01-27-88 REV. NO.: 002
004

0185V/11V

17-KGC7.4T5HAC8-11A

(For CARB Use Only)

(1989)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

LIGHT DUTY TRUCKS_____ MEDIUM DUTY VEHICLES__X__ GAS_____ DIESEL_____

Manufacturer: General Motors Corporation Executive Order No.: A-6-447

Engine Family: KGC7.4T5HAC8 Exhaust Emission Control System: AIP/EGR/TWC/OC/OS (CFI)(OBD)

Liter (CID): 7.4 (454) Engine Type: V-8

ENG CODE	VEH MODELS	TRANS TYPE	EQUIV TEST WEIGHT	IGN SYSTEM (ECU) PART NO.	FUEL SYSTEM (TBI) PART NO.	EGR VALVE PART NO.	CATALYST PART NO.
7	CR30903+ZW9 CR30943+ZW9 CR31003+ZW9 CR31403+ZW9 CV30903+ZW9 CV30943+ZW9 CV31003+ZW9 CV31403+ZW9	M-4	8000	16084431 16128241, 16128231	17087257, 17089093	17087189	25101074* 25100464**
8	CR30903+ZW9 CR30943+ZW9 CR31003+ZW9 CR31403+ZW9 CV30903+ZW9 CV30943+ZW9 CV31003+ZW9 CV31403+ZW9						

* Front
** Rear

Comments: See page one for abbreviations and evaporative emission family identification. Please refer to manufacturer's HP lists for correct dyno test HP settings based on model and equipment. If two test weights are listed, the lower weight will be used for testing.

ISSUED: 01-27-88 REV. NO.: 002
003

0185V/11V