P.C. Book

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-133
Relating to Certification of New Motor Vehicles

FOUR WHEEL DRIVE ENGINEERING INC.

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102, and 43103 of the Health and Safety Code; and

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

IT IS ORDERED AND RESOLVED: That Four Wheel Drive Engineering Inc. exhaust control systems for 1977 model-year light-duty trucks are certified for the engine family described below:

Engine Family: Isuzu G180ZL-E
Engine: 110.8 CID
Transmission: 4- and 5-speed manual
Exhaust Emission Control Systems: Exhaust Gas Recirculation, Oxidation Catalyst, Air Injection

Model: Mini Mudder

The following are the recommended values to be listed on the window decal required by California Assembly-Line Test Procedures for 1977 model-year vehicles:

Engine Family	Hydrocarbons Grams per Mile	Carbon Monoxide Grams per Mile	Nitrogen Oxides Grams per Mile
Isuzu G180ZL-E	0.4	10	1.6

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

The Department of Motor Vehicles, the California Highway Patrol, and the Bureau of Automotive Repair will be notified by copy of this order and attachment.

Executed at El Monte, California, this 12 day of September, 1977.

G. C. Hass

G. C. Hass, Chief
Vehicle Emissions Control Division

1977 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

☐ Passenger Cars ☒ Light-Duty Trucks

Manufacturer Four Wheel Drive Engineering, Inc. Executive Order No. A-133 Page 1

Engine Family G180ZL-E (ISUZU) Engine (CID) 110.8 Engine Code

Emission Control System EGR, OC,AI +10%(A/C) Yes ☐ No ☒

Vehicle Models (If Coded see attachment)	Trans	Inertia Weight	Distributor Type C,V Mfgr. Part Number	Fuel System Type 1-2V Mfgr. Part Number	EGR System Part No. Service*	Tune-Up Specification (1) Basic Timing (2) Idle Mixture (3) Idle Speed
Mini Mudder	M-4,5	3000	Nippon Denso 8942065420	Hitachi Co, LTD 8942063560	Automobile Parts Mfg. Co., LTD 5161100010 No service	See tune up label (below)

LOW ALTITUDE CERTIFICATION

VEHICLE EMISSION CONTROL INFORMATION

ISUZU MOTORS LIMITED

O.C., A.I. AND E.G.R. EXHAUST EMISSION CONTROL		ENGINE 110.8 CU.IN./1.8 LITRE	
		G180Z-B	G180ZL-E
		OPEL BY ISUZU	LUV
IDLE SPEED		900 RPM	
IDLE MIXTURE		IDLE SPEED DROP	
IGNITION TIMING		6° BTDC AT 900 RPM	
DWELL ANGLE		52°	
BREAKER POINT GAP		0.018 IN.	
SPARK PLUG GAP		0.030 IN.	
VALVE LASH (COLD)	IN.	0.006 IN.	
	EXH.	0.010 IN.	

SEE SHOP MANUAL FOR ADDITIONAL INFORMATION.

ENGINE TUNE-UP CONDITIONS

MAKE ALL ADJUSTMENT AT NORMAL OPERATING TEMPERATURE, CHOKE OPEN, AIR CLEANER INSTALLED, DISTRIBUTOR AND IDLE COMPENSATOR VACUUM LINES DISCONNECTED AND PLUGGED, ALL ACCESSORIES OFF, DASHPOT FULLY BOTTOMED IF INSTALLED, AND TRANSMISSION IN NEUTRAL BOTH MANUAL AND AUTOMATIC. UNPLUG AND RECONNECT BOTH VACUUM LINES WHEN ADJUSTMENTS ARE COMPLETED.

SET PARKING BRAKE AND BLOCK DRIVE WHEELS.

IDLE SPEED AND IDLE MIXTURE SETTING PROCEDURE (IDLE SPEED DROP)

1. TURN THE IDLE MIXTURE ADJUST SCREW ALL THE WAY IN AND BACK OUT 3 TURNS.
2. ADJUST THROTTLE ADJUST SCREW TO 900 RPM.
3. ADJUST SETTING OF IDLE MIXTURE ADJUST SCREW TO ACHIEVE THE MAXIMUM SPEED.
4. RESET THROTTLE ADJUST SCREW TO 900 RPM.
5. TURN IDLE MIXTURE ADJUST SCREW CLOCKWISE(LEAN) UNTIL ENGINE SPEED IS DOWN TO 850 RPM.
6. RESET IDLE MIXTURE ADJUST SCREW 1/2 TURN COUNTERCLOCKWISE(RICH) FROM ITEM 5 POSITION.
7. RESET THROTTLE ADJUST SCREW TO 900 RPM.
8. IF AIR CONDITIONER IS INSTALLED: TURN A.C. ON MAX. COLD AND HIGH BLOWER. OPEN THE THROTTLE TO APPROX. 1/3 AND ALLOW THE THROTTLE TO CLOSE. (THIS ALLOWS THE SPEED-UP SOLENOID TO REACH FULL TRAVEL.) ADJUST THE SPEED-UP CONTROLLER ADJUSTING SCREW TO SET IDLE AT 900 RPM.
9. ADDITIONAL PROCEDURE IF DASHPOT IS INSTALLED: KEEP THE ENGINE SPEED BETWEEN 2,400 RPM AND 2,800 RPM, AND TURN THE DASHPOT UNTIL THE END OF THE DASHPOT SHAFT CONTACTS THE DASHPOT LEVER, THEN FULLY TIGHTEN THE LOCK NUT.

IGNITION TIMING SETTING PROCEDURE

1. SET IDLE SPEED TO 900 RPM.
2. CONNECT TIMING LIGHT LEAD TO NUMBER 1 CYLINDER.
3. ADJUST IGNITION TIMING WITH TIMING LIGHT AIMED TOWARD TIMING MARK. (ALIGN MARK ON CRANKSHAFT PULLEY TO TIMING MARK.)

CATALYST

THIS VEHICLE CONFORMS TO U. S. E. P. A. REGULATIONS APPLICABLE TO 1977 MODEL YEAR NEW MOTOR VEHICLES.
THIS VEHICLE CONFORMS TO CALIFORNIA REGULATIONS APPLICABLE TO 1977 MODEL YEAR NEW MOTOR VEHICLES.

PT. NO. 8942107940

Comments

Date of Issue 091277

Abbreviations

Distributor
C-Centrifugal Advance
V-Vacuum Advance
VR-Vacuum Retard
HEI-High Energy Ignition
EI-Electronic Ignition

Fuel System
EFI, FI
nV-nVenturi Carburetor
VV-Variable Venturi

Exhaust Emission Control System
AI-Air Injection
CAI-Catalyst Air Injection
EFI-Electronic Fuel Injection
EGR-Exhaust Gas Recirculation
EM-Engine Modification
EFE-Early Fuel Evaporation
ESAC-Electronic Spark Advance Control
FI-Fuel Injection

OC-Oxidation Catalyst
PAI-Pulse Air Injection
RC-Reduction Catalyst
TR-Thermal Reactor
TWC-Three Way Catalyst
λ-Air Fuel Ratio Sensor

*Service
I-Inspect, repair/replace as needed