

#88-75-6E: ENGINE CONTROLLED IDLE SPEED MINIMUM IDLE AIR RATE SPECS. - (Oct 20, 1987)

Model and Year: 1987-88 TRUCKS (ALL GASOLINE ENGINES)

This bulletin defines the controlled idle speed and minimum idle air rate specifications for 1987 and 1988 model year trucks for all gasoline engine applications. Additionally, step by step procedures are provided for performing the controlled idle speed check and the minimum idle air rate check.



It is important that these procedures and specifications be adhered to. An incorrect readjustment with a high minimum air rate will cause the Idle Air Control (IAC) valve pintle to constantly bottom on its seat and may result in early IAC valve failure. A minimum air rate that is too low may result in a no-start condition in cold weather, a stall after start, or a stall during deceleration because of poor air/fuel distribution through the throttle bore.

NOTICE: THESE SPECIFICATIONS AND PROCEDURES SUPERSEDE THOSE PROCEDURES DEFINED IN THE 1987 SERVICE MANUAL.

Controlled Idle Speed Check

Before performing this check, there should be no codes displayed, idle air control system has been checked and ignition timing correct.

The following table lists locations in the appropriate service manuals where procedures to check the idle air control system can be found.

Location of IAC Model(s) Service Manual System Check -----

RVGP 1988 R-V-G-P Light Duty 4-11 (all engines) Truck Service Manual

M-Van 1988 Astro Van Service 4-11 (all engines except 2.5L) Manual 3-61 (2.5L engine)

S-10 1988 Light Duty Truck 4-11 (all engines except 2.5L) Service Manual 3-61 (2.5L engine)

C-K 1987 Light Duty Truck 4-9 (all engines) Fuel, Driveability and Emission Service Manual (includes 1988 C/K Models)

1. Set parking brake and block drive wheels.
2. Connect a "SCAN" tool to the Assembly Line Data Link (ALDL) connector with tool in Open Mode.
3. Start engine and bring it to normal operating temperature.
4. Check for correct state of Park/Neutral switch on "Scan" tool.
5. Check specifications chart at the end of this bulletin for controlled idle speed and IAC valve pintle position (counts).
6. If within specifications, the idle speed is being correctly controlled by the Electronic Control Module (ECM).
7. If not within specifications, refer to "Rough, Unstable or Incorrect Idle, Stalling" in Section

"2" of the Service Manual and review information at the beginning of this check.

MINIMUM IDLE AIR RATE CHECK

1. Check controlled idle speed and perform idle air control system check first.
2. Set parking brake and block drive wheels.
3. Start engine and bring it to normal operating temperatures (85-100 degrees Celsius). Turn engine "OFF".
4. Remove air cleaner, adapter and gaskets. On ST series vehicle, leave THERMAC hose connected. Check that the throttle lever is not being bound
5. With IAC valve connected, ground the diagnostic terminal (ALDL connector).
6. Turn "ON" ignition, do not start engine. Wait at least 10 seconds (this allows IAC valve pintle to extend and seat in throttle body).
7. With ignition "ON", engine stopped, test terminal still grounded, disconnect IAC valve electrical connector. (This disables IAC valve in seated position). Remove ground from diagnostic terminal.
8. Connect a "Scan" tool to the ALDL connector and place in open mode. If a tool is not available connect a tachometer to the engine.
9. Start engine. With transmission in neutral, allow engine rpm to stabilize.

NOTICE: ON 2.5L ENGINES A SERVICE ENGINE SOON LIGHT WILL COME ON AND A CODE 35 WILL BE SET.

10. Check rpm against specifications at the end of this bulletin. Disregard IAC counts on "Scan" tool with the IAC disconnected. If the engine has less than 500 miles or is checked at altitudes above 1500 feet, the idle rpm with a seated IAC valve should be lower than values in chart.
11. If the minimum idle air rate is within specifications, no further check is required.
12. If the minimum idle air rate is not within specifications, perform the following procedures:
13. If present, remove stop screw plug by piercing it with an awl, then applying leverage. The screw is covered to discourage unauthorized adjustments.
14. With engine at normal operating temperature (85-100 degrees C), adjust stop screw to obtain nominal rpm per specifications with seated IAC valve.
15. Turn ignition "OFF" and reconnect IAC valve electrical connector.
16. Disconnect "Scan" tool or tachometer.
17. Use silicon sealant or equivalent to cover stop screw hole.
18. Install air cleaner, adapter and gasket.
19. On 2.5L engines, clear Code 35 that has been set.

1987 AND 1988 MODEL YEAR TRUCKS

CONTROLLED IDLE SPEED

GEAR IDLE SPEED OPEN/CLSD ENGINE TRANSMISSION (D/N) (RPM) IAC COUNTS* LOOP** ---
----- 2.5L Man. N 900(ST) 5-20 CL 800(M) Auto. D 800(S) 15-40 CL 650(T) 750(M) 2.8L Man. N 800 5-20 OL Auto. D 800 5-30 OL 4.3L Man. N 500-550 2-12 CL Auto. D 500-550 10-25 CL Auto. (1) D 500-550 2-20 CL 5.0L Man. N 600 5-30 OL Auto. D 500 5-30 OL Auto. (2) D 550 5-30 CL 5.7L Man. N 600 5-30 OL (under 8500 GVW) Auto. D 500 5-30 OL 5.7L Man. 650 5-30 (over 8500 GVW) Man. (3) N 600 5-30 OL Auto. D 550 5-30 OL 7.4L Man. N 800 5-30 OL Auto. D 750 5-30 OL

* Add 2 counts for engines with less than 500 miles. Add 2 counts for every 1000 ft. above sea level (4.3L and V8). Add 1 count for every 1000 ft. above sea level (2.5L and 2.8L).

** Let engine idle until proper fuel control status (open/closed loop) is reached.

(1) 4.3 ST series

(2) 3 speed auto in a C10 Pickup w/Fed. emissions (NA5) and no AIR system.

(3) G van or Suburban with a single catalytic converter.

1987 AND 1988 MODEL YEAR TRUCKS

MINIMUM IDLE SPEED

GEAR ENGINE SPEED OPEN/CLSD ENGINE TRANSMISSION (D/N) (RPM) LOOP** -----

2.5L Man. N 600 + or - 50 CL Auto. N 500 + or - 50 CL 2.8L Man. N 700 + or - 50 OL Auto. N 700 + or - 50 OL 4.3L Man. N 450 + or - 50 CL Auto. D 400 + or - 50 CL Auto. (1) N 475 + or - 50 CL 5.0L Man. N 500 + or - 25 OL Auto. D 425 + or - 25 OL Auto. (2) D 425 + or - 25 CL 5.7L Man. N 500 + or - 25 OL (under 8500 GVW) Auto. D 425 + or - 25 OL 5.7L Man. N 550 + or - 25 CL (over 8500 GVW) Auto. D 450 + or - 25 CL 7.4L Man. N 700 + or - 25 OL Auto. D 700 + or - 25 OL

* Let engine idle until proper fuel control status (open/closed loop) is reached.

(1) 4.3L ST series

(2) 5.0L without AIR system

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