1975-79 TUNE-UP PROCEDURES
General Motors V8 Tune-Up

ENGINE IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

A combination Vehicle Identification Number (VIN) and Rating Plate is used on all vehicles. Plate is attached to toe and dash panel on all "P" series (except Motor Home Chassis) and on left-hand door pillar on all other models. On Motor Home Chassis, the number is supplied in various locations by motor home body builders. Engine may be identified by 3rd character of VIN code.

ENGINE IDENTIFICATION CODE

Engine code letters are suffix of Engine Identification Number. Number is stamped on pad on front of engine, below right hand cylinder head. On 454" engine, pad is located at top, front of cylinder block, below intake manifold.

1975 ENGINE CODES

Application	Codes
350"	
Federal	
Man. Trans.	TJH, TJJ, TXD, TXK, TXX, TXR, TZF, TYT, TYA, TXK, TYC, TXD, TYX, TZC, [1] TKE, [1] TMF, [1] TJN, [1] TKN
Auto. Trans.	TWF, TWH, TXS, TXT, TXU, TKG, TYU, TXL, TKF, TZA, TYZ, TXB, [1] TZH, [1] TZB, [1] TJE, [1] TZD, [1] TJG
California	
Man. Trans.	TWJ, TWK, TXS, TXY, TXM, TYS, TYJ, TXJ, TXC, TYD, TYW, [1] TZL, [1] TZJ
Auto. Trans.	TJK, TJL, TXS, TXW, TMG, TYR, TXH, TME, TYY, TXA, [1] TZM, [1] TZK
400"	
Federal	TLM, TLS, TLH, TLU
California	TLL, TLR, TLD, TLT
454"	
Federal	
Man. Trans.	TSH, TSC
Auto. Trans.	TSH, TSM, TSJ, TSD, TRY, TSK
California	
Man. Trans.	TSB, TRZ
Auto. Trans.	TSA, TSB, TSL
455"	
Federal	RA, RC
California	RB

[1] – Air injection and catalytic converter equipped models.

1976 ENGINE CODES

Application	Codes
350"	
Federal	
Man. Trans.	TYC, TKA, TKH, TYX, TXD, TKC, TYA, TYT, TXK
Auto. Trans.	TKF, TKB, TYZ, TXB, TKG, TYU, TKO, TXL
California	
Man. Trans.	TJW, TYW, TXC, TWK, TYS, TXJ
Auto. Trans.	TJK, TYY, TXA, TJL, TYR, TXH
400"	
Federal	TLS, TLM, TLU, TLH
California	TLR, TLL, TLT, TLD
454"	
Federal	TSC, TSD, TSK, TSM, TSH
California	TRZ, TSA, TSL, TSB, TSR
455"	
Federal	RA, RC
California	RB

1977 ENGINE CODES

Application	Codes
305"	
Federal	
Man. Trans.	UTF
Auto. Trans.	UTH
California	
Man. Trans.	UTA
Auto. Trans.	UTB

1977 ENGINE CODES (Cont.)

Application	Codes
350"	
Federal	
Man. Trans.	TKC, TWD, TWF, TXD, TXK, TXR, TXX, TYT, TYX
Auto. Trans.	TKB, TKD, TWT, TXB, TXL, TXT, TXU, TYU, TYZ
California	
Man. Trans.	TWF, TWJ, TWK, TXC, TXJ, TXM, TXY, TYS, TYW
Auto. Trans.	TJK, TJL, TWV, TXA, TXH, TXS, TXW, TYR, TYY
High Altitude	TJR, TJS
400"	
Federal	TLH, TLM, TLS, TLU
California	TLD, TLL, TLR, TLT
403" & 455"	[1]
454"	
Federal	
Man. Trans.	TSC, TSK, TSM
Auto. Trans.	TRA, TRC, TSK, TSM, TSD
California	
Man. Trans.	TRZ, TSL, TSM
Auto. Trans.	TRB, TRD, TSA, TSB, TSC, TSM, TSR

[1] – Engine codes not available from manufacturer.

1978 ENGINE CODES

Application	Codes
305"	
Man. Trans.	UTR, UTT, UTW
Auto. Trans.	UTS, UTU, UTX
350"	
Federal	
Man. Trans.	TJY, TJX, TKF, TKL, TKM, TKT, TKZ, TWY, TYA
Auto. Trans.	TKA, TKH, TKK, TKR, TKW, TKX, TWW, TWZ, TYC
California	
Man. Trans.	TKS, TYB, TYH, TYJ, TYL, TXZ, TZA, TZD, TZF, TZK, TZT, TZU
Auto. Trans.	TKU, TKY, TWX, TYD, TYK, TYM, TZB, TZH, TZL, TZR, TZS, TZW
High Altitude	TYF, TZC
400"	TLA, TLB, TLC, TLF, TLJ, TLK, TLW, TLY, TLX, TLZ
454"	
Federal	
Man. Trans.	TSF
Auto. Trans.	TRH, TRK, TSF, TST, TSU
California	
Man. Trans.	TRY
Auto. Trans.	TRF, TRJ, TRL, TRM, TSB, TSS

1979 ENGINE CODES

Application	Codes
305" (VIN U)	
Federal	
Man. Trans.	TYR, UTA, UTC, UYR
Auto. Trans.	TYS, UTB, UTD, UYS
350" (VIN L)	
Federal	
Man. Trans.	TBA, TBB, TBD, TBH, TBJ, TBL, TFS, TFU, TFX, TFY, TKB, TMF
Auto. Trans.	TBC, TBF, TBK, TBM, TBR, TFT, TFW, TFZ, TJA, TJB, TJS, TJT, TKC, TMH
California	
Man. Trans.	TBR, TBS, TBU, TBW, TBZ, TFK, TFL, TFS, TFU, TFX, TFY
Auto. Trans.	TBR, TBS, TBT, TBX, TBY, TFJ, TFM, TFR, TFT, TFW, TFZ, TJA, TJB
High Altitude	
Man. Trans.	TFS, TFU, TFX, TFY, TRZ
Auto. Trans.	TFT, TFW, TFZ, TJA, TJB, TMC, TMD, TRR, TRS
400" (VIN R)	
Federal	TLD, TLH, TLL, TLM, TLU, TTJ, TTR
California	TLR, TLS, TLT, TLU, TTJ, TTM
454" (VIN S)	
Man. Trans.	TRT, TRZ
Auto. Trans.	TRR, TRS, TRU, TRW, TRX

1975-79 TUNE-UP PROCEDURES
General Motors V8 Tune-Up (Cont.)

TUNE-UP NOTES

NOTE: Procedures and specifications for idle speed adjustment must be followed exactly as outlined. See HOT (SLOW) IDLE RPM procedures in this article.

NOTE: Due to changes and corrections, always refer to Engine Tune-Up Decal in engine compartment before attempting Tune-Up. In the event of a conflict between specifications given in this manual and decal specifications, decal specifications prevail.

NOTE: The vehicle series numbers used in this article have been abbreviated for common reference to both Chevrolet and GMC models. Chevrolet models use numerical designation as listed; GMC models are identified as follows: 10 = 1500; 20 = 2500; 30 = 3500.

NOTE: For Tune-Up purposes, "Light Duty" refers to vehicles up to 8500 lbs. "Heavy Duty" refers to vehicles exceeding 8500 lbs.

NOTE: When performing tune-up on vehicles equipped with a catalytic converter, do not allow or create a condition of engine misfire in one or more cylinders for an extended period of time. Damage to converter from overheating may occur due to loading with unburned fuel.

ENGINE COMPRESSION

When making compression checks, disconnect the ignition (Pink wire) connector at High Energy Ignition distributor. With air cleaner removed and throttle and choke wide open, crank engine through at least four compression strokes.

ENGINE COMPRESSION

Application	Specification
Compression Ratio	
403"	7.9:1
All Others	8.5:1
Compression Pressure	150 psi
Maximum Pressure Variation	20 psi
Recommended Fuel	Unleaded (87 AKI)

VALVE CLEARANCE

Hydraulic Lifters - One turn down from zero lash.

VALVE ARRANGEMENT

305", 350" & 400"
E-I-I-E-E-I-I-E (Both Banks, Front-to-Rear).
403" & 455"
I-E-I-E-E-I-E-I (Both Banks, Front-to-Rear).
454"
E-I-E-I-E-I-E-I (Left Bank, Front-to-Rear).
I-E-I-E-I-E-I-E (Right Bank, Front-to-Rear).

SPARK PLUGS

1975 SPARK PLUG TYPE

Application	AC No.
455"	R46SX
All Others	R44TX

1976 SPARK PLUG TYPE

Application	AC No.
350"	
Light Duty	R45TS
Heavy Duty	R44TX
400"	R44TX
400 & 454"	
Light Duty	R45TS
Heavy Duty	R44T
455"	R46SX

1977-78 SPARK PLUG TYPE

Application	AC No.
305"	
Light Duty	R45TS
Heavy Duty	R44T
350"	
Light Duty	R45TS
Heavy Duty	[1] R44T
400 & 454"	
Light Duty	R45TS
Heavy Duty	R44T
403"	R46SZ
455"	R46SX

[1] - Use R44TX on California models.

1979 SPARK PLUG TYPE

Application	AC No.
Light Duty	R45TS
Heavy Duty	R44T

SPARK PLUG INSTALLATION

Application	Gap	Torque
1975		
455"	.080"	25 Ft. Lbs.
All Others	.060"	15 Ft. Lbs.
1976-77		
403"	.060"	25 Ft. Lbs.
455"	.080"	25 Ft. Lbs.
All Others	.045"	15 Ft. Lbs.
1978		
350" Calif. (Heavy Duty)	.060"	15 Ft. Lbs.
All Others	.045"	15 Ft. Lbs.
1979		
All Models	.045"	20 Ft. Lbs.

HIGH TENSION WIRE RESISTANCE

Carefully remove ends of wire from spark plug and distributor. Using an ohmmeter, check resistance while gently twisting wire. If resistance is not to specifications, or fluctuates from infinity to any value, replace wire.

1975-76 WIRE RESISTANCE (OHMS)

Wire Length	Ohms (Maximum)
0-15"	10,000
15-25"	15,000
25-35"	20,000
Over 35"	25,000

1977-79 WIRE RESISTANCE (OHMS)

Wire Length	Ohms (Maximum)
0-24"	30,000
Over 24"	50,000

1975-79 TUNE-UP PROCEDURES
General Motors V8 Tune-Up (Cont.)

DISTRIBUTOR

All models are equipped with High Energy Ignition systems. No adjustments are required.

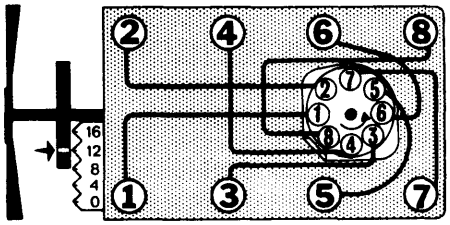

Fig. 1: 1975 455" Motor Home Chassis Firing Order & Timing Mark Identification

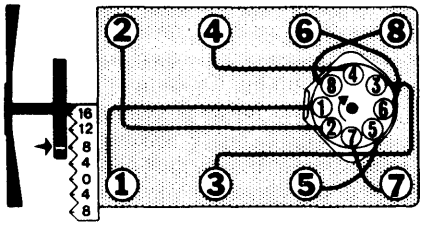

Fig. 2: 1975-79 305", 350", 400" & 454" Firing Order & Timing Mark Identification

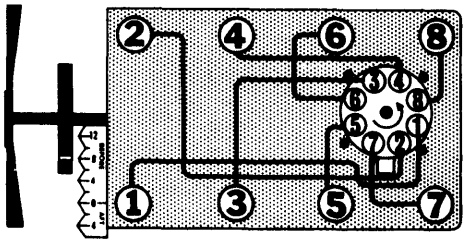

Fig. 3: 1977 403" & 1976-77 455" Firing Order & Timing Mark Identification

IGNITION TIMING

1975-77 Models - Ignition timing is checked or adjusted with engine at normal operating temperature, transmission in Neutral, distributor vacuum hose disconnected and plugged, and engine at idle (at 1100 RPM on 403" and 455" engines).

1978 Models - Ignition timing is checked or adjusted with engine at normal operating temperature, transmission in Neutral (Drive on automatic transmission equipped Light Duty vehicles), distributor vacuum hose disconnected and plugged.

1979 Models - 1) Connect adapter between No. 1 spark plug and No. 1 spark plug wire or use an inductive type pickup. Do not puncture wires. Connect timing light according to equipment manufacturer's instructions.

2) Check or adjust ignition timing with engine at normal operating temperature, distributor vacuum line disconnected and plugged and shift lever in Neutral (Drive on automatic transmission equipped Light Duty vehicles).

3) Set timing to specifications. To adjust timing, loosen distributor hold down bolt and rotate distributor until timing is to specifications. Tighten hold down bolt. recheck timing.

NOTE: Some 1979 engines have a magnetic timing probe hole for use with special electrical testing equipment.

1975 IGNITION TIMING SPECIFICATIONS (DEGREES BTDC)

Application	Specification
350" 2-Bbl.	6
350" 4-Bbl.	
Light Duty	[1] 8
Heavy Duty	
Federal	6
California	2
400"	
Federal	4
California	2
454"	
Light Duty	
With Catalytic Converter	16
Without Catalytic Converter	10
Heavy Duty	8
455"	[2] 8

[1] - With manual transmission set to 6°BTDC.
[2] - With engine running at 1100 RPM.

1976 IGNITION TIMING SPECIFICATIONS (DEGREES BTDC)

Application	California	Federal
350" 2-bbl.		
Man Trans.		6
Auto. Trans.		2
4-Bbl. Carb.		
Light Duty	6	8
Heavy Duty	2	8
400"	2	4
454"		
Light Duty		
With Cat. Converter		12
Without Cat. Converter		8
Heavy Duty	8	8
455"	[1] 8	[1] 8

[1] - With engine running at 1100 RPM.

1977 IGNITION TIMING SPECIFICATIONS (DEGREES BTDC)

Application	Man. Trans.	Auto. Trans.
305"		
Light Duty	8	8
Heavy Duty	6	6
350"		
Federal	8	8
California		
Light Duty	6	6
Heavy Duty	2	2
High Altitude	6	6
400"		
Federal		4
California		2
403"		
Federal		[1] 12
California		[1] 2
454"		
California	8	8
Federal		
Light Duty		4
Heavy Duty	8	8
455"		4

[1] - With engine running at 1100 RPM.

1975-79 TUNE-UP PROCEDURES
General Motors V8 Tune-Up (Cont.)

1978 IGNITION TIMING SPECIFICATIONS (DEGREES BTDC)

Application	Man. Trans.	Auto. Trans.
305"		
Light Duty	4	4
Heavy Duty	6	6
350"		
Light Duty	8	8
Heavy Duty	[1] 8	[1] 8
400"		
Light Duty		4
Heavy Duty		[1] 4
454"		
Light Duty		8
Heavy Duty	8	8

[1] - Set to 2 degrees on California models.

1979 IGNITION TIMING SPECIFICATIONS (DEGREES BTDC)

Application	Man. Trans.	Auto. Trans.
305"	6	6
350"		
Light Duty	8	8
Heavy Duty	4	4
400"		
Light Duty		4
Heavy Duty		4
454"		
Light Duty	8	8
Heavy Duty	4	4

HOT (SLOW) IDLE RPM

NOTE: See engine compartment Emission Control Tune-Up Decal for specific idle speed adjustment procedures.

1975 Models - 1) Set idle with engine at normal operating temperature, air cleaner installed, choke open, A/C off, fuel tank hose from vapor canister and distributor vacuum advance hose disconnected and plugged. Check ignition timing and adjust (if necessary).
2) On models with idle speed solenoid, disconnect electrical lead from solenoid. With automatic transmission in Drive, turn low idle screw to obtain curb idle speed. Reconnect solenoid and open throttle to allow plunger to extend. Turn solenoid plunger to to obatin solenoid energized idle speed.
3) On models without idle speed solenoid, place automatic transmission in Drive (if equipped). With engine running, turn idle speed screw to obtain curb idle speed.

1975 HOT (SLOW) IDLE RPM SPECIFICATIONS

Application	Curb Idle	Solenoid Energized
350" & 400"		
Man. Trans.	800	
Auto. Trans.	[1] 600	
454"		
Light Duty	500	650
Heavy Duty	500	700
455"	600	

[1] - Set to 700 RPM on California Heavy Duty emission models.

1976 Models - 1) Set idle with engine at normal operating temperature and choke fully open. Turn A/C system off on all Light Duty models and on 454" Heavy Duty models. On all other models, turn A/C on.
2) On 455" engine, remove air cleaner. Disconnect and plug vacuum line fittings from air cleaner and vapor canister. On all other engines, leave air cleaner installed.
3) On all models, disconnect and plug vacuum advance hose. Check and adjust ignition timing. On all engines except 455", reconnect distributor vacuum advance hose.
4) Place manual transmission in Neutral (Drive on automatic transmission equipped Light Duty models). Turn idle speed screw to obtain specified RPM. Reconnect all vacuum hoses on 455" engine.

1976 HOT (SLOW) IDLE RPM SPECIFICATIONS

Application	Man. Trans.	Auto. Trans.
350" 2-Bbl.	800	600
350" 4-Bbl.		
Light Duty	800	600
Heavy Duty	[1] 600	[1] 600
400"		700
454"		
Light Duty		600
Heavy Duty	700	700
455"		600

[1] - Set to 700 RPM on California models.

1977 Models - 1) On models with speed-up solenoid, adjust carburetor idle speed screw to obtain specified curb idle RPM. Disconnect lead at A/C compressor.
2) Turn A/C on and open throttle slightly to allow solenoid plunger to extend fully. Turn solenoid screw to obtain solenoid energized RPM specifications. When correct, reconnect A/C compressor lead.
3) On models without idle speed-up solenoid, ensure that idle speed screw is on lowest step of fast idle cam on 2-barrel carburetor. Turn A/C off (if equipped) and adjust idle speed screw to specified RPM.

1977 HOT (SLOW) IDLE RPM SPECIFICATIONS

Application	Curb Idle	Solenoid Energized
305" [1]		
Man. Trans.	600	700
Auto. Trans.	500	650
Light Duty [2]		
Man. Trans.	600	
Auto. Trans.	500	
Heavy Duty [2]	700	
350" [1]		
Federal	500	650
California	500	650
High Altitude	600	650
Light Duty [2]		
Man. Trans.	700	
Auto. Trans.	[3] 500	
Heavy Duty [2]	700	
403", 454" & 455"	[4] 600	

[1] - Models equipped with idle speed-up solenoid.
[2] - Models without idle speed-up solenoid.
[3] - Set to 600 RPM on High Altitude models.
[4] - Set to 700 RPM on 454" Heavy Duty models.

1978 Models - 1) On Light Duty models, adjust carburetor idle speed screw to obtain specified curb idle RPM with manual transmission in Neutral (automatic transmission in Drive).
2) If equipped with idle speed-up solenoid, disconnect lead at A/C compressor. Turn A/C on and open throttle slightly to allow solenoid plunger to extend fully. Turn solenoid screw to obtain solenoid energized RPM specifications. Reconnect A/C compressor lead.
3) On Heavy Duty models, adjust idle with transmission in Neutral. Ensure that idle speed screw is on lowest step of fast idle cam on 2-barrel carburetor. Turn A/C off (if equipped) and turn idle speed screw to obtain specified RPM.

1975-79 TUNE-UP PROCEDURES
General Motors V8 Tune-Up (Cont.)

1978 HOT (SLOW) IDLE RPM SPECIFICATIONS [1]

Application	Curb Idle	Solenoid Energized
305"		
Man. Trans.	600	700
Auto. Trans.	500	650
350"		
Federal		
Man. Trans.	600	----
Auto. Trans.	500	600
California		
Man. Trans.	700	----
Auto. Trans.	500	600
High Altitude	500	600
400"	500	600
454"	550	600

[1] - Adjust idle speed to 700 RPM on all Heavy Duty Emission equipped models.

1979 Models - 1) Set ignition timing to specifications. Turn idle speed screw to set curb idle speed with A/C off.
2) Solenoid should be energized (if equipped). Disconnect A/C compressor lead at compressor. Turn A/C on and place transmission in Neutral (Drive on automatic transmission equipped Light Duty vehicles).
3) Open throttle slightly to allow solenoid plunger to extend fully. Turn solenoid screw to adjust to specifications. Reconnect A/C compressor lead.

1979 HOT (SLOW) IDLE RPM SPECIFICATIONS

Application	Curb Idle	Solenoid Energized
305"		
Federal		
Man. Trans.	600	700
Auto. Trans.	500	600
350"		
Light Duty		
Man. Trans.	700	----
Auto. Trans.	500	600
Heavy Duty	700	----
400"		
Light Duty	500	600
Heavy Duty	700	----
454"		
Light Duty		
Man. Trans.	700	----
Auto. Trans.	550	600
Heavy Duty	700	----

IDLE MIXTURE

NOTE: Some 1975-76 models with V8 engines may develop a rough idle. This condition may be caused by a vacuum leak at the carburetor base gasket. A revised base gasket and Separator Plate (35310) is now available to correct this.

EXHAUST GAS ANALYZER PROCEDURE

1976 455" Engine - 1) Set parking brake and block drive wheels. With engine at normal operating temperature, choke fully open and A/C off, connect tachometer to engine.
2) Remove air cleaner and disconnect air cleaner vacuum hose from intake manifold and plug fitting. Disconnect and plug distributor vacuum advance hose and vapor canister hose. Check ignition timing and adjust as necessary. Reconnect distributor vacuum advance hose.
3) Insert exhaust gas analyzer hose in tailpipe and set idle speed to 600 RPM. Turn each idle mixture limiter cap in equal amounts (maximum adjustment is 1/2 turn) until idle CO is at or below 2.0% percent. Reset idle speed with air cleaner in place (if necessary). Reconnect all vacuum hoses.

TACHOMETER (LEAN DROP) PROCEDURE

1975-77 Models (Except 1976 455" Engine) & 1978 Heavy Duty Models - 1) Set parking brake and block drive wheels. Remove air cleaner to gain access to carburetor, but keep vacuum hoses connected. Disconnect and plug other hoses as directed by engine compartment Emission Control Tune-Up Decal.
2) With engine at normal operating temperature, choke fully open and A/C off, connect tachometer to engine. Disconnect distributor vacuum advance hose. Check ignition timing and adjust as necessary. Reconnect distributor vacuum advance hose. Turn engine off.
3) Taking care not to bend idle mixture screws, remove limiter caps from screws. Lightly seat idle mixture screws, then back out just enough so engine will run. Place transmission in Neutral and start engine.
4) Back each mixture screw out 1/8 turn at a time until maximum (enriched) idle speed is obtained. Adjust idle speed screw until enriched RPM is obtained. Turn mixture screws in equally until engine RPM drops to lean specification. Reconnect all hoses and install air cleaner.

1975 IDLE MIXTURE RPM SPECIFICATIONS

Application	Enriched	Lean
350"		
Light Duty		
Man. Trans.	650	600
Auto. Trans.	900	800
Heavy Duty		
Federal	750	600
California	800	700
400"	770	700
454"		
Light Duty	700	650
Heavy Duty		
Federal	800	700
California	725	600
455"	----	600

1976 IDLE MIXTURE RPM SPECIFICATIONS

Application	Enriched	Lean
350"		
Light Duty		
Man. Trans.	900	800
Auto. Trans.	650	600
Heavy Duty		
Federal	750	600
California	800	700
400"	770	700
454"		
Light Duty	650	600
Heavy Duty		
Federal	800	700
California	750	700
455"	----	[1]

[1] - Adjust idle mixture using EXHAUST GAS ANALYZER PROCEDURE given in this article.

1975-79 TUNE-UP PROCEDURES
General Motors V8 Tune-Up (Cont.)

1977 IDLE MIXTURE RPM SPECIFICATIONS

Application	Enriched	Lean
305"		
Light Duty		
Man. Trans.	650	600
Auto. Trans.	550	500
Heavy Duty	800	700
350"		
Light Duty		
Man. Trans.	800	700
Auto. Trans.	550	500
Heavy Duty		
With Air Inj.	800	700
Without Air Inj.	875	700
High Alt.	650	600
400"	770	700
403" & 455"		[1]
454"		
Light Duty	650	600
Heavy Duty		
With Air Inj.	750	700
Without Air Inj.	800	700

[1] - See Emission Control Tune-Up Decal in engine compartment.

PROPANE ENRICHMENT PROCEDURE

1978-79 Light Duty Models - 1) With engine at normal operating temperature, choke fully open and A/C off (if equipped), set parking brake and block drive wheels. Disconnect and plug hoses as directed by engine compartment Emission Control Tune-Up decal.
2) Connect tachometer to engine. Disconnect vacuum advance and set timing to specification. Reconnect vacuum advance. Disconnect crankcase ventilation tube from air cleaner. Insert hose with Rubber Stopper (J-26911) from propane valve into PCV tube opening in air cleaner.
3) Propane cartridge must be in verticle position. Slowly open propane control valve until maximum engine speed is reached with automatic transmission in Drive and manual transmission in Neutral.

NOTE: Too much propane will cause engine speed to drop.

4) Observe propane flow meter to ensure propane cartridge is full. With propane flowing, adjust idle speed screw or solenoid to specified enriched RPM. Readjust propane flow to be certain of maximum engine speed and adjust idle speed if necessary.
5) Turn off propane. Place transmission shift lever in Neutral and run engine at 2000 RPM for 30 seconds. Let engine return to idle. Place shift lever in Drive (automatic transmission). Check idle speed. If speed meets specifications, idle mixture is correct. Proceed to step **8)**.
6) If idle speed is too low, carefully remove cap(s) from mixture screw(s) and back out screws (richen) 1/8 turn at a time until correct speed is reached. If speed is too high, turn screw(s) in (leaner) 1/8 turn at a time until correct speed is reached.
7) Turn propane on again to check maximum engine idle speed. If speed does not meet specifications, readjust idle speed screw or solenoid screw to obtain specified enriched RPM with propane flowing. Turn off propane, place transmission shift lever in Neutral and accelerate engine to 2000 RPM for 30 seconds. Recheck idle speed. Speed should meet specifications. If not, repeat procedure starting with step **6)**.

BEST IDLE PROCEDURE

1979 Heavy Duty Models - 1) Set parking brake and block drive wheels. Remove air cleaner after engine reaches normal operating temperature. Place shift lever in Neutral, and connect a tachometer to engine.
2) As a starting point, turn idle mixture screws in to lightly seat and then back out 2 turns. Do not turn screw tightly against seat or damage may result.

1978 PROPANE ENRICHED RPM SPECIFICATIONS

Application	RPM
305"	
Man. Trans.	600-640
Auto. Trans.	500-535
350"	
Federal	
Man. Trans.	700-725
Auto. Trans.	500-550
California	
Man. Trans.	700-720
Auto. Trans.	500-550
High Altitude	500-550
400"	[1]
454"	550-580

[1] - See Emission Control Tune-Up Decal in engine compartment.

1979 PROPANE ENRICHED RPM SPECIFICATIONS

Application	RPM
305"	
Man. Trans.	770-800
Auto. Trans.	540-560
350"	
Federal	
Man. Trans.	870-900
Auto. Trans.	
With Chassis Cab	560-580
All Others	540-560
California	
Man. Trans.	700-720
Auto. Trans.	500-520
High Altitude	530-550
400"	
Federal	
Auto. Trans.	580-600
California	
Auto. Trans.	540-560
454"	
Man. Trans.	750
Auto. Trans.	580

3) With engine running, choke wide open and transmission in Neutral, adjust idle speed to specifications. Adjust idle mixture screw to obtain highest RPM.
4) Readjust idle speed screw to specifications and readjust mixture screw to obtain highest RPM. Shut down engine, remove gauges and install air cleaner.

COLD (FAST) IDLE RPM

NOTE: See engine compartment Emission Control Tune-Up Decal to prepare engine for fast idle speed adjustment.

1975 Models - 1) On 2-barrel carburetor equipped models, turn idle speed screw until it contacts low step of fast idle cam, then turn screw in one full turn.
2) Now place idle speed screw on second step (at highest point) of fast idle cam. Using a .400" gauge, check clearance between upper edge of choke valve to wall of air horn. Bend choke lever tang if adjsutment is required.
3) On 4-barrel carburetor equipped models, disconnect and plug EGR valve. On 454" engines, disconnect and plug distributor vacuum advance hose. Position cam follower on highest step of fast idle cam on 350" and 400" engines or on second step of cam on 454" engines. Turn fast idle speed screw to obtain specified fast idle RPM.

1975 COLD (FAST) IDLE RPM SPECIFICATIONS

Application	RPM
350" & 400"	1600
454"	1000
455"	1100

1975-79 TUNE-UP PROCEDURES
General Motors V8 Tune-Up (Cont.)

1976 Models - 1) On 2-barrel carburetor equipped models, fast idle is preset and no adjustment is required. On 4-barrel equipped models, place transmission in Neutral.
2) On all engines except 455", disconnect and plug vacuum hose at EGR valve (if equipped). On 454" Light Duty engines with electric choke, disconnect and plug vacuum hose to choke front vacuum break unit.
3) Disconnect vacuum hose at manifold and plug fitting. Check ignition timing and adjust if necessary. Place cam follower on highest step of fast idle cam. Turn fast idle speed screw to obtain correct fast idle speed RPM.
4) On 455" engines, remove air cleaner, disconnect vacuum hose at manifold, and plug fitting. Disconnect and plug vacuum advance hose. Check ignition timing and adjust if necessary. Position cam follower on lowest step of fast idle cam and adjust fast idle RPM.

1976 COLD (FAST) IDLE RPM SPECIFICATIONS

Application	RPM	Cam Step
350" & 454" (Light Duty)	1600	Highest
454" (Heavy Duty)	1700	Highest
455"	1100	Lowest

1977-78 Models - 1) On 2-barrel carburetor equipped models, fast idle is preset and no adjustment is required. On 4-barrel equipped models, place transmission in Neutral. Disconnect and plug vacuum hose at EGR valve (if equipped).
2) On all models, disconnect vacuum advance hose at manifold and plug fitting. Check ignition timing and adjust as necessary. Place cam follower on highest step of fast idle cam. Turn fast idle speed screw to obtain correct fast idle speed RPM.

1977 COLD (FAST) IDLE RPM SPECIFICATIONS

Application	Man. Trans.	Auto. Trans.
350"		
Light Duty	1300	1600
Heavy Duty	1600	1600
400"	1600	1600
403" & 455"		[1]
454"		
Light Duty	1600	1600
Heavy Duty	1700	1700

[1] - See Emission Control Tune-Up Decal in engine compartment.

1978 COLD (FAST) IDLE RPM SPECIFICATIONS

Application	Man. Trans.	Auto. Trans.
Heavy Duty	[1] 1700	[1] 1700
Light Duty	1300	1600

[1] - Set to 1600 RPM on California models.

1979 Models - Place transmission in Neutral. Move cam follower onto highest step of fast idle cam (unless specified otherwise on decal). Disconnect and plug vacuum hose at EGR valve if so equipped. Turn fast idle speed screw to obtain specified RPM.

1979 COLD (FAST) IDLE RPM SPECIFICATIONS

Application	Man. Trans.	Auto. Trans.
Heavy Duty	1900	1900
Light Duty	[1] 1600	1600

[1] - Set to 1300 RPM on manual transmission, 305" engine equipped models.

AUTOMATIC CHOKE ADJUSTMENT

1975 Models - 1) On all models except Motor Home Chassis, remove air cleaner. Check that choke and rod move freely. Disconnect choke rod from choke lever and hold choke valve closed. With rod pushed down to bottom of travel, top of rod should be even with bottom hole in choke lever. To adjust, bend rod at offset point in rod.
2) On Motor Home Chassis (455" engine), position fast idle cam follower on highest step of fast idle cam. loosen screws on cover and rotate choke assembly until choke valve closes. Set choke cover at index mark.

NOTE: Some 1976 pickup models with 350" or 400" 4-Bbl. engines may hesitate or stall on cold acceleration. This condition may be corrected by installing a new choke coil assembly (46110).

1976-77 Models (With 4MC & 4MV Carburetors) - Remove thermostatic coil rod from lever. Rotate coil lever counterclockwise until choke valve is closed. Hold thermostatic coil rod down against stop. Rod should fit in notch in lever. If not, bend rod to adjust its length.
1976-79 Models (Without 4MC & 4MV Carburetors) - Place cam follower on highest step of fast idle cam. Loosen 3 cover retaining screws. Rotate cover and coil assembly counterclockwise until choke valve just closes. Align mark on cover with specified point on housing and tighten screws.

NOTE: If choke is equipped with slotted lever, be sure coil tang is installed in slot in lever.

1976 AUTOMATIC CHOKE SETTINGS

Application	Man. Trans.	Auto. Trans.
350" 2-Bbl.	Index	1NR
350" M4MC 4-Bbl.		
Federal	3NL	2NL
California	1NL	2NL
454"		
Federal		2NR
California	Index	Index
455"		Index

1977 AUTOMATIC CHOKE SETTINGS

Application	Man. Trans.	Auto. Trans.
305"	Index	Index
350"		
Light Duty		
Federal	3NL	2NL
Calif.	1NL	2NL
High Alt.		2NL
400"		1NL
403"		
Federal		3NR
Calif.		2NR
454"	Index	[1] Index
455"		[2] Index

[1] - Set to 2NL on G10 Light Duty models with M4ME carburetor.
[2] - See Emission Control Tune-Up Decal in engine compartment.

1978 AUTOMATIC CHOKE SETTINGS

Application	Man. Trans.	Auto. Trans.
305"	Index	Index
350"		
Light Duty		
Federal	3NL	2NL
Calif.	1NL	1NL
High Alt.		2NL
400"		1NL
454"		
Light Duty	3NL	3NL
Heavy Duty	Index	Index

1975-79 TUNE-UP PROCEDURES
General Motors V8 Tune-Up (Cont.)

1979 AUTOMATIC CHOKE SETTINGS

Application	Man. Trans.	Auto. Trans.
305"	1NL	1NL
350"		
Heavy Duty	1NR	1NR
Light Duty		
Federal	Index	1NL
Calif.	1NL	1NL
High Alt.		2NL
400"		
Heavy Duty		1NR
Light Duty		1NL
454"		
Heavy Duty	1NR	1NR
Light Duty		3NL

FUEL PUMP

FUEL PUMP SPECIFICATIONS

Application	Specification
Pressure (At Idle)	
With Vapor Return Line	
454"	7.5-9.0 psi
All Others	5.5-7.0 psi
Without Vapor Return Line	7.5-9.0 psi
Volume (30 Seconds Or Less)	1.0 pt.

IGNITION SYSTEM

DISTRIBUTOR

All models use a Delco-Remy High Energy Ignition system. Module must be replaced as a unit. A liberal coat of silicone grease MUST be applied to both the module and mounting surface.

Other Data & Specifications - See Delco-Remy Distributors in DISTRIBUTORS & IGNITION SYSTEMS section.

IGNITION COIL

1975-76 IGNITION COIL SPECIFICATIONS

Application	Specification
Primary Resistance (at 75°F)	0-1 Ohm
Secondary Resistance (at 75°F)	6000-30,000 Ohms
Current Draw (Maximum)	5-6 Amps
Coil Output (Minimum)	30,000 Volts

1977-79 IGNITION COIL SPECIFICATIONS

Application	Specification
Primary Resistance (at 80°F)	0.4-0.5 Ohm
Secondary Resistance (at 80°F)	6000-30,000 Ohms
Current Draw	
Engine Stopped	0.1-0.2 Amp
Engine Idling	0.5-1.5 Amps
Coil Output (Minimum)	30,000 Volts

FUEL SYSTEM

1975 CARBURETORS

Application	Model
350" 2-Bbl.	Rochester 2GC 2-Bbl.
350" 4-Bbl., 400" & 454"	
Light Duty	Rochester M4MC 4-Bbl.
Heavy Duty	[1] Rochester 4MV 4-Bbl.
455"	Rochester M4MC 4-Bbl.

[1] - California 454" engines use a Rochester M4MCA 4-barrel carburetor.

1976 CARBURETORS

Application	Model
350" 2-Bbl.	Rochester 2GC 2-Bbl.
350" 4-Bbl.	
Light Duty	Rochester M4MC 4-Bbl.
Heavy Duty	Rochester 4MV 4-Bbl.
400"	Rochester 4MV 4-Bbl.
454"	
Light Duty	Rochester M4ME 4-Bbl.
Heavy Duty	
Federal	Rochester 4MV 4-Bbl.
California	Rochester M4MC 4-Bbl.
455"	Rochester 4MC 4-Bbl.

1977 CARBURETORS

Application	Model
305"	Rochester 2GC 2-Bbl.
350" & 400"	
Light Duty	Rochester M4MC 4-Bbl.
Heavy Duty	Rochester 4MV 4-Bbl.
403"	Rochester M4MC 4-Bbl.
454"	
Light Duty	Rochester M4ME 4-Bbl.
Heavy Duty	
Federal	Rochester 4MV 4-Bbl.
California	Rochester M4MC 4-Bbl.
455"	Rochester 4MC 4-Bbl.

1978 CARBURETORS

Application	Model
305"	Rochester 2GC 2-Bbl.
350" & 400"	
Light Duty	Rochester M4MC 4-Bbl.
Heavy Duty	Rochester 4MV 4-Bbl.
454"	
Light Duty	Rochester M4MC 4-Bbl.
Heavy Duty	
Federal	Rochester 4MV 4-Bbl.
California	Rochester M4MC 4-Bbl.

1979 CARBURETORS

Application	Model
305"	Rochester M2MC 2-Bbl.
All Others	Rochester M4MC 4-Bbl.

Other Data & Specifications - See Rochester Carburetors in FUEL SYSTEMS section.