

TUNE-UP

ENGINE IDENTIFICATION

Engine Code letters are suffix of Engine Identification Number. Number is stamped on a pad, located at right hand side of cylinder block next to distributor.

Application	Code
250" Man. Trans.	TAA, TAB, TCN, TCK
250" Man. Trans. L.P. Gas	TCE, TNR, TCC
250" Auto. Trans.	TAC, TAD, TNX, TCA, TCB, TNW
250" Auto. Trans. L.P. Gas	TCF, TCG, TCI, TCM
292" Man. Trans.	TCZ, TNA
292" Man. Trans. L.P. Gas	TND
292" Auto. Trans.	TAG, TCU, TAF
292" Auto. Trans. L.P. Gas	TNC, TNE

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

A combination Vehicle Identification Number and Rating Plate is used on all vehicles. Plate is attached to inside face of dash panel on P-20 and P-30 models, on air intake plenum panel on cowl models and on left hand door pillar on all remaining models.

CS130F100043

- First Digit - Truck Type.
- Second Digit - Engine Type.
- Third Digit - GVW Range.
- Fourth Digit - Model Type.
- Fifth Digit - Model Year 0 (1970).
- Sixth Digit - Assembly Plant.
- Remaining Digits - Sequence Built Number.

TUNE-UP NOTES

► **IDLE SPEED ADJUSTMENT CAUTION** - Procedures and specifications for idle speed adjustment must be followed exactly as outlined. See "Hot (Slow) Idle RPM" under Tune-Up.

NOTE - For other items affecting Tune-Up, see CARBURETION Section or EMISSION CONTROL Section.

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.

COMPRESSION PRESSURE

With air cleaner removed and throttle and choke wide open, crank engine through at least four compression strokes. Compression should be 130 psi with a maximum variation of 20 psi between cylinders.

VALVE TAPPET CLEARANCE

Hydraulic Lifters One turn down from zero lash.

VALVE ARRANGEMENT

E-I-I-E-E-I-I-E-E-I-I-E

SPARK PLUGS

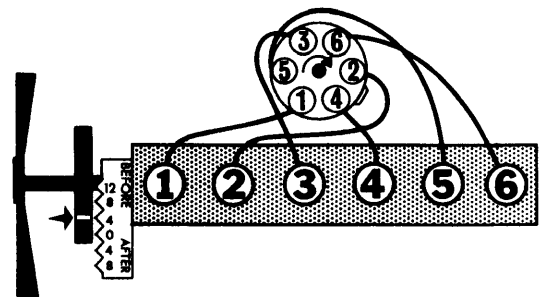
Gap035"
Torque.....25 ft. lbs.

Spark Plug Type

Application	AC No.
250"	R46T
292"	R44T

DISTRIBUTOR

Point Gap
New019"
Used016"
Cam Angle.....31-34°
Breaker Arm Spring Tension 19-23 ozs.
Condenser Capacity18-.23 mfd.



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FIRING ORDER & TIMING MARKS

IGNITION TIMING

Ignition timing is checked or adjusted with engine at normal operating temperature, distributor vacuum line disconnected and plugged, manual transmission in Neutral, automatic transmission in "D" and engine at normal idle.

Application	Timing
All, Man. Trans.	TDC
All, Auto. Trans.	4° BTDC

1970 Chevrolet 6 Tune-Up

TUNE-UP (Cont.)

HOT (SLOW) IDLE RPM

NOTE — If equipped with Evaporative Emission System, disconnect fuel tank line from vapor canister before adjusting idle speed and reconnect line when procedure is completed.

10 Series, All — Disconnect and plug distributor vacuum line. Turn mixture screw lightly into stop and back out four turns. Idle speed is adjusted with engine at normal operating temperature, choke valve open, air cleaner damper door open (if equipped), air conditioning off, parking brake on, manual transmission in Neutral and automatic transmission in "D". Adjust idle speed solenoid screw to obtain an engine speed of 800 RPM (manual transmission) and 630 RPM (automatic transmission). Adjust idle mixture screw in to obtain an engine speed of 750 RPM (manual transmission) and 600 RPM (automatic transmission). Disconnect solenoid electrical lead and adjust idle speed screw to obtain an engine speed of 400 RPM. Reconnect solenoid lead and distributor vacuum line.

20 & 30 Series, Man. Trans. — Disconnect and plug distributor vacuum line. Turn mixture screw lightly into stop and back out four turns. Idle speed is adjusted with engine at normal operating temperature, choke valve open, air cleaner damper door open (if equipped), air conditioning off, parking brake on and transmission in Neutral. Adjust idle speed screw to obtain an engine speed of 600 RPM. Adjust mixture screw in to obtain an engine speed of 550 RPM. Reconnect distributor vacuum line.

20 & 30 Series, Auto. Trans. — Disconnect and plug distributor vacuum line. Turn mixture screw lightly into stop and back out four turns. Idle speed is adjusted with engine at normal operating temperature, choke valve open, air cleaner damper door open (if equipped), air conditioning off, parking brake on and automatic transmission in "D". Adjust idle speed solenoid screw to obtain an engine speed of 550 RPM. Adjust idle mixture screw in to obtain an engine speed of 500 RPM. Disconnect solenoid electrical lead and adjust idle speed screw to obtain an engine speed of 400 RPM. Reconnect solenoid lead and distributor vacuum line.

COLD (FAST) IDLE RPM

Fast idle RPM is checked or adjusted with TCS solenoid disconnected, transmission in Neutral, engine at normal operating temperature and choke valve wide open. Position fast idle lever on highest step of fast idle cam and bend fast idle lever as required to obtain an engine speed of 2400 RPM.

CHOKE ADJUSTMENT

With air cleaner removed, check that choke valve and rod move freely. Disconnect choke rod at choke lever. Hold choke valve in fully closed position and pull choke rod upward to end of travel. The bottom of choke rod should be even with top of hole on choke lever. To adjust, bend choke rod at offset until it freely enters hole in choke lever. Reconnect rod and install air cleaner.

FUEL PUMP PRESSURE & VOLUME

Pressure (At Idle)..... 3-4.5 psi
Volume (At Cranking Speed)..... 1 pt. in 30-45 sec.

MANIFOLD HEAT CONTROL VALVE

Check valve for freedom of movement and lubricate with a suitable solvent (GM Manifold Heat Control Valve Solvent).

EMISSION CONTROL

See appropriate article in EMISSION CONTROL Section.

IGNITION

IGNITION COIL

Application	Delco Part No.
All	1115202/208
Resistance	Ohms @ 75°F
Primary	1.41-1.65
Secondary	
1115202.....	3,000-20,000
1115208.....	5,400-7,100
Ballast Resistor Loom.....	1.8

DISTRIBUTOR

Application	Delco Part No.	
	Man. Trans.	Auto. Trans.
"G" Models 250".....	1110465	1110466
All Others 250".....	1110463	1110464
All 292".....	1110467	1110468

Other Data & Specifications — See Delco Distributors in ELECTRICAL Section.

CARBURETION

CARBURETORS

Rochester Model MV 1-Bbl.

Application	Carb. No.
250" G-10 Auto. Choke	7040007
250" 10 Series, Auto. Choke	7040021
292" 10 Series, Auto. Choke	7040022
250" 20 & 30 Series, Auto. Choke.....	7040025
292" 20 & 30 Series, Auto. Choke.....	7040026

Other Data & Specifications — See *Tune-Up and Rochester Carburetors* in **CARBURETION** Section.

ACCELERATOR LINKAGE ADJUSTMENT

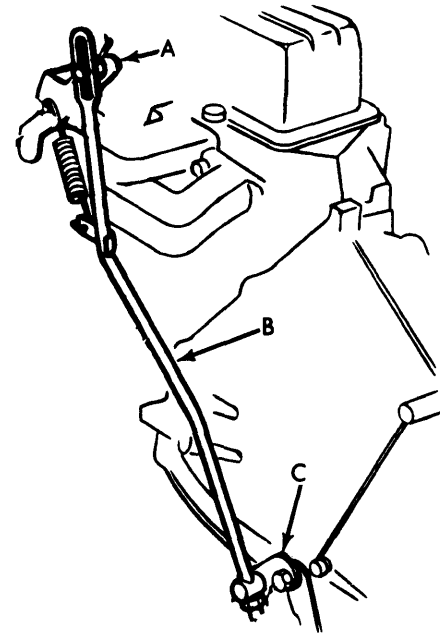
All (Exc. "G" Models) — With accelerator pedal depressed to floor and throttle lever in wide open position, adjust swivel on throttle control rod until it freely enters hole in throttle lever (P-10), hole in pedal lever (P-20 and P-30) or accelerator control lever (all remaining models).

"G" Models — With accelerator pedal depressed to floor, disconnect accelerator rod at pedal rod. Rotate bellcrank mounted on manifold until carburetor throttle valve is wide open. Adjust accelerator rod at swivel until it freely enters pedal rod and reconnect. Depress accelerator pedal to ensure linkage works freely.

THROTTLE VALVE LINKAGE ADJUSTMENT

All W/Powerglide Trans. (Exc. "G" Models) — With accelerator pedal depressed to floor, bellcrank on transmission must be in wide open position. Dash control lever must be $\frac{1}{4}$ " to $\frac{1}{16}$ " of stop with transmission lever against internal stop in transmission.

"G" Models W/Powerglide Trans. — Remove air cleaner and disconnect carburetor return spring. Rotate lever "A" (see illustration) to wide open position pulling throttle valve rod through detent in transmission. Hold slot on rod "B" against pin on lever "A" and adjust swivel on rod until it freely enters hole in lever "C". Hold rod "B" perpendicular to pin on lever "A" and tighten swivel nut. Reconnect return spring and install air cleaner. Check linkage for freedom of movement.



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"G" MODELS THROTTLE VALVE LINKAGE ADJUSTMENT

DETENT CABLE ADJUSTMENT

Turbo Hydra-Matic 350 Trans. — Remove air cleaner and loosen detent cable clamp. Adjust accelerator linkage if necessary. With choke valve wide open, position throttle lever in wide open position and pull detent cable rearward until internal stop in transmission is felt. Cable must be pulled through transmission detent to reach wide open position. Tighten cable clamp and check linkage for correct operation.

DETENT SWITCH ADJUSTMENT

Turbo Hydra-Matic 400 Trans. — Adjust accelerator linkage if necessary. Rotate throttle lever to wide open position and adjust switch on mount until .05" clearance is obtained between switch and lever.

ELECTRICAL

BATTERY

12 Volt — Negative Ground.

Application	Delco Part No.	Cranking Power Watts @ 0°F
G-10 & G-20	Y-77	2300
250" All Others	Y-59	2350
292" All	R-59	2900
Optional All	R-69	3150

STARTER

Application	Delco Part No.
250" Man. Trans. "G" Models	1108367
250" Man. Trans. All Others	1108368
250" Auto. Trans. (Powerglide).....	1108365
250" Auto. Trans. (TH-350).....	1108367
250" Auto. Trans. (TH-400).....	1108425
292" Man. Trans.	1108360
292" Auto. Trans. (Powerglide).....	1108361
Optional Man. Trans. (Exc. "G" Models).....	1108372

Other Data & Specifications — See *Delco Starters* in **ELECTRICAL** Section.

1970 Chevrolet 6 Tune-Up

ELECTRICAL (Cont.)

ALTERNATOR

Application	Amps.	Delco Part No.
All, Standard.....	37	1100834
C-10, C-20, C-30 ①.....	37	1100838
All, Optional	42	1100896
All, Optional	61	1100849

① - With power steering.

Other Data & Specifications - See Delco Alternators in ELECTRICAL Section.

ALTERNATOR REGULATORS

Application	Delco Part No.
All	1119515

Other Data & Specifications - See Delco Alternator Regulators in ELECTRICAL Section.

ENGINE

INTAKE MANIFOLD TIGHTENING

Tighten center clamp bolts to 30 ft. lbs. and end bolts to 20 ft. lbs.

FILTERS & CLEANERS

Filter or Cleaner	Service Interval (Miles)
Oil Filter	Replace 12,000
Air Cleaner	
Element Type	① Check 12,000
Polyurethane Wrap Type	Clean 24,000
Oil Bath Type	② Check 12,000
Crankcase Ventilation Filter	③ Clean 6,000
PCV Valve	Replace 12,000
TH-400 Sump Strainer	Replace 24,000
Fuel Filter	Replace 24,000
Distributor Cam Lubricator	④ Replace 24,000

① - Replace if dirty, do not clean. Rotate 180° at 12,000 miles and replace at 24,000.

② - Clean and replace with SAE 50 oil.

③ - Located in air cleaner, if equipped. Replace at 24,000 miles.

④ - Rotate 180° at 12,000 miles.

COOLING CAPACITIES

Application	① Quantity
250"	
"G" Models	12 qts.
P-10	10 qts.
"C" & "K" Models	11.5 qts.
P-20 & 30	12 qts.
292"	
C & K-20 & 30	11.5 qts.
P-20 & 30	12 qts.

① - Add one quart if equipped with heater or heavy duty radiator.

CAPACITIES (EXCEPT COOLING)

Application	Quantity
Crankcase	
250"	① 4 qts.
292"	① 5 qts.
Auto. Trans.	
Powerglide	② 9 qts.
TH 35010 qts.
TH 400	9.5 qts.
Man. Trans.	
3-Speed	1.75 pts.
Heavy Duty 3-Speed	3.5 pts.
4-Speed8 pts.
Four-Wheel Drive	
Transfer Case5 pts.
Power Take-Off	1 pt.
Drive Axles	③
Fuel Tank	
"G" Models	24.5 gals.
"G" Models ①22 gals.
Panel, Suburban & Blazer	23.5 gals.
"C" & "K" Models (Exc. C-30 Cowl)	21.5 gals.
C-30 Cowl20 gals.
P-10	20.5 gals.
P-20 & 3030 gals.

① - Add one quart with filter change.

② - Add one quart if equipped with oil cooler.

③ - Fill to bottom of filler plug hole.

④ - Equipped with Evaporative Emission System.

BELT ADJUSTMENT

Tension (Lbs.) Using Strand Tension Gauge

Application	New Belt	Used Belt
Water Pump	125±5	75±5
Power Steering	125±5	75±5
Air Conditioning	140±5	95±5