

TUNE-UP

ENGINE IDENTIFICATION

Engine Code letters are suffix of Engine Identification Number. Number is stamped on a pad on front right hand side of cylinder block.

Application	Code
307" Man. Trans.	TAN, TAR, TAS, TAT
307" Auto. Trans.	TAH, TAI, TAJ, TAK, TAL, TAO, TAP
350" Man. Trans.	TBB, TBC, TBD, TBU, TBZ
350" Auto. Trans.	TNT, TAX, TAY, TAZ, TBA, TMJ, TBY, TBX, TBV
400" Man. Trans.	TBH
400" Auto. Trans.	TBG

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 150 psi with a maximum variation of 20 psi between cylinders.

VALVE TAPPET CLEARANCE

Hydraulic Lifters One turn down from zero lash.

VALVE ARRANGEMENT

- 307", 350" E-I-I-E-E-I-I-E (Both banks, front to rear.)
- 400" 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

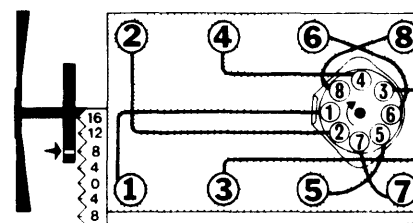
Gap035"
Torque..... 25 ft. lbs.

Spark Plug Type

Application	AC No.
307"	R45
350"	R44
400"	R44T

DISTRIBUTOR

Point Gap
New019"
Used016"
Cam Angle..... 28-32°
Breaker Arm Spring Tension 19-23 ozs.
Condenser Capacity18-.23 mfd.



OCHA001

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 speed.

Ignition Timing Specifications

Application	Man. Trans.	Auto. Trans.
307"	2° BTDC	8° BTDC
350"	TDC	4° BTDC
400"	4° BTDC	①

① - Not available.

TUNE-UP (Cont.)

HOT (SLOW) IDLE RPM

Preliminary Adjustments — All Models — 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". Disconnect and plug distributor vacuum line. Disconnect line at vapor canister from fuel tank if equipped with Evaporative Emission System. Turn mixture screws lightly into stop and back out four turns. The remaining procedures vary, depending on vehicle and engine.

20 & 30 Series, 307" All — Adjust idle mixture screws equally until highest steady idle speed is obtained. Adjust idle speed screw to obtain an engine speed of 700 RPM (manual transmission) and idle speed solenoid to obtain an engine speed of 600 RPM (automatic transmission). Adjust idle mixture screws in equally until engine speed drops 20 RPM then back out ¼ turn. If necessary, readjust idle speed to obtain specified RPM. Disconnect idle speed solenoid electrical lead and adjust carburetor idle speed screw to obtain an engine speed of 450 RPM. Reconnect solenoid lead.

10 Series, 307" All — Adjust idle speed screw to obtain an engine speed of 800 RPM (manual transmission) and idle speed solenoid screw to obtain an engine speed of 630 RPM (automatic transmission). Adjust idle mixture screws in equally to obtain an engine speed of 700 RPM (manual transmission) and 600 RPM (automatic transmission). Disconnect idle speed solenoid lead and adjust idle speed screw to obtain an engine speed of 450 RPM. Reconnect idle speed solenoid lead.

10 Series, 350" & 400" All — Adjust idle speed screw to obtain an engine speed of 650 RPM (manual transmission) and 550 RPM (automatic transmission). Adjust idle mixture screws in equally to obtain an engine speed of 600 RPM (manual transmission) and 500 RPM (automatic transmission).

20 & 30 Series, 350" & 400" — Adjust idle speed screw to obtain an engine speed of 775 RPM (manual transmission) and 630 RPM (automatic transmission). Adjust idle mixture screws in equally to obtain an engine speed of 700 RPM (manual transmission) and 600 RPM (automatic transmission).

COLD (FAST) IDLE RPM

Rochester 2GV 2-Bbl. — Fast idle RPM is correct when slow idle RPM and choke rod are correctly adjusted. See *Hot (Slow) Idle RPM* in this Section and *Rochester Carburetors* in CARBURETION Section.

Rochester 4 MV 4-Bbl. — 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 second step of fast idle cam and adjust fast idle screw until an engine speed of 2400 RPM is obtained.

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.

FUEL PUMP PRESSURE & VOLUME

Pressure (At Idle)
 307"5-6.5 psi
 350", 400"7-8.5 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

DISTRIBUTOR

Application	Delco Part No.	
	Man. Trans.	Auto. Trans.
307"	1111481	1110466
350"	1111500	1111955
400"	1111500	1111500

Other Data & Specifications — See *Tune-Up and Delco Distributors* in ELECTRICAL Section.

IGNITION COIL

Application	Delco Part No.
All	1115242
Resistance	Ohms @ 75°F
Primary	1.24-1.46
Secondary	7,200-9,500
Ballast Resistor Loom	1.8

CARBURETION

CARBURETORS

Rochester Model 2GV 2-Bbl.

Application	Carb. No.
307" 10 Series, Man. Trans.	7040105
307" 10 Series, Man. Trans. ①.....	7040405
307" 10 Series, Auto. Trans.	7040125
307" 10 Series, Auto. Trans. ①.....	7040425
307" 20 & 30 Series, All	7040108

① — Equipped with Evaporative Emission System.

Rochester Model 4MV 4-Bbl.

Application	Carb. No.
350" 10 Series, All	7040511
350" 20 & 30 Series, All	7040208
400" 10 Series, All	7040509
400" 20 & 30 Series, All	7040206

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 accelerator pedal lever.

"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

Powerglide Trans. Only — With air cleaner removed, disconnect accelerator linkage at carburetor, accelerator return spring and throttle valve rod return spring. Pull up on throttle valve control rod until it reaches internal stop on transmission. If throttle valve rod is correctly adjusted, carburetor must reach wide open position at the same time ball stud contacts slot in upper end of throttle valve rod. If adjustment is incorrect, adjust swivel on upper end of rod until correct condition exists. Allowable tolerance is $\frac{1}{32}$ ". Reconnect and adjust accelerator linkage. See *Accelerator Linkage Adjustment.*

DETENT CABLE ADJUSTMENT

Turbo Hydra-Matic 350 Trans. Only — Remove air cleaner and loosen detent cable clamp. Adjust accelerator linkage if necessary. See *Accelerator Linkage Adjustment.* 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. Only — Adjust accelerator linkage if necessary. See *Accelerator Linkage Adjustment.* Rotate throttle lever to wide open position. On 307" and 400" engines, adjust switch until .05" clearance is obtained between switch and lever. On 350" engines, adjust switch on mount until .20" 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
307" All Others	Y-59	2350
350" & 400" All	R-59	2900
Optional All	R-69	3150

STARTER

Application	Delco Part No.
307" "G" Models, Man. Trans.	1108338
307" All Others, Man. Trans.	1108368
307" "G" Models, Auto. Trans.	1108367
307" All Others, Auto. Trans. (Powerglide).....	1108365
307" Auto. Trans. (TH-350).....	1108367
307" Auto. Trans. (TH-400).....	1108428
350" Man. Trans.	1108360
350" Auto. Trans.	1108336
400" All	1108385
Optional For Starter No. 1108338.....	1108350
Optional For Starter No. 1108368.....	1108372
Optional For Starter Nos. 1108365-67	1108363

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

1970 Chevrolet V8 Tune-Up

ELECTRICAL (Cont.)

ALTERNATOR

Application	Amps.	Delco Part No.
All "C", "K" & "G" Models	37	1100834
All "P" Models	42	1100839
Optional	42	1100842
Optional	61	1100849
Optional	62	1117782

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

ALTERNATOR REGULATOR

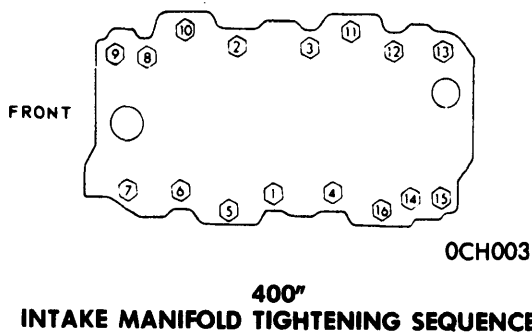
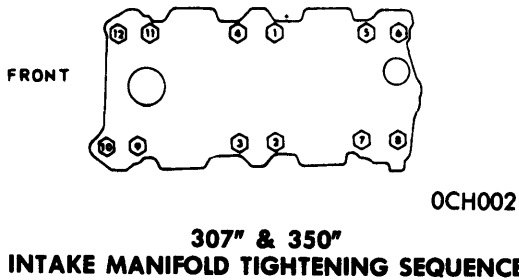
Application	Delco Part No.
All (Exc. 62 Amp. Alternator)	1119515
62 Amp. Alternator	1116378

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

ENGINE

INTAKE MANIFOLD TIGHTENING

Tighten bolts to 30 ft. lbs. in sequence shown in illustration.



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
307"	
C-10 Man. Trans.	16.5 qts.
C-10 & 20, P-20 & 30 & "G" Models	17 qts.
K-10 & 20	17.5 qts.
350"	
"G" Models	17 qts.
"C" & "P" Models	16 qts.
K-10	18 qts.
K-20	16.5 qts.
400"	
Man. Trans.	23 qts.
Auto. Trans.	24.5 qts.

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

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

ENGINE (Cont.)

CAPACITIES (EXCEPT COOLING)

Application	Quantity
Crankcase	① 4 qts.
Auto. Trans.	
Powerglide	② 9 qts.
TH 350	10 qts.
TH 400	9.5 qts.
Man. Trans.	
3-Speed	1.75 pts.
Heavy Duty 3-Speed	3.5 pts.
4-Speed	8 pts.
Four-Wheel Drive	
Transfer Case	5 pts.
Power Take-Off	1 pt.
Drive Axles	③
Fuel Tank	
"G" Models	24.5 gals.
"G" Models ④	22 gals.
Panel, Suburban & Blazer	23.5 gals.
"C" & "K" Models (Exc. C-30 Cowl)	21.5 gals.
C-30 Cowl	20 gals.
P-10	20.5 gals.
P-20 & 30	30 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.