

1968 Chevrolet 6 Tune-Up

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
230" Man. Trans.	PK, PR, PA
230" Auto. Trans.	PL, PU, PO
250" Man. Trans.	TA, PV, PH, PI, PE
250" Auto. Trans.	TE, TT, PW, PJ, TI
292" Man. Trans.	UH, U3, UM
292" Auto. Trans.	UT, UP, UO, UQ

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

The Vehicle Identification Number is found on the GVW Rating plate. Plate is attached to upper left hand door pillar on "C" and "K" models, on left cowl inner panel on all cowl models and on left side of steering column on "G" and "P" models.

CS138F100043

- First Digit - Chassis Designation.
- Second Digit - Engine Designation.
- Third Digit - GVW Range.
- Fourth Digit - Truck Type.
- Fifth Digit - Model Year 8 (1968).
- 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 should 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

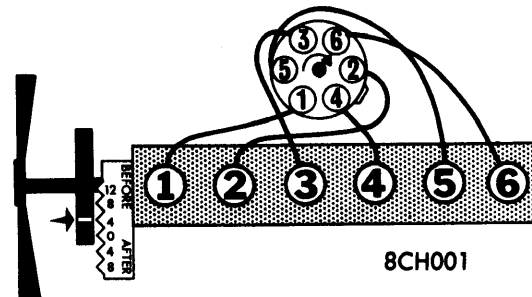
Gap035"
Torque.....25 Ft. Lbs.

Spark Plug Type

Application	AC No.
230", 250".....	46N
292".....	44N

DISTRIBUTOR

Point Gap (New)019"
(Used)016"
Cam Angle.....31-34°
Breaker Arm Spring Tension 19-23 ozs.
Condenser Capacity18-.23 mfd.



FIRING ORDER & TIMING MARKS

IGNITION TIMING

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

Application	Timing
All W/O A.I.R.	4° BTDC
All Man. Trans. W/A.I.R.	0° BTDC
All Auto. Trans. W/A.I.R.	4° BTDC

HOT (SLOW) IDLE RPM

Without Idle Speed Solenoid - Screw idle mixture screw into stop, then back out three turns. Start engine and warm to normal operating temperature. With choke valve and preheater valve wide open, manual transmission in Neutral, automatic transmission in "D" and air conditioning "OFF" (air

TUNE-UP (Cont.)

conditioning "ON" if equipped with automatic transmission), adjust idle speed screw to specified RPM. Adjust idle mixture screw until highest steady idle speed is obtained. Turn mixture screw in until engine speed drops 20 RPM, then back out 1/4 turn. Readjust idle speed screw to specified RPM if necessary.

With Idle Speed Solenoid - Screw idle mixture screw into stop, then back out three turns. Start engine and warm to normal operating temperature. With choke valve and preheater valves wide open, manual transmission in Neutral, automatic transmission in "D" and air conditioning "OFF" (air conditioning "ON" if equipped with automatic transmission), adjust idle speed to 500 RPM by adjusting solenoid plunger with a wrench. Disconnect wire to solenoid, with solenoid de-energized throttle lever should contact carburetor idle screw. Adjust screw to obtain an engine speed of 400 RPM. Adjust idle mixture screw until highest steady idle speed is obtained, then turn mixture screw in until engine speed drops 20 RPM and back out 1/4 turn. Readjust solenoid to obtain specified RPM if necessary.

Idle Speed (RPM)

Application	RPM
All W/O A.I.R.	500
All Man. Trans. W/A.I.R.	700
230", 250" Auto. Trans. W/A.I.R.	500
292" Auto. Trans. W/A.I.R.	600

COLD (FAST) IDLE RPM

Rotate fast idle cam to highest position, bend cam follower tang in or out to obtain specified fast idle speed of 2400 RPM.

GOVERNOR ADJUSTMENT

Speed Adjustment - To adjust governor for higher speed, rotate adjusting cap counterclockwise. To obtain a lower speed, rotate cap clockwise.

Surge & Stability Adjustment - If a surging condition exists, remove adjusting cap and shaft assembly. Using a suitable hollow wrench (A-24283), hold nut in bore and rotate screw one turn with a suitable hex (A-25264). Now turn nut 1/4 turn to right without turning screw. If a more sensitive adjustment is required, use same procedure and turn screw and nut to left. Tap lightly on hollow wrench to ensure nut is seated correctly. Replace shaft assembly and adjusting cap.

CHOKE ADJUSTMENT

Manual type choke is used. Check that choke valve fully opens and closes as cable is actuated. To correctly adjust cable, push knob into stop on dash and pull out 1/8". Loosen cable clamp at carburetor bracket and adjust cable through clamp until choke valve is fully open. Tighten cable clamp.

FUEL PUMP PRESSURE & VOLUME

Pressure (At Idle).....	3-4.25 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

Delco Part No.

Application	Man. Trans.	Auto. Trans.
230"		
"G" Models	1110438	1110437
P-10.....	1110436	1110433
250"		
"G" Models	1110441	1110440
All Others.....	1110439	1110399
292"		
All	1110433	1110442

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

IGNITION COIL

Application	Delco Part No.
All	1115202
Resistance	Ohms @ 75°F
Primary	1.41-1.65
Secondary	3,000-20,000
Ballast Resistor Loom.....	1.8

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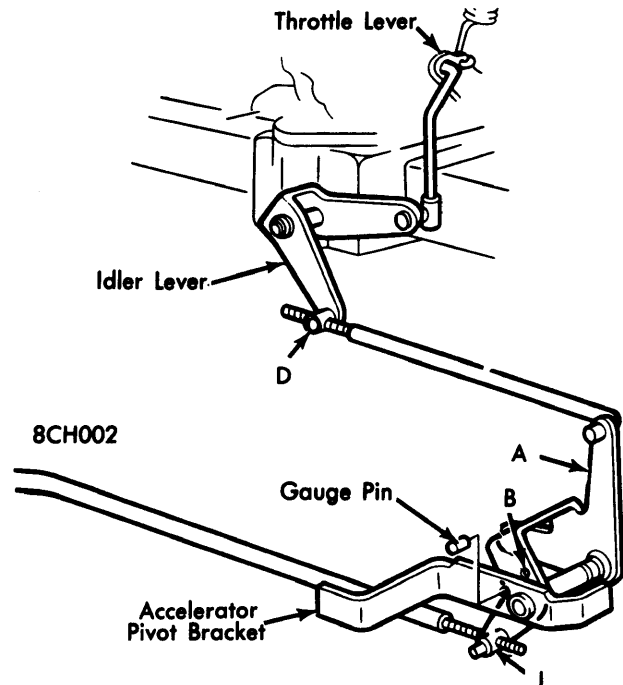
CARBURETION

CARBURETORS

Rochester Model M 1-Bbl.

Application	Part No.
230" W/O Gov.	7028006
230" W/Gov.	7028010
250" W/O Gov.	7028007
250" W/Gov.	7028011
292" All 10 Series.....	7028012
292" All Others.....	7028013

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



"G" MODELS ACCELERATOR LINKAGE ADJUSTMENT

ACCELERATOR LINKAGE ADJUSTMENT

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

"G" Models — Disconnect swivels "D" and "J" from their respective levers (see illustration). Insert a $\frac{3}{16}$ " diameter gauge pin in hole "B" on lever "A" and accelerator pivot bracket. Rotate throttle lever to wide open position and adjust swivel "D" until it freely enters hole in idler lever. Depress accelerator pedal until it is $\frac{1}{4}$ " from floorboard and adjust swivel "J" until it freely enters hole in lever. Install clips on swivels and remove gauge pin.

THROTTLE VALVE LINKAGE ADJUSTMENT

Powerglide Trans. — With accelerator pedal depressed to floor, bell crank on transmission must be in wide open position. Dash control lever must be $\frac{1}{64}$ " to $\frac{1}{16}$ " from stop with transmission lever against internal stop in transmission.

DETENT SWITCH ADJUSTMENT

Turbo Hydra-Matic Trans. — Accelerator linkage must be correctly adjusted before adjusting detent switch. See *Accelerator Linkage Adjustment*. 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	Capacity (Amps)
"G" Models (Standard).....	45
"P" Models (Standard).....	70
All Others (Standard, Exc. 292").....	53
All Others (Standard 292").....	61
"G" Models (Optional).....	70

STARTER

Application	Delco Part No.
230", 250" G-10 (Standard).....	1108365
230", 250" G-10 (Optional).....	1108363
250" All Man. Trans. (3-Speed).....	1108368
250" All Auto. Trans. (Powerglide).....	1108367
250" All Auto. Trans. (Turbo Hydra-Matic).....	1107372
292" All Man. Trans.	1108360
All "P" Models (Optional).....	1108372

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

ELECTRICAL (Cont.)

ALTERNATOR

Application	Amps	Delco Part No.
Standard ^①	37	1100693
Standard ^②	42	1100795
Optional, All	61	1100750
Optional, All ^③	62	1117782

- ① - Except on P-20 and 30 models, models equipped with A/C and stake bed models with dual rear wheels.
- ② - Standard on P-20 and 30 models, models equipped with A/C and stake bed models with dual rear wheels.
- ③ - Except "G" models.

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

ALTERNATOR REGULATORS

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

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.

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
A.I.R. Pump	75±5	55±5

FILTERS & CLEANERS

Filter & Cleaner	Service Interval (Miles)
Oil Filter.....	Replace 12,000
Air Cleaner	
Oil Bath Type	①Check 12,000
Element Type	②Replace 24,000
Foam Type	Clean 12,000
Crankcase Ventilation Filter.....	③Clean 6,000
Crankcase Breather	Clean 6,000
Crankcase Ventilation Valve.....	Replace 12,000
Governor Filter	Replace 12,000
A.I.R. Filter.....	Clean 12,000
Turbo Hydra-Matic Sump Strainer.....	Replace 24,000
Fuel Filter.....	Replace 12,000
Distributor Cam Lubricator.....	Replace 24,000

- ① - Clean and replace with SAE 50 oil.
- ② - Replace if dirty, do not clean.
- ③ - If equipped, clean and replace with SAE 20 oil.

COOLING CAPACITIES

Application	①Quantity
P-10.....	10 qts.
C-10, C-20 W/292" Auto. Trans.	12.5 qts.
P-10, P-20 W/292"	12.5 qts.
All Others	12 qts.

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

CAPACITIES (EXCEPT COOLING)

Application	Quantity
Crankcase	
230", 250"	①4 qts.
292"	① 5 qts.
Automatic Transmission	
Powerglide	②9 qts.
Turbo Hydra-Matic	9.5 qts.
Manual Transmission	
3-Speed.....	1.75 pts.
Heavy Duty 3-Speed.....	3.5 pts.
4-Speed.....	6 pts.
Overdrive5 pt.
Four-Wheel Drive Transfer Case	5 pts.
Rear Axle	
2400 lb.	3.5 pts.
2900, 3300, 3500 lb.	4.5 pts.
5200, 7200 lb.	6.5 pts.
11,000 lb.	14 pts.
Front Axle (Four-Wheel Drive).....	5 pts.
Four-Wheel Drive Knuckle Ends.....	.5 pt.
Fuel Tank	
"G" Models.....	16 gals.
"C" and "K" Models	
Standard.....	18 gals.
Optional.....	21 gals.
C-10, C-20 Cowl Models, P-10.....	20.5 gals.
C-30 Cowl Models.....	21 gals.
P-20, P-30 Short Wheelbase	15.5 gals.
P-20, P-30 Long Wheelbase	
Standard.....	18 gals.
Optional.....	30 gals.

- ① - Add 1 quart with filter change.
- ② - Add 1 quart if equipped with oil cooler.