

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, TNS, TBS, TAT, TAS, TAR
307" Auto. Trans.	TBM, TBN, TAP, TAO, TAK, TAL, TAH, TAJ
350" Man. Trans.	TBC, TBB
350" Auto. Trans.	TAY, TAX, TNT
400" Man. Trans.	TBH
400" Auto. Trans.	TBG

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION

The Vehicle Identification Number is found on the GVW Rating Plate. Plate is attached to left hand door pillar on all models except "P" and cowl models. Plate location on "P" and cowl models is determined by body builder.

CE102BZ50001

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

TUNE-UP NOTES

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.

► **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.

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

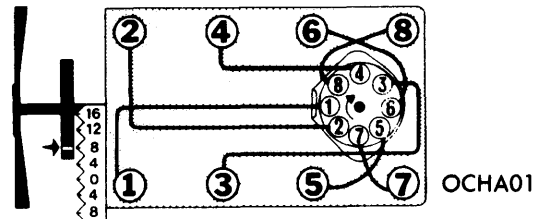
Gap035"
Torque..... 25 ft. lbs.

Spark Plug Type

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

DISTRIBUTOR

Point Gap
New019"
Used..... .016"
Cam Angle..... 28-32°
Breaker Arm Spring Tension 19-23 ozs.
Condenser Capacity 18-23 mfd.



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.

Ignition Timing Specifications

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

① - Not Available.

HOT (SLOW) IDLE RPM

Preliminary Adjustments - All Models - Idle speed is checked or adjusted with engine at normal operating temperature, choke valve open, air cleaner installed, air conditioning "OFF", hot idle compensator held closed, manual transmission in Neutral and automatic transmission in "D". Disconnect line at vapor canister from fuel tank if equipped with Evaporative Emission System. Check and if necessary adjust dwell and ignition timing. Turn mixture screws lightly into stop then back out four turns.

307" 1500 Man. Trans. (Exc. "G") - Adjust idle speed screw until an engine speed of 800 RPM is obtained. Adjust mixture screws in until specified idle RPM is obtained.

307" Man. Trans. (All Others) - Adjust idle speed screw to obtain specified idle RPM. Adjust mixture screws in until engine speed drops 20 RPM, then back mixture screws out ¼ turn. Readjust idle speed screw to specified idle RPM if necessary.

TUNE-UP (Cont.)

307" Auto. Trans. — Adjust idle speed solenoid screw to obtain specified idle RPM. Adjust mixture screws in until engine speed drops 20 RPM, then back screws out ¼ turn. Disconnect solenoid lead and adjust idle speed screw to obtain an engine speed of 400 RPM ("G" Models) and 450 RPM (all others). Reconnect solenoid lead and readjust idle speed solenoid screw to obtain specified idle RPM if necessary.

350" & 400" (Exc. P-2500 & 3500) — Adjust idle speed screw until an engine speed of 775 RPM (manual transmission) and 630 RPM (automatic transmission) is obtained. Adjust mixture screws in until specified idle RPM is obtained.

350" & 400" P-2500 & 3500 — Adjust idle speed screw until an engine speed of 650 RPM (manual transmission) and 550 RPM (automatic transmission) is obtained. Adjust mixture screws in until specified idle RPM is obtained.

Application	Idle Speed RPM	
	Man. Trans.	Auto. Trans.
307"		
1500 Series & "G"	700	600
2500 & 3500 Series	600	600
350" & 400"		
P-2500 & 3500	600	500
All Others	700	600

COLD (FAST) IDLE RPM

Rochester Model 2GV 2-Bbl. — Fast idle RPM is correct when slow idle RPM is correctly adjusted. See *Hot (slow) Idle RPM in this Section.*

Rochester Model 4MV 4-Bbl. — Fast idle speed is checked or adjusted with engine at normal operating temperature, choke valve open, transmission in Neutral and fast idle lever on high step of fast idle cam. Adjust fast idle screw 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.

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	Man. Trans.	Auto. Trans.
307"		
"G" Models	1110912	1110912
"P" Models	1111481	1110912
All Others	1111481	1111481
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	1115238
Resistance Ohms @ 75°F	
Primary	1.77-2.01
Secondary	3,000-20,000
Ballast Resistor Loom	1.8

CARBURETION

CARBURETORS

Rochester Model 2GV 2-Bbl.

Application	Carb. No.
307" 1500 Series, Man. Trans.	7040105
307" 1500 Series, Man. Trans.⓪	7040405
307" 1500 Series, Auto. Trans.	7040125
307" 1500 Series, Auto. Trans.⓪	7040425
307" 2500 & 3500 Series, All	7040108

⓪ — Equipped with Evaporative Emission System.

Rochester Model 4MV 4-Bbl.

Application	Carb. No.
350" 1500 Series, All	7040511
350" 2500 & 350 Series, All	7040208
400" 1500 Series, All	7040509
400" 2500 & 3500 Series, All	7040206

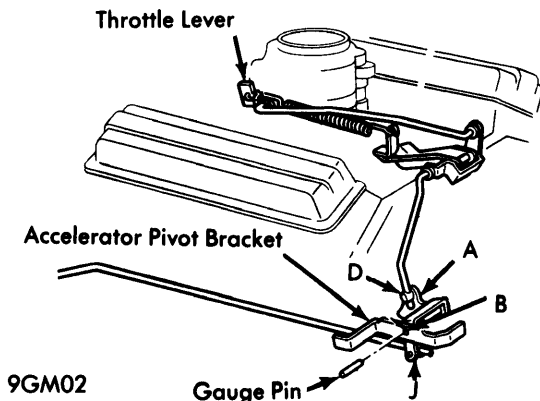
Other Data & Specifications — See *Tune-Up and Rochester Carburetors in CARBURETION Section.*

CARBURETION (Cont.)

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 in throttle lever or pedal lever.

"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 lever "A". Depress accelerator pedal until it is $\frac{1}{4}$ " from floor and adjust swivel "J" until it freely enters hole in lever "A". Install clips on swivel and remove gauge pin.

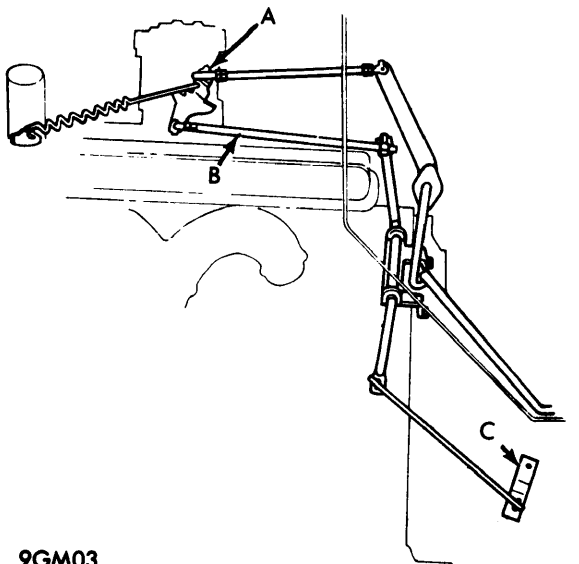


9GM02

"G" MODELS ACCELERATOR LINKAGE ADJUSTMENT

THROTTLE VALVE LINKAGE ADJUSTMENT

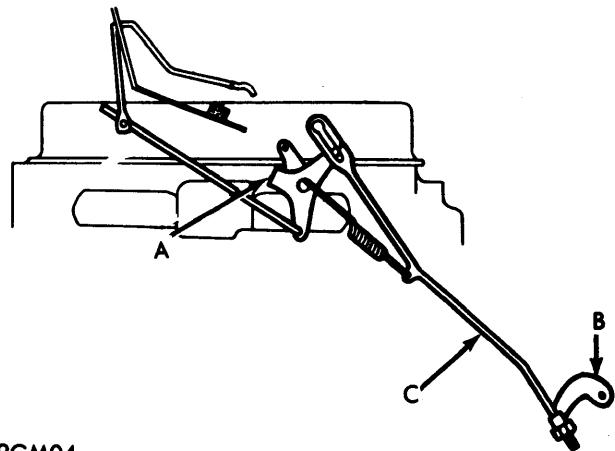
C1500 & 2500 — To check linkage adjustment, place linkage in idle position then rotate to wide open by rotating lever "A" (see illustration). Push down on lever "C" and check that rod "B" does not flex. If rod flexes, disconnect swivel on rod "B" from lever "A". Rotate lever "A" to wide open position and pull forward on rod "B" until internal stop in transmission is felt. Adjust swivel on rod "B" until it freely enters hole in lever "A". Check and adjust accelerator linkage if necessary.



9GM03

C-1500 & 2500 THROTTLE VALVE LINKAGE ADJUSTMENT

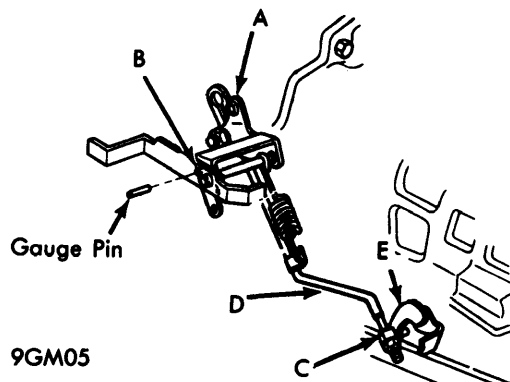
P-2500 — To check adjustment, place linkage in idle position then rotate to wide open position by rotating lever "A" (see illustration). Push down on lever "B" and check that rod "C" does not flex. If rod "C" flexes, disconnect rod from lever "B". Rotate levers "A" and "B" to wide open positions. Push rod "C" up until slot is against pin and adjust swivel until it freely enters hole in lever "B". Check and adjust accelerator linkage if necessary. See *Accelerator Linkage Adjustment*.



9GM04

P-2500 THROTTLE VALVE LINKAGE ADJUSTMENT

G1500 & 2500 — Check and adjust accelerator linkage. See *Accelerator Linkage Adjustment*. To adjust throttle valve linkage, insert a $\frac{3}{16}$ " gauge pin in hole in lever "A" (see illustration) and bracket "B" with lever "E" turned counterclockwise to internal stop in transmission. Adjust swivel "C" on rod "D" until it freely enters hole in lever "E", then lengthen rod by turning swivel three turns. Remove gauge pin and connect swivel to lever.



9GM05

G-1500 & 2500 THROTTLE VALVE LINKAGE ADJUSTMENT

DETENT SWITCH ADJUSTMENT

Turbo Hydra-Matic Trans. Only — With carburetor in wide open position, adjust switch on mount until specified clearance is obtained between switch plunger and carburetor lever.

Detent Switch Clearance

Application	Clearance
307"	.050"
350" & 396"	.200"

ELECTRICAL

BATTERY

12 Volt - Negative Ground.

Application	Delco Part No.	Cranking Power Watts @ 0°F
Standard		
All (Exc. "G").....	Y59	2350
"G" Models.....	Y77	2300
Optional		
All (Exc. "G").....	R59	2900
All	R69	3150

STARTER

Application	Delco Part No.
"G" Models.....	1108338
All Others	
307" Man. Trans.	1108368
350" Man. Trans.	1108362
307" Auto. Trans.	
Pow-R-Flo	1108367
Turbo Hydra-Matic	1108428
350" Auto. Trans.	
Pow-R-Flo	1108361
Turbo Hydra-Matic	1108428
400" All	1108385
Optional	
For Starter No. 1108338	1108350
For Starter No. 1108368	1108372
For Starter No. 1108362	1108364
For Starter No. 1108428, 1108361.....	1108363

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

ALTERNATOR

Application	Amps.	Delco Part No.
Standard		
All (Exc. "P")	37	1100834
"P" Models	42	1100842
Optional		
All (Exc. "P")	42	1100842
All	61	1100849
"C" & "K" Models.....	62	1117765
All	62	1117782

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

ALTERNATOR REGULATOR

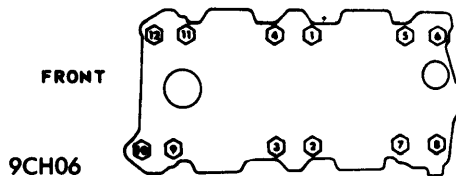
Application	Delco Part No.
All (Exc. 62 Amp. Alts.).....	1119515
62 Amp. Alts.	1116378

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

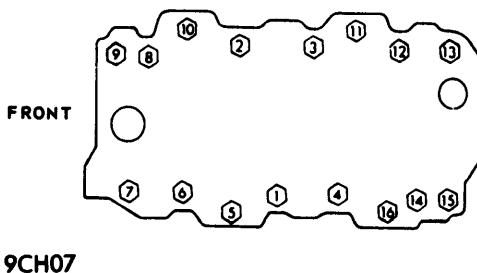
ENGINE

INTAKE MANIFOLD TIGHTENING

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



307" & 350" INTAKE MANIFOLD TIGHTENING SEQUENCE



400" INTAKE MANIFOLD TIGHTENING SEQUENCE

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

FILTERS & CLEANERS

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

1970 GMC V8 Tune-Up

ENGINE (Cont.)

CAPACITIES (EXCEPT COOLING)

Application	Quantity
Crankcase	①4 qts.
Auto. Trans.	
Pow-R-Flo	②9 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.
Power Take-Off	1 pt.
Four Wheel Drive Transfer Case	5 pts.
Drive Axles	③
Fuel Tank	
C & K-1500/3500 Panel, Suburban & Jimmy	23.5 gals.
C-3500 Cowl Models	20 gals.
C & K-1500/3500 All Others	21 gals.
P-1500	20.5 gals.
P-2500 & 3500	30 gals.
"G" Models	24.5 gals.
"G" Models	④22 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.

COOLING CAPACITIES

Application	①Quantity
307"	
C-1500 Man. Trans.	16.5 qts.
K-1500 & 2500	17.5 qts.
All Others	17 qts.
350"	
K-1500	18 qts.
K-2500	16.5 qts.
All Others	16 qts.
All Others②	17.5 qts.
400"	
Man. Trans.	23 qts.
Auto. Trans.	24.5 qts.

① — Add one quart if equipped with heater.
 ② — With heavy duty radiator.