

1974 Chevrolet V8 Tune-Up

TUNE-UP

ENGINE IDENTIFICATION

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

Application	Code
350" Man. Trans.TJM, TJW, TKX, TML, TKM, TMD, TJA, TJB, TJC, TJD, TRM	
350" Man. Trans. LPG	TMJ
350" Auto. Trans.TKT, TKU, TKY, TMM, TJU, TJY, TKR, TKS, TKW, TMK TMC, TMA, TMB	
350" Auto. Trans. LPG	TMH
454" All	TRH, TRJ, TRL, TRT, TRU, TRW, TRX

MODEL IDENTIFICATION

A combination Vehicle Identification Number and Rating Plate is used on all vehicles. Plate is attached to toe and dash panel on all "P" models (except Motor Home Chassis) and on left hand door pillar on all remaining models. Plate location on Motor Home Chassis must be supplied by body builder.

CCQ134F100001

- First Digit** - Make (Chevrolet Division).
- Second Digit** - Truck Type.
- Third Digit** - Engine Designation.
- Fourth Digit** - Truck Series.
- Fifth Digit** - Model Type.
- Sixth Digit** - Model Year 4 (1974).
- Seventh 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.

NOTE - For Tune-Up purposes only, Light Duty (L/D) will refer to all 10 series, Suburban and Sportvan models. Heavy Duty (H/D) will refer to all remaining models.

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

350"
E-I-I-E-E-I-I-E (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

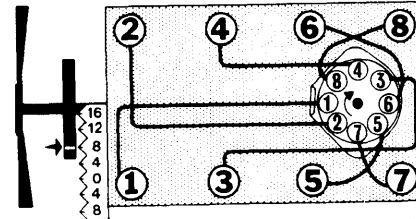
Gap035"
Torque..... 15 ft. lbs.

Spark Plug Type

Application AC No.
All R44T

DISTRIBUTOR

Point Gap
New019"
Used016"
Cam Angle..... 28-32°
Breaker Arm Spring Tension 19-23 ozs.
Condenser Capacity 18-23 mfd.



4CHA001

FIRING ORDER & TIMING MARKS

IGNITION TIMING

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

Ignition Timing Specifications

Application	Man. Trans.	Auto. Trans.
350" 2-Bbl.	0°TDC.....	8°BTDC
350" 4-Bbl. Fed. Light Duty		
Suburban	6°BTDC.....	12°BTDC
G-20 & 30 Sportvan.....	8°BTDC.....	12°BTDC
All Others.....	8°BTDC.....	8°BTDC
350" 4-Bbl. Cal. Light Duty		
Suburban	4°BTDC.....	6°BTDC
All Others.....	4°BTDC.....	8°BTDC
350" Heavy Duty, All.....	4°BTDC.....	4°BTDC
454" Light Duty, All.....	①	10°BTDC
454" Heavy Duty, All.....	8°BTDC.....	8°BTDC

① - Not available.

TUNE-UP (Cont.)

HOT (SLOW) IDLE RPM

Idle speed is checked or adjusted with engine at normal operating temperature, air cleaner installed, choke valve open, distributor vacuum line disconnected and plugged, "Fuel Tank" line to vapor canister disconnected, air conditioning off, (light duty vehicles) in "D" and automatic transmission (heavy duty vehicles) in "P". Adjust idle speed solenoid to obtain specified idle speed RPM.

Application	Idle Speed (RPM)	
	Man. Trans.	Auto. Trans.
350" All		
Light Duty.....	900.....	600
Heavy Duty.....	600.....	600
454"		
Light Duty.....	600.....	800
Heavy Duty.....	700.....	700

IDLE MIXTURE ADJUSTMENT

For both Exhaust Analyzer and Lean Drop Idle procedures, Hot (Slow) Idle RPM and Ignition Timing must be correctly adjusted. See appropriate article in this Section. Idle mixture is checked or adjusted with engine at normal operating temperature, distributor vacuum line disconnected and plugged, "Fuel Tank" line from vapor canister disconnected, air cleaner installed, air conditioning off, manual transmission in Neutral, automatic transmission (light duty vehicles) in "D" and automatic transmission (heavy duty vehicles) in "N".

EXHAUST ANALYZER PROCEDURE (PREFERRED)

Connect a suitable CO meter to exhaust system and check CO level. If CO level exceeds specified CO percentage, turn mixture screws clockwise until CO level is at or below adjusted CO percentage specifications.

Application	CO Level Specifications	
	CO %	Adjusted CO %
All.....	.5.....	.5 or below

LEAN DROP IDLE PROCEDURE (ALTERNATE)

Using a pair of needle nose pliers, break tab off of mixture screw limiter caps. With idle speed solenoid energized and extended, adjust idle speed to higher of two RPM specifications. Back out (richen) mixture screws until maximum idle speed is obtained. Readjust idle speed solenoid to higher RPM specification if necessary. Turn in (lean) mixture screws until lowest of two RPM specifications is obtained.

Idle Mixture RPM

Application	Man. Trans.	Auto. Trans.
350" 2-Bbl.	1000/900	650/600
350" 4-Bbl. Fed. Light Duty		
Versavan	950/900	630/600
Suburban	950/900	630/600
G-20 & G-30 Sportvan...	950/900	630/600
All Others.....	950/900	650/600
350" 4-Bbl. Cal. Light Duty		
All	950/900	630/600
350" Heavy Duty.....	750/600	750/600
454" Light Duty.....	850/800	630/600
454" Heavy Duty.....	800/700	800/700

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, EGR vacuum line disconnected, distributor vacuum disconnected and plugged (manual transmission only) and fast idle lever on high step of fast idle cam. Adjust fast idle screw to obtain specified fast idle speed.

Fast Idle Speed (RPM)

Application	Man. Trans.	Auto. Trans.
Light Duty.....	1300.....	1600
Heavy Duty.....	1600.....	1600
Motor Home Chassis.....	1600.....	1600

CHOKE ADJUSTMENT

With air cleaner removed, 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 of hole in choke lever. To adjust, bend rod at offset point in rod.

FUEL PUMP PRESSURE & VOLUME

Pressure (At Idle).....	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.

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IGNITION

DISTRIBUTOR

Application	Delco Part No.
350" 2-Bbl.	
Man. Trans.	1112843
Auto. Trans.	1112844
350" 4-Bbl. 10 Series	
Suburban, Man. Trans.	1112832
All Others, Man. Trans. Federal	1112093
All Others, Man. Trans. California	1112543
All, Auto. Trans.	1112094
350" 4-Bbl. 20 & 30 Series.....	1112097
454"	
10 Series.....	1112113
Suburban, 20 Series.....	1112504
All Others, 20 & 30 Series.....	1112097

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	Rochester Carb. No.	
	Man. Trans.	Auto. Trans.
350"		
C & K-10	7044113	7044114
G-10.....	7044123	7044124

Rochester Models 4MV 4-Bbl. (Federal)

Application	Rochester Carb. No.	
	Man. Trans.	Auto. Trans.
350" C & K-10 Exc. Suburban		
All	7044203	7044202
350" G-10 & 20 Exc. Sportvan		
All	7044219	7044218
350" Suburban.....	7044503	7044502
350" Sportvan.....	7044219	7044224
350" 20 & 30 Series		
C & K Heavy Duty.....	7044213	7044213
P-20 & 30	7044216	7044216
G-30 Heavy Duty.....	7044214	7044214
350" Motor Home	7044215	7044215
454" Light Duty		
C-10.....	①	7044223
C-20.....	①	7044220
454" Heavy Duty		
C-20 & 30.....	7044212	7044212
P-30.....	①	7044217
454" Motor Home	7044212	7044212

① — Not available.

Rochester Models 4MV 4-Bbl. (California)

Application	Rochester Carb. No.	
	Man. Trans.	Auto. Trans.
350" C & K-10 Exc. Suburban		
All	7044503	7044502
350" G-10 & 20 Exc. Sportvan		
All	7044519	7044518
350" Suburban.....	7044503	7044502
350" Sportvan.....	7044519	7044518
350" 20 30 Series		
C & K Heavy Duty.....	7044513	7044513
P-20 & 30	7044516	7044516
G-30 Heavy Duty.....	7044514	7044514
350" Motor Home	7044515	7044515
454" Light Duty		
C-10.....	7044512	7044500
C-20.....	①	7044520
454" Heavy Duty		
C-20 & 30.....	①	7044512
P-30.....	①	7044517
454" Motor Home	①	7044512

① — Not available.

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

ACCELERATOR LINKAGE ADJUSTMENT

Throttle linkage is cable type and is nonadjustable. Inspect all components for wear or damage and replace as necessary.

DETENT CABLE ADJUSTMENT

Turbo Hydra-Matic 350 Trans. — Remove air cleaner and pry up on each side of snap lock to release it. Compress locking tabs and disconnect lock assembly from bracket. Position carburetor in wide open position and pull rearward on cable housing until internal stop on transmission is felt. With cable and throttle in this position, push snap lock on cable until it is flush with top. Install air cleaner.

DETENT SWITCH ADJUSTMENT

Turbo Hydra-Matic 400 & 475 Trans. — Adjustment is required only if switch is removed or replaced. Install switch and press plunger as far forward as possible. This will preset switch for adjustment. Switch will now adjust itself when accelerator pedal is depressed to wide open position.

ELECTRICAL

BATTERY

12 Volt - Negative Ground.

Application	Delco Part No.	Cranking Power Watts @ 0°F
350" Standard	R89	2900
454" Standard	R89W	3750
All Optional	R89W	3750

STARTER

Application	Delco Part No.
350"	
P-30	1108360
Motor Home	1108502
All Others	1108427
454"	
Motor Home	1108502
All Others	1108430

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

ALTERNATOR

Application	Amps.	Delco Part No.
All		
Standard	37	1100934
Optional	42	1100573
Optional	55	1102367
Optional	61	1100597

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

ALTERNATOR REGULATORS

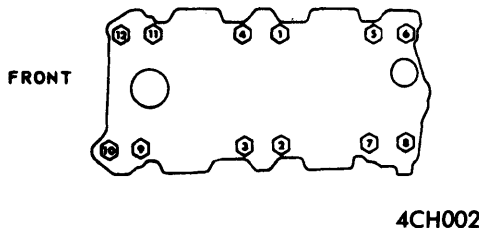
Delco - Nonadjustable, integral with alternator.

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

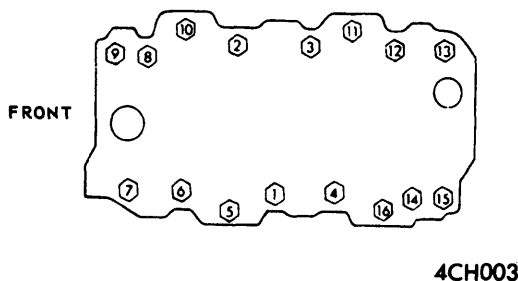
ENGINE

INTAKE MANIFOLD TIGHTENING

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



350" INTAKE MANIFOLD TIGHTENING SEQUENCE



454" 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	90±5

COOLING CAPACITIES

Application	Quantity
G-10, 20 & 30	
W/Heater ①	16.0 qts.
W/O Heater ①	15.0 qts.
Air Conditioning	18.0 qts.
C-10 350"	
Man. Trans.	15.8 qts.
Auto. Trans. & Heavy Duty Cooling	16.2 qts.
Air Conditioning	17.7 qts.
C-20 & 30 350"	
Man. Trans.	16.2 qts.
Auto. Trans. & Air Conditioning	17.7 qts.
Heavy Duty Cooling	18.2 qts.
K-10 & 20 350"	
Man. Trans. & Heavy Duty Cooling	16.5 qts.
Auto. Trans. & Air Conditioning	17.9 qts.
P-20 & 30 350"	
Man. Trans.	16.8 qts.
Auto. Trans. & Heavy Duty Cooling	18.5 qts.
All Models 454"	
Man. Trans. & Heavy Duty Cooling	18.5 qts.
Auto. Trans. & Air Conditioning	21.0 qts.

① - Add one quart if equipped with Heavy Duty Cooling.

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ENGINE (Cont.)

CAPACITIES (EXCEPT COOLING)	
Application	Quantity
Crankcase	
All	① 4 qts.
Automatic Transmission	
TH-350	
Refill	5.0 pts.
Total	10.0 qts.
TH-400	
Refill	7.5 pts.
Total	9.5 qts.
Manual Transmission	
"G" Models	5.0 pts.
3-Speed	3.5 pts.
465 4-Speed	7.0 pts.
Transfer Case	
Conventional	5.0 pts.
Full Time	8.25 pts.
Power Take-Off	1.0 pt.
Drive Axles	②
Fuel Tank	
"G" Models	
Standard	21 gals.
Optional	36 gals.
"C" & "K" Models (Exc. Short W.B., Suburban & Blazer)	
Main Tank, Right Side	20 gals.
Auxiliary Tank, Left Side	20 gals.
"C" & "K" Models, Short W.B.	16 gals.
"C" & "K" Models, Suburban	
Standard	31 gals.
Optional	40 gals.
Blazer	
Standard	24 gals.
Optional	30 gals.
P-10	22 gals.
P-20 & P-30	30 gals.
① - Add one quart with filter change.	
② - Fill to bottom of filler hole.	

FILTERS & CLEANERS	
Filter or Cleaner	Service Interval (Miles)
Oil Filter	
Motor Home	Replace 6,000
All Others	Replace 12,000
Air Cleaner	
Element Type	Replace 12,000
Polyurethane Wrap Type	Clean 24,000
Oil Bath Type	① Check 12,000
Crankcase Ventilation Filter	② Replace 24,000
PCV Valve	Replace 24,000
TH-400 Sump Strainer	Replace 24,000
Fuel Filter	
Carburetor Inlet Type	Replace 12,000
In-Line Filter Type	Replace 24,000
Distributor Cam Lubricator	Replace 24,000
Fuel Evap. Canister Filter	Replace 24,000
① - Check oil level and add SAE 50 oil if necessary.	
② - Located in air cleaner.	