

1969 Dodge 6 Tune-Up

TUNE-UP

ENGINE IDENTIFICATION

The Engine Identification Number is stamped on boss on right side of block beneath number 1 spark plug. The first three numerals designate engine cubic inch displacement.

Application	Numerals
170"	170
225"	225
198" ①	198

① - In limited production on D100. Use 225" specifications unless otherwise stated.

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

Number is located on left front door lock pillar on all models except "A". On "A" Models number is located on top inside surface of left wheelhouse opening.

116-2135000

First & Second Digits - Model Code.

Third Digit - Number of Cylinders.

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 engine warm, all spark plugs removed, and throttle wide open, the maximum variation between cylinders should not exceed 20 psi.

Application	PSI
Man. Trans.	130-160
Auto. Trans.	110-140

VALVE TAPPET CLEARANCE

Valve adjustment on mechanical lifters is made at the self-locking rocker arm adjusting screws.

Intake (Hot).....	.012"
Exhaust (Hot).....	.024"

VALVE ARRANGEMENT

E-I-E-I-E-I-E-I-E (Front to Rear.)

SPARK PLUGS

Gap035"
Torque.....	30 Ft. Lbs.

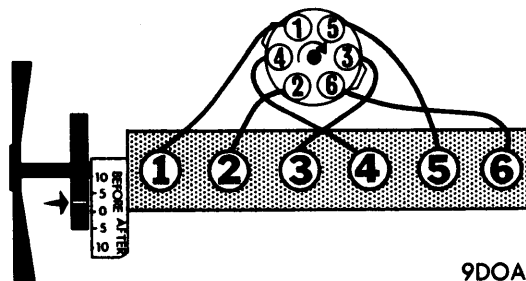
Spark Plug Type

Application	Mopar No.	Champion No.
All (Exc. W300).....		N-11Y
W300.....	P-6-4S.....	N6

DISTRIBUTOR

Point Gap.....	.017-.023"
Cam Angle.....	①40-45°
Breaker Arm Spring Tension	17-20 ozs.
Condenser Capacity25-.285 mfd.

① - With solenoid wire (if so equipped) disconnected.



FIRING ORDER & TIMING MARKS

IGNITION TIMING

Check or adjust timing with engine at normal operating temperature, distributor vacuum advance line disconnected and plugged, and transmission in Neutral.

Application	Timing
170" Man. Trans.	5 ATDC
170" Auto. Trans.	2.5 ATDC
198"	2.5 BTDC
225"	TDC

HOT (SLOW) IDLE RPM

Without Cleaner Air Package - With engine at normal operating temperature, air cleaner installed, choke valve wide open, headlights on (high-beam), and ball joint connection at accelerator shaft bellcrank disconnected (automatic transmission only), adjust idle speed screw to obtain specified RPM. Adjust idle mixture screw to obtain highest RPM. Turn mixture screw in (lean) until speed drops, then turn screw out (rich) just far enough to recover highest RPM. Readjust idle speed screw and check mixture. Readjust idle mixture if necessary. Adjust ball joint connector until ball on bellcrank mates exactly with socket (automatic transmission only) and install.

With Cleaner Air Package - With engine running at normal operating temperature, timing checked, air cleaner installed, and transmission in Neutral, connect tachometer and insert probe of exhaust gas analyzer a minimum of two feet into tail pipe. Warm up and calibrate analyzer according to manufacturer's instructions and clamp hose between distributor vacuum control valve and intake manifold. Adjust idle mixture screw $\frac{1}{16}$ turn richer (out) and wait ten seconds before reading meter and, if necessary, adjust again until meter shows a definite increase in richness. Adjust idle mixture screw $\frac{1}{16}$ turn at a time to obtain 14.2 air/fuel ratio, changing idle speed screw, if necessary, to maintain specified RPM. Remove clamp from distributor vacuum valve hose. If engine speed changes materially, check and set valve. See *Distributor Vacuum Control Valve Adjustment*.

TUNE-UP (Cont.)

Idle Speed RPM

Application	RPM
170"	700
225" W/O Cleaner Air System	550
225" W/Cleaner Air System	650

COLD (FAST) IDLE RPM

With engine at normal operating temperature, transmission in Neutral, choke open, slow idle and timing set, and air cleaner installed (Cleaner Air Package engine only), place fast idle speed adjusting screw on lowest step of fast idle cam on standard carburetors and on second highest step of cam on Cleaner Air Package carburetors. Adjust screw to obtain specified RPM. Reposition cam and throttle after every screw adjustment to apply normal throttle closing torque.

Fast Idle Speed (RPM)

Application	RPM
170"	1400
225"	1400
W/O Cleaner Air System	700
Man. Trans. "A" Models	1400
Auto. Trans. (Exc. "A" Models)	1550
Auto. Trans. "A" Models	1600

GOVERNOR ADJUSTMENTS

NOTE — All governor adjustments are made with engine tuned and at normal operating temperature.

Speed Adjustment — Remove seal from speed screw adjusting cap and turn cap ½ turn at a time, out to increase speed and in to decrease speed. More than two turns out from factory setting is not recommended.

Governor Speed (RPM, No Load)

Application	Factory Setting
600-774	3600

Surge and Stability Adjustment — Block throttle linkage to provide surge at governed speed. With suitable hex wrench (A25264) holding speed screw, turn suitable hollow wrench (A24283) on calibrating nut clockwise ¼ turn at a time until surge is minimized. Turn calibrating nut counterclockwise to improve stability. Reset speed screw if necessary.

AUTOMATIC CHOKE SETTING

Nonadjustable. Check for free movement on pivot by moving choke rod up and down. If unit binds, install new one.

DISTRIBUTOR VACUUM CONTROL VALVE ADJUSTMENT

Adjust dashpot so that it does not contact throttle, connect tachometer, vacuum gauge (0-30 in. Hg), and remove distributor vacuum tube at distributor and clamp tube closed. Set timing and hot (slow) idle to specifications. Reconnect vacuum tube and run engine at 2000 RPM for five seconds in Neutral. When throttle is released, distributor vacuum should increase to over 16 inches of mercury for a minimum of one second and fall below six inches within three seconds. Remove vacuum control cover and turn adjusting screw for adjustment. Readjust dashpot. See *Dashpot Adjustment*. Recheck valve performance. If distributor vacuum does not fall below six inches of mercury within four seconds after throttle is released, readjust or replace dashpot.

DASHPOT ADJUSTMENT

With hot (slow) idle speed set to specifications, position throttle lever so that tab on lever is just touching dashpot stem but not depressing it. The engine speed on "A" models should be 2500 RPM and on all others 1000 RPM. To adjust, screw dashpot in or out as required.

FUEL PUMP PRESSURE & VOLUME

Pressure (At Idle)	3.5-5 psi
Volume (At Idle)	1 qt. in 1 min.

MANIFOLD HEAT CONTROL VALVE

Check valve for freedom of movement and lubricate with suitable solvent (Part No. 2525054) every 4,000 miles.

EMISSION CONTROL

See appropriate article in *EMISSION CONTROL* Section.

IGNITION

DISTRIBUTOR

Application	Chrysler Part No.	
	Man. Trans.	Auto. Trans.
170"	2875814	2875856
198"	3438237	2875822
225"	2875823	2875827

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

IGNITION COIL

Application	Chrysler Part No.
All	2444242
Resistance	Ohms @ 70-80°F
Primary	1.65-1.79
Secondary	9,400-11,700
Ballast Resistor5-.6

CARBURETION

CARBURETORS

Holley No. 1920 1-Bbl.

Carter Part No.

Application	Man. Trans.	Auto. Trans.
170"	R-4192A	R-4193A
198"	R-4356A	R-4358A
225"	R-3398-1A	R-3399-1A
225"ⓐ	R-4195A	R-4195A

ⓐ — With Cleaner Air System.

Carter BBS Series 1-Bbl.

Holley Part No.

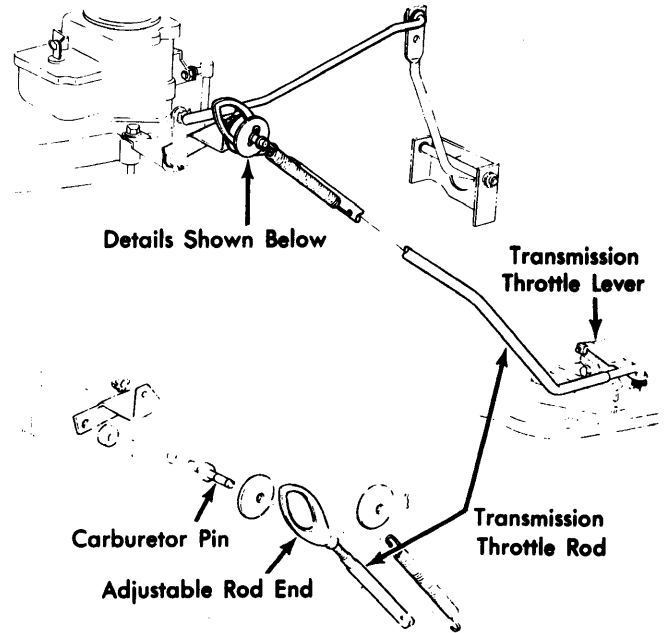
Application	Man. Trans.	Auto. Trans.
225"	4629S	4630S
225"ⓐ	4658S	4659S

ⓐ — With Cleaner Air System.

Other Data & Specifications — See Carter or Holley Carburetors in CARBURETION Section.

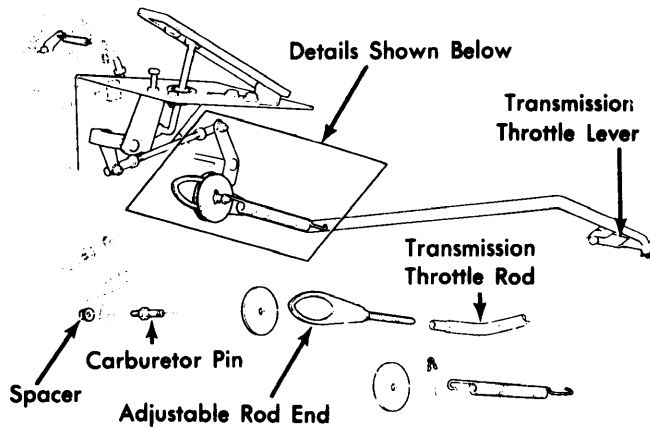
ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT

Auto. Trans. — Adjust hot (slow) idle speed to specifications. Remove clip, spring, flat washer and transmission throttle rod from carburetor pin. Hold throttle rod forward so that transmission lever is against its stop and adjust rod end so that rear of slot is against carburetor pin. Replace washer, spring and clip. ("A" Models Only) Pry accelerator adjustable rod end from ball stud and adjust rod length so that pedal is at 115° angle from floor when rod end is installed. (All) Road test vehicle to check downshift operation. If transmission does not downshift, lengthen transmission throttle rod one turn and repeat road test.



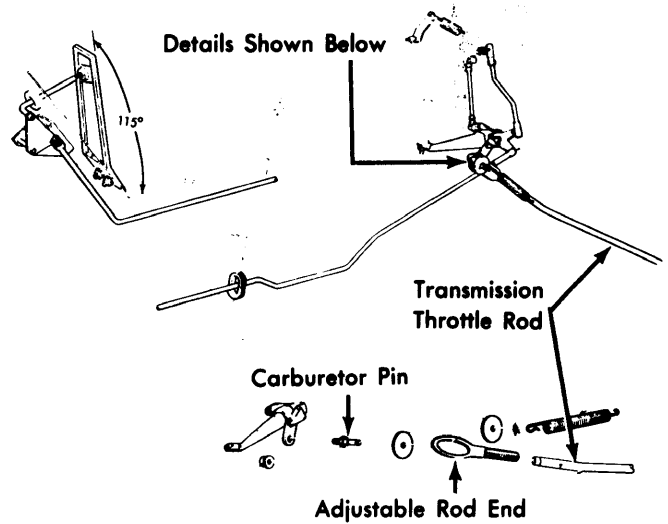
8DO003

ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT "P" MODELS



8DO002

ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT "D" & "W" MODELS



8DO004

ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT "A" MODELS

ELECTRICAL

BATTERY

12 Volt — Negative Ground.

Application	Capacity (Amps.)
All Standard	53
All Optional	59,70

STARTER

Application	Chrysler Part No.
170"	2998500
225"	2095150

Other Data & Specifications — See Chrysler Starters in ELECTRICAL Section.

ELECTRICAL (Cont.)

ALTERNATOR

Application	Amps.	Chrysler Part No.
All	37	2642537
All	46	2098850
All	60	2444898
All	60	3000010

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

ALTERNATOR REGULATORS

Application	Essex Part No.
All	2444980

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

ENGINE

INTAKE MANIFOLD TIGHTENING

Intake to exhaust manifold bolts are tightened to 15 ft. lbs.
Manifold to cylinder head stud nuts are tightened to 10 ft. lbs.

FILTERS & CLEANERS

Filter or Cleaner	Service Interval (Miles)
Oil Filter.....	Replace 8,000
Air Cleaner	
Oil Bath	①Clean 12,000
Paper Element.....	②Clean 6,000
Breather Cap	①Clean 4,000
Fuel Filter	
Ceramic Element.....	Clean 2,000
Paper Element.....	Replace 10,000
Disposable Canister	Replace 20,000
Distributor Oil Cup & Wick.....	①Oil 12,000
Distributor Cam	③Lubricate 12,000

- ① - Use SAE 30.
- ② - Replace at 24,000 miles.
- ③ - Lubricate with Distributor Cam Lubricant.

COOLING CAPACITIES

Application	Quantity
170"	①12.5 qts.
225" (Exc. "A" Models).....	①13 qts.
225" "A" Models	①13.5 qts.

- ① - Add 1 quart if equipped with heater.

CAPACITIES (EXCEPT COOLING)

Application	Quantity
Crankcase	
170"	①4 qts.
225" (Exc. "A" Models).....	①5 qts.
225" "A" Models	①4 qts.
Automatic Transmission	
All	18.5 pts.
Manual Transmissions.....	②
Front & Rear Axles & Transfer Case	②
Four Wheel Drive Knuckle Ends	②
Fuel Tank	
"A" Models	21 gals.
"D", "W" Models	18 gals.
"P" Models	15.25 gals.

- ① - Add 1 quart with filter change.
- ② - Fill to bottom of filler plug hole.

BELT ADJUSTMENT

Deflection Applied at Belt Midpoint Under 5 Lb. Load

Application	①Used Belt	New Belt
Power Steering	$\frac{5}{32}$ "	$\frac{3}{32}$ "
Air Cond. Idler	$\frac{1}{8}$ "	$\frac{3}{32}$ "
Alternator.....	$\frac{3}{32}$ "	$\frac{3}{16}$ "

- ① - Any Belt operated for $\frac{1}{4}$ hour or more.