

# 1971 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
198" .....	198
225" .....	225

### MODEL IDENTIFICATION

#### VEHICLE IDENTIFICATION NUMBER

Number is located on left front door lock pillar on all models.

**A13AAOU100001**

- First & Second Digits — Model Code.
- Third Digit — Body Type.
- Fourth Digit — Gross Vehicle Weight.
- Fifth Digit — Engine Type.
- Sixth Digit — Model Year
- Seventh Digit — 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 engine warm, all spark plugs removed, and throttle wide open, the maximum variation between cylinders should not exceed 20 psi ("B" Models, 25 psi).

Application	PSI
Man. Trans. (Exc. "B" Models).....	130-160 psi
Auto. Trans. (Exc. "B" Models).....	110-140 psi
"B" Models.....	100 psi min.

### 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-I-E-I-E-I-E (Front to rear).

### SPARK PLUGS

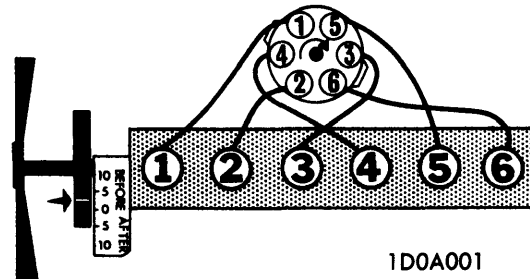
Gap .....	.035"
Torque.....	30 Ft. Lbs.

#### Spark Plug Type

Application	Champion No.
All (Exc. W300).....	N-11Y
W300.....	N6

### DISTRIBUTOR

Point Gap.....	.017-.023"
Cam Angle.....	41-46°
Breaker Arm Spring Tension .....	17-20 ozs.
Condenser Capacity .....	.25-.285 mfd.



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
198"	
W/Dist. No. 3438509 or 3438524 .....	2.5° BTDC
All Others .....	TDC
225" .....	TDC

Ⓢ — Tolerance ±2.5°.

### HOT (SLOW) IDLE RPM

With engine running at normal operating temperature, timing checked, air cleaner installed, air conditioning off, 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
Carter Carburetors .....	750
Holley Carburetors	
Man. Trans. ....	700
Auto Trans. ....	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, place fast idle speed adjusting screw on second highest step of cam. 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
Auto. Trans. ....	1800
Man. Trans.	
Carter Carburetors .....	1900
Holley Carburetors .....	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
Gov. No. 600-809 .....	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 "B" 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. 3419129) every 4,000 miles.

### EMISSION CONTROL

See appropriate article in *EMISSION CONTROL* Section.

## IGNITION

### DISTRIBUTOR

#### Chrysler Part No.

Application	Man. Trans.	Auto. Trans.
198" .....	3438237, 3438509	2875826, 3438524
225" .....	2875822, 3656252	2875826, 3656257
225" W/NOx.....	3438446.....	3438442

**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 Resistor.....	5-6

## CARBURETION

### CARBURETORS

#### Carter BBS Series 1-Bbl.

##### Carter Part No.

Application	Man. Trans.	Auto. Trans.
225" (Calif. Only).....	6025S .....	6026S .....
W/Air Cond. ....	6027S.....	①

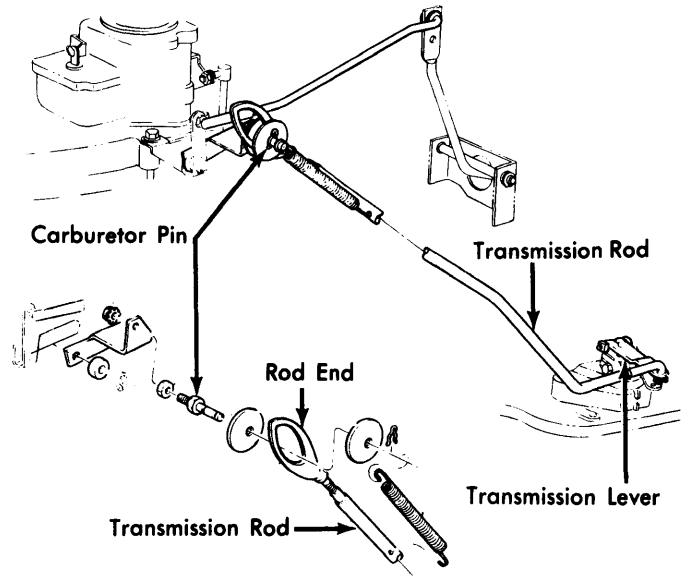
① - Not Available.

#### Holley No. 1920 1-Bbl.

##### Holley Part No.

Application	Man. Trans.	Auto. Trans.
198" .....	R-4755A .....	R-4756A .....
225" .....	R-4641A .....	R-4642A .....
225" (Calif. Only).....	R-4750A.....	R-4751A .....

**Other Data & Specifications** - See *Tune-Up and Carter or Holley Carburetors* in **CARBURETION** Section.



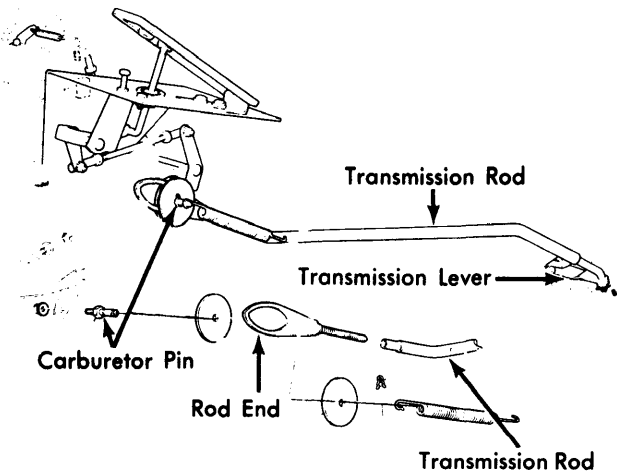
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### ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT

**Auto. Trans. (Exc. "B" Models)** - 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. Road test vehicle to check downshift operation. If transmission does not downshift, lengthen transmission throttle rod one turn and repeat road test.

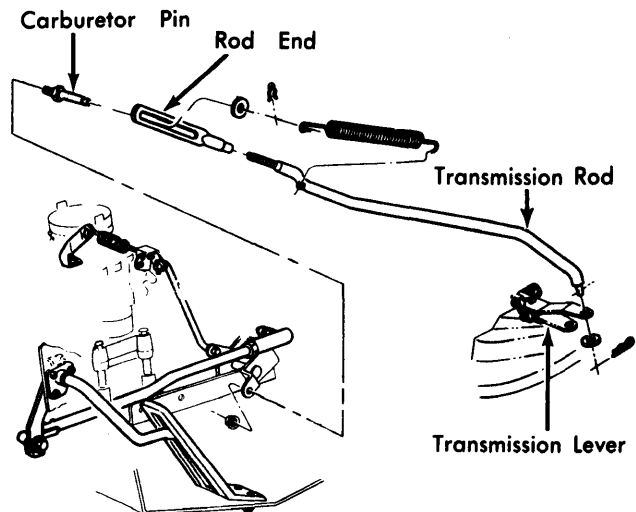
### ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT "D" MODELS

**Auto. Trans. "B" Models** - Adjust hot (slow) idle speed to specifications. With linkage clean and properly lubricated, block choke in full open position and release fast idle cam. Remove return spring from carburetor pin and tab on throttle rod. Remove clip, washer and slotted throttle rod end from carburetor pin and rotate threaded rod end so that rear edge of slot contacts the carburetor pin when transmission throttle lever is held forward against its stop. Reassemble and check transmission linkage freedom by moving throttle rod rearward and allowing it to return slowly, making sure it returns to the full forward position. Remove block from choke and road test vehicle. If transmission does not downshift, lengthen throttle rod one turn and repeat road test.



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### ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT "P" MODELS



1D0003

### ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT "B" MODELS

## ELECTRICAL

### BATTERY

12 Volt — Negative Ground.

Application	Capacity (Amps)
Standard	
"D", "P", "W" Models	53
"B" Models	48
All Optional	59, 70

### STARTER

Application	Chrysler Part No.
Man. Trans.	1889100
Auto. Trans.	2095150

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

### ALTERNATOR

Application	Amps	Chrysler Part No.
All	45, 50	3438173
All		
W/Single Belt	60	3438174
W/Double Belt	60	3438180

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

### ALTERNATOR REGULATOR

Application	Chrysler Part No.
All	3438150

Other Data & Specifications — See Chrysler Alternator Regulators in ELECTRICAL Section.

## ENGINE

### Intake Manifold Tightening

Intake to exhaust manifold bolts are tightened to 20 ft. lbs.  
Manifold to cylinder head stud nuts are tightened to 10 ft. lbs.

### COOLING CAPACITIES

Application	Quantity
All	13 qts.
W/Air Conditioning	14 qts.
W/Increased Cooling	14 qts.

① — Add 1 quart if equipped with auxiliary heater.

### CAPACITIES (EXCEPT COOLING)

Application	Quantity
Crankcase	① 5 qts.
Automatic Transmission	
All (Exc. "B" Models)	19 pts.
"B" Models	18.5 pts.
Manual Transmissions	②
Front & Rear Axles & Transfer Case	②
Four Wheel Drive Knuckle Ends	②
Fuel Tank	
"D", "B", "W" Models	25 gals.
"P" Models	15.25 gals.

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

### BELT ADJUSTMENT

Tension (Lbs.) Using Strand Tension Gauge

Application	New Belt	① Used Belt
All	120 Lbs.	70 Lbs.

① — Any belt operated for 15 minutes or longer.

### FILTERS & CLEANERS

Filter or Cleaner	Service Interval (Miles)
Oil Filter	Replace 8,000
Air Cleaner	
Oil Bath	① Clean 12,000
Paper Element	② Clean 8,000
Crankcase Inlet Air Cleaner	① Clean 12,000
Fuel Vapor Storage Canister Filter	Replace 12,000
Fuel Filter	
Paper Element	Replace 10,000
Disposable Canister	Replace 20,000
Brake Booster Air Cleaner	Replace 8,000
Distributor Oil Cup (If Equipped), Wick	
All (Exc. "B" Models)	① Oil 12,000
"B" Models	① Oil 18,000
Distributor Cam	
All (Exc. "B" Models)	③ Lubricate 12,000
"B" Models	③ Lubricate 18,000

① — Use SAE 30.

② — Replace at 24,000 miles.

③ — Use Distributor Cam Lubricant.