

1969 Dodge V8 Tune-Up

TUNE-UP

ENGINE IDENTIFICATION

The Engine Identification Number is located as follows:

- 318"** - Left front of block below cylinder head.
- 383"** - Right side of block adjacent to distributor.

The first three numerals designate engine cubic inch displacement. The premium 318"-3 engine is designated by a "3" stamped below engine number.

Application	Numerals
318"	318
383"	383

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

Number is on Vehicle Identification Plate which is located on rear face of driver door. Its location on Motor Home chassis must be supplied by body builder.

118 - 1872000

- 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 (25 psi in "A" models).

Application	PSI
318" Man. Trans. (Exc. "A" Models)	120-160
318" Auto. Trans. (Exc. "A" Models)	110-140
318" "A" Models & 383"	125-155
318"-3	90-130

VALVE TAPPET CLEARANCE

All (Hydraulic)Zero Lash

VALVE ARRANGEMENT

E-I-I-E-E-I-I-E (Front to rear, both banks.)

SPARK PLUGS

Gap035"
Torque	
14 mm	30 Ft. Lbs.
18 mm	20 Ft. Lbs.

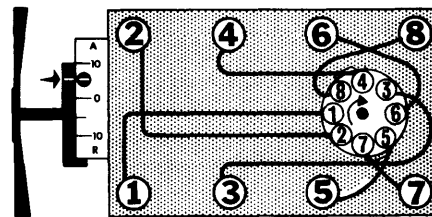
Spark Plug Type

Application	Champion No.	Mopar No.
318"	N11Y	
318"-3 (18 mm)	F10	P-7-3S
383"	J13Y	P-3-5P

DISTRIBUTOR

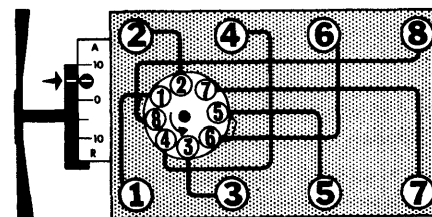
Point Gap014-.019"
Cam Angle ①	30-35°
Breaker Arm Spring Tension	17-20 ozs.
Condenser Capacity25-.285 mfd.

① - With solenoid wire (if equipped) disconnected.



9DOA001A

FIRING ORDER & TIMING MARKS 318"



9DOA001B

FIRING ORDER & TIMING MARKS 383"

IGNITION TIMING

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

Application	Timing
318" W/Cleaner Air System (C.A.S.)	5° ATDC
318" W/O C.A.S.	5° BTDC
318"-3	5° BTDC
383" Man. Trans.	TDC
383" Auto. Trans.	7.5° BTDC

TUNE-UP (Cont.)

HOT (SLOW) IDLE RPM

Without Cleaner Air System — On engines with automatic transmissions, disconnect transmission throttle rod before making idle adjustment. With air cleaner installed, and choke valve wide open, adjust idle speed screw to obtain specified RPM. Adjust idle mixture screws to obtain highest RPM and readjust idle speed screw to specified RPM. Turn mixture screws in (lean) until speed drops, then out (rich) just far enough to recover highest RPM. Readjust idle speed screw if necessary and check mixture. Adjust idle mixture if necessary. Adjust transmission control rod so that it does not interfere with idle setting and install.

With Cleaner Air System — 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 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 10 seconds before reading meter and, if necessary, adjust again until meter shows a definite increase in richness. Adjust carburetor to give a 14.2 air/fuel ratio by moving screw $\frac{1}{16}$ turn at a time. Adjust idle speed screw if necessary to maintain specified RPM. If idle is rough, the mixture screws may be adjusted independently to smooth it out so long as the 14.2 air/fuel ratio is maintained. Remove clamp from distributor vacuum valve hose. If engine speed changes materially, check and set vacuum valve. See *Distributor Vacuum Control Valve Adjustment*.

Idle Speed (RPM)

Application	RPM
318" W/O Cleaner Air System (C.A.S.)	500
318" W/C.A.S. Auto. Trans.	600
318" W/C.A.S. Man. Trans.	650
383" Auto. Trans.	600
383" Man. Trans.	700

COLD (FAST) IDLE RPM

With engine at normal operating temperature, transmission in Neutral, choke open, hot (slow) idle set, and air cleaner installed (Cleaner Air System engines 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 System 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
318" W/O Cleaner Air System (C.A.S.)	700
318" W/C.A.S.	1400
383"	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 $\frac{1}{2}$ 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
900-700	3700

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 $\frac{1}{4}$ 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 in. Hg 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 in. Hg 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)..... ① 5-7 psi
Volume (At Idle)..... 1 qt. in 1 min.

① — On 383" engine, 3.5-5 psi.

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.

1969 Dodge V8 Tune-Up

IGNITION

DISTRIBUTOR

IGNITION COIL

Chrysler Part No.

Application	Man. Trans.	Auto. Trans.
318"	2875800	2875800
318" ①	2875796	2875796
318"-3	2875804	2875804
383"	2875742	2875747

① - With Cleaner Air System.

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

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 BBD Series 2-Bbl.

Carter Part No.

Application	Man. Trans.	Auto. Trans.
318"	4607S	4608S
383"	4613S	① 4614S
383" ②	4748S	

① - Replaced by BBD 4774S late in model year.
 ② - With Cleaner Air System.

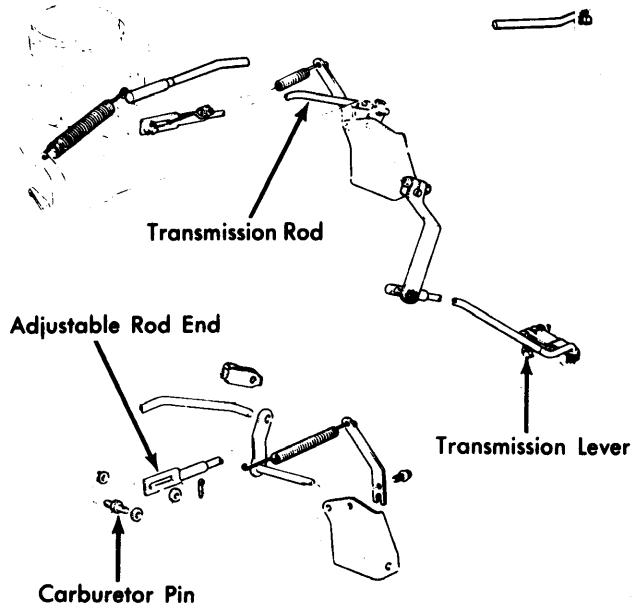
Stromberg WW 2-Bbl.

Stromberg Part No.

Application	Man. Trans.	Auto. Trans.
318"	3-283	3-287
318" ①	3-308	3-299
318"-3	3-300	

① - With Cleaner Air System.

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



9DO002

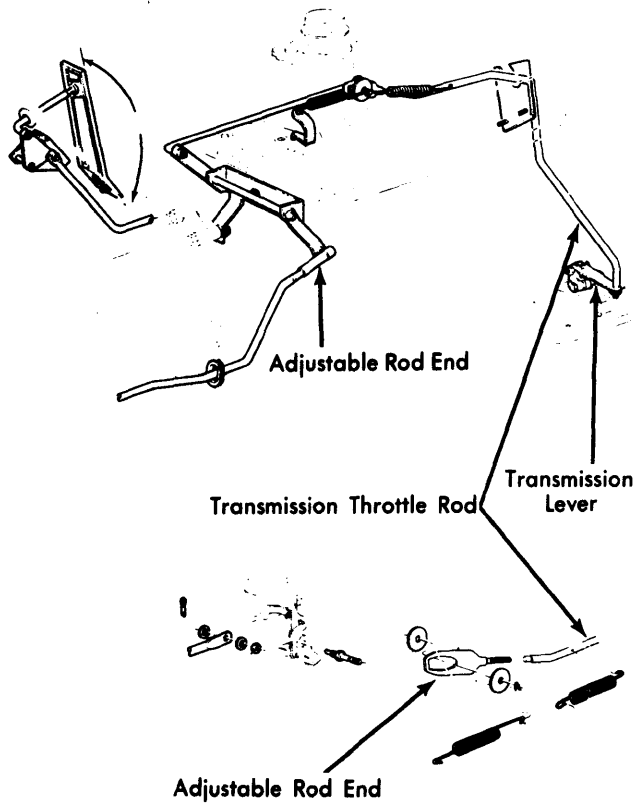
ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT 318" (EXC. "A" MODELS)

ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT

Auto. Trans. 318" (Exc. "A" Models) - Adjust hot (slow) idle speed to specifications. Remove cotter pin, flat washer and transmission throttle rod from the carburetor pin. Unhook spring from adjustable rod end. Hold transmission throttle lever forward against its stop and adjust rod end so front of slot contacts carburetor pin. Replace spring, washer and cotter pin. Road test vehicle. If transmission does not kickdown, lengthen transmission throttle rod one turn and repeat road test.

Auto. Trans. "A" Models - Adjust hot (slow) idle speed to specifications. Remove clip, spring, flat washer and transmission throttle rod from the carburetor pin. Hold transmission throttle lever forward against its stop and adjust rod end so rear of slot contacts carburetor pin. Replace washer, spring and clip. 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. Road test to check kickdown operation. If transmission does not kickdown, lengthen transmission throttle rod one turn and repeat road test.

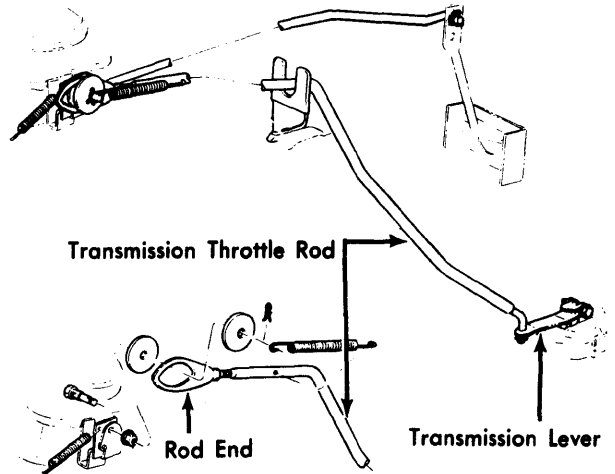
CARBURETION (Cont.)



9DO003

**ACCELERATOR AND DOWNSHIFT LINKAGE
ADJUSTMENT 318" "A" MODELS**

Auto. Trans. 383" - Adjust hot (slow) idle speed to specifications. Remove clip, spring, flat washer and transmission throttle rod from the carburetor pin. Hold transmission throttle lever forward against its stop and adjust rod end so rear of slot contacts carburetor pin. Replace washer, spring and clip and road test. If transmission does not kickdown, lengthen throttle rod one turn and repeat road test.



9DO004

**ACCELERATOR AND DOWNSHIFT LINKAGE
ADJUSTMENT**

ELECTRICAL

BATTERY

12 Volt - Negative Ground.

Application	Capacity (Amps.)
All Standard	53
All Optional	59, 70
Motor Homes Optional	90

STARTER

Application	Chrysler Part No.
All (Exc. Motor Homes)	2098150
Motor Homes	3656650

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

ALTERNATOR

Application	Amps.	Chrysler Part No.
All	37	2642537
All (Exc. 383" A/C)	46	2098850
383" A/C	46	2875724
All 3" Pulley	60	2444898
All 2 3/4" Pulley	60	3000010
383" A/C	60	2875844

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

ALTERNATOR REGULATOR

Application	Essex Part No.
All	2444980

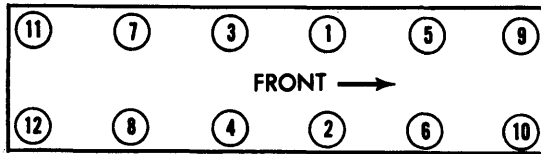
Other Data & Specifications - See Essex Alternator Regulators in ELECTRICAL Section.

1969 Dodge V8 Tune-Up

ENGINE

INTAKE MANIFOLD TIGHTENING

Tighten bolts to 35 ft. lbs. (318") or 50 ft. lbs. (383") in sequence shown in diagram.



9D0005

INTAKE MANIFOLD TIGHTENING

BELT ADJUSTMENT

Deflection Applied At Belt Midpoint Under 5 Lb. Load

Application	① Used Belt	New Belt
Power Steering	$\frac{5}{32}$ "	$\frac{3}{32}$ "
Fan Belt Idler	$\frac{3}{32}$ "	$\frac{1}{16}$ "
Air Cond. Idler	$\frac{3}{16}$ "	$\frac{1}{8}$ "
Alternator		
318"	$\frac{3}{16}$ "	$\frac{1}{8}$ "
383"	$\frac{5}{32}$ "	$\frac{3}{32}$ "
383" A/C.....	$\frac{9}{32}$ "	$\frac{3}{16}$ "

① - Any belt operated more than ½ hour.

COOLING CAPACITIES

Application	Quantity
318"	① 18 qts.
383"	② 16 qts.
Motor Home	22 qts.

① - Add 2 quarts if equipped with heater.
 ② - Add 1 quart if equipped with heater.

CAPACITIES (EXCEPT COOLING)

Application	Quantity
Crankcase	
318"	① 5 qts.
318"-3	① 6 qts.
383"	① 6 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	23 gals.
"D", "W" Models.....	18 gals.
M300 (Exc. 104" Wheelbase).....	40 gals.
M300 104" Wheelbase.....	25 gals.
M375	50 gals.

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

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 6,000
Brake Booster Air Cleaner	Replace 8,000
Fuel Filter	
Ceramic Element.....	Clean 2,000
Paper Element.....	Replace 10,000
Disposable Canister.....	Replace 20,000
Distributor Oil Cup & Wick.....	① Oil 12,000
Distributor Cam	③ Lubricate 12,000

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