

TUNE-UP

ENGINE IDENTIFICATION

The Engine Identification Number is stamped on left front of block under cylinder head on all vehicles. The first three numerals indicate engine cubic inch displacement.

Application	Numerals
318"	318
383"	383

NOTE — The premium engine (318"-3) is designated by an "S" as last digit of engine number.

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

Number is on Vehicle Identification Plate which is located on rear face of driver door on most models. On some "A" models it is located on top inside surface of left wheelhouse opening. Its locations on motor home bodies must be supplied by the body builder.

118 - 1780000

- 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.

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

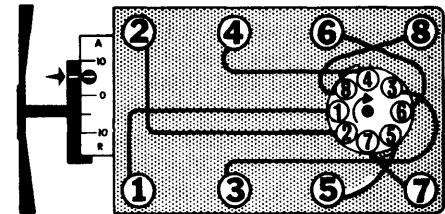
Gap035"
Torque	
14 mm	30 Ft. Lbs.
18 mm	20 Ft. Lbs.

Spark Plug Type

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

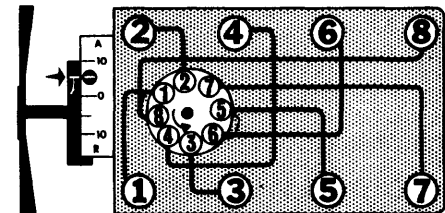
DISTRIBUTOR

Point Gap014-.019"
Cam Angle	28-32°
Breaker Arm Spring Tension	17-20 ozs.
Condenser Capacity25-.285 mfd.



8DOA001A

FIRING ORDER & TIMING MARKS 318"



8DOA001B

FIRING ORDER & TIMING MARKS 383"

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
318" W/Cleaner Air Package (C.A.P.)	5° ATDC
318" Auto. Trans. W/O C.A.P.	10° BTDC
318" Man. Trans. W/O C.A.P.	5° BTDC
318"-3	5° BTDC
383" Man. Trans.	TDC
383" Auto. Trans.	7.5° BTDC

1968 Dodge V8 Tune-Up

TUNE-UP (Cont.)

HOT (SLOW) IDLE RPM

Without Cleaner Air Package — 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 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 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" & 413" W/O Cleaner Air Package (C.A.P.).....	500
383" W/O C.A.P.	550
Man. Trans. W/C.A.P.	650
Auto. Trans. W/C.A.P.	600

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 Package 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 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 ①	RPM
318" W/O Cleaner Air Package.....	700
318" W/Cleaner Air Package	
Man. Trans.	1300
Auto. Trans. (Exc. "A" Models).....	1400
Auto. Trans. "A" Models.....	1500
383".....	1600

① — Engines with hand choke do not require fast idle adjustment.

GOVERNOR ADJUSTMENTS

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

SPEED ADJUSTMENT

Governor No. V9-554 — 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 No. S20DM-68 — Turn main adjusting screw clockwise for higher speed and counterclockwise for lower speed. However, for lower speed adjustment turn screw below desired speed, then up to it.

Governor Speed Range (RPM, No Load)

Application	Factory Setting	Reset Range
V9-554.....	3800-4000	2700-4000
S20DM-68.....	3800-4000	3600-4000

SURGE AND STABILITY ADJUSTMENT

Governor No. V9-554 — Block throttle linkage to produce 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.

Governor No. S20DM-69 — Remove Welch plug covering secondary adjusting screw. To control surge turn secondary adjusting screw clockwise $\frac{1}{4}$ turn at a time. For every $\frac{1}{4}$ turn of secondary screw, turn main screw counterclockwise one full turn to bring speed adjustment back to normal. To improve stability turn secondary screw $\frac{1}{4}$ turn counterclockwise and main screw one turn clockwise for each adjustment.

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 and 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.

TUNE-UP (Cont.)

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 should be 2500 RPM on the "A" models and 1000 RPM on all the others. To adjust, screw dashpot in or out as required.

FUEL PUMP PRESSURE & VOLUME

Pressure (At Idle)	
318"	5-7 psi
383"	3.5-5 psi
Volume (At 500 RPM).....	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

Chrysler Part No.

Application	Man. Trans.	Auto Trans.
318"	2875338	2875340
318" ①	2875342	2875342
383"	2875352	2875354

① - With Cleaner Air Package.

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

Carter BBD Series 2-Bbl.

Carter Part No.

Application	Man. Trans.	Auto. Trans.
318" "A" Models ①	4420S	4421S
383" ①	4422S	4423S

① - With Cleaner Air Package.

Stromberg WW 2-Bbl.

Stromberg Part No.

Application	Man. Trans.	Auto. Trans.
318"	3-291	3-287
318" ①	3-284	3-286

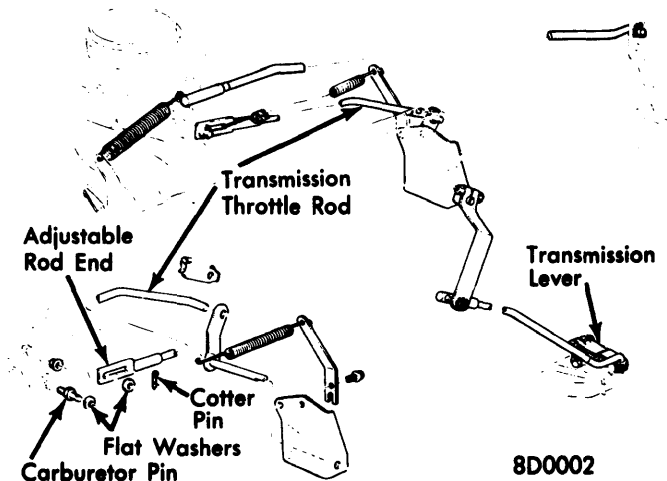
① - With Cleaner Air Package.

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

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.



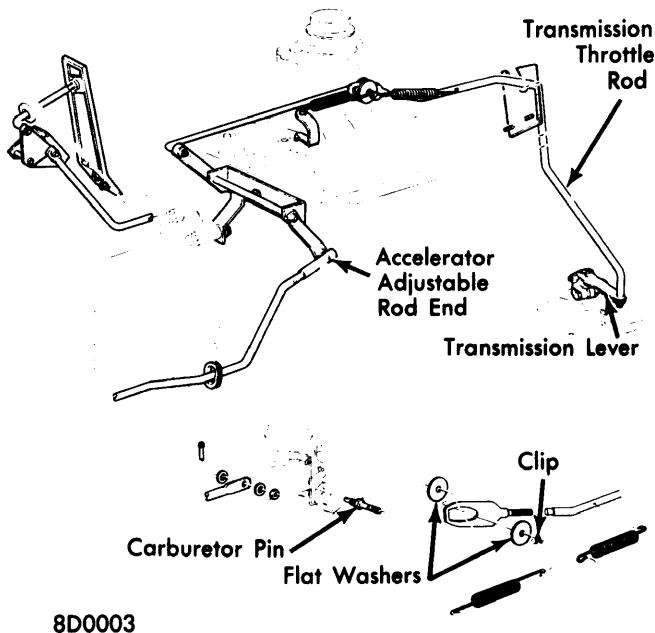
ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT 318" (EXC. "A" MODELS)

1968 Dodge V8 Tune-Up

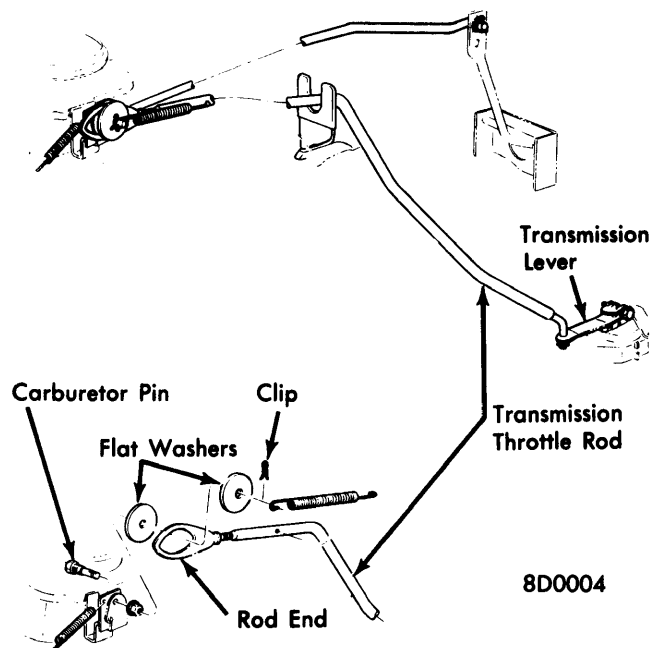
CARBURETION (Cont.)

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.

Auto. Trans. 383" — Adjust hot (slow) idle speed to specifications. Remove clip, spring, flat washer and transmission throttle rod from 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.



ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT "A" MODELS



ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT 383"

ELECTRICAL

BATTERY

12 Volt — Negative Ground.

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

STARTER

Application	Chrysler Part No.
318" (Exc. "A" Models).....	1889100
318" "A" Models.....	2095150
383".....	2642692
Motor Homes.....	3656650

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

ALTERNATOR

Application	Amps.	Chrysler Part No.
318" (Exc. "A" Models).....	37	2642537
318" "A" Models & 383".....	37	2642709
318" (Exc. "A" Models).....	46	2444599
318" "A" Models & 383".....	46	2642852
318" (Exc. "A" Models).....	60	2642121
318" "A" Models & 383".....	60	2642680

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

ALTERNATOR REGULATORS

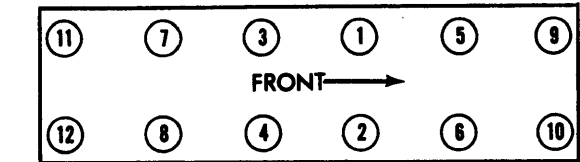
Application	Essex Part No.
All.....	2444980

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

ENGINE

INTAKE MANIFOLD TIGHTENING

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



8D0005

INTAKE MANIFOLD TIGHTENING

BELT ADJUSTMENT

Deflection Applied At Belt Midpoint Under 5 Lb. Load

Application	New Belt	① Used Belt
Power Steering		
318"	$\frac{1}{16}$ "	$\frac{1}{8}$ "
383"	$\frac{1}{8}$ "	$\frac{3}{16}$ "
Fan Idler		
.....	$\frac{1}{16}$ "	$\frac{1}{8}$ "
Alternator W/O A/C		
.....	$\frac{1}{8}$ "	$\frac{1}{4}$ "
Alternator W/A/C		
318" 1 Belt	$\frac{1}{8}$ "	$\frac{1}{4}$ "
318" 2 Belts	$\frac{3}{8}$ "	$\frac{1}{2}$ "
383"	$\frac{1}{4}$ "	$\frac{3}{8}$ "

① - Any belt operated for ½ hour or more.

COOLING CAPACITIES

Application	Quantity
318" (Exc Motor Home)	① 18 qts.
383"	① 16 qts.
318" Motor Home	22 qts.

① - Add 1 quart if equipped with heater.

FILTERS & CLEANERS

Filter or Cleaner	Service Interval (Miles)
Oil Filter	Replace 8,000
Air Cleaner	
Oil Bath	① Clean 8,000
Paper Element	② Clean 8,000
Breather Cap	① Clean 8,000
Brake Booster Air Cleaner	Replace 8,000
Fuel Filter	
Ceramic Element	Clean 2,000
Paper Element	Replace 10,000
Disposable Cannister	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.

CAPACITIES (EXCEPT COOLING)

Application	Quantity
Crankcase	
318" (Exc. "A" Models)	① 5 qts.
318" "A" Models	① 4 qts.
318"-3 & 383"	① 6 qts.
Automatic Transmission	
All (Exc. Motor Homes)	18.5 pts.
Motor Homes	19 pts.
Manual Transmission	
Rear & Front Axles & Transfer Case	②
Four Wheel Drive Knuckle Ends	②
Fuel Tank	
"A" Models21 gals.
"D" & "W" Models18 gals.
M300 (Exc 104" Wheelbase)40 gals.
M300 104" Wheelbase25 gals.
M37550 gals.

① - Add 1 quart with filter change.

② - Fill to bottom of filler plug hole.