

## MODEL IDENTIFICATION

Mod l  
 4D ..... Wasp  
 5D ..... Super Wasp  
 7D ..... Hornet

**SERIAL & ENGINE NUMBERS:** Stamped on plate on right front door body hinge post and also on top of right frame side rail near dash panel: Engine number which is the same as serial number is read downward and located on the front face of the cylinder block at top right corner.

**Starting Serial Number**—269069 for all models and runs consecutively. A digit preceding this number designates the model: 4—Wasp, 5—Super Wasp, 7—Hornet.

## TUNE-UP

**COMPRESSION PRESSURE:** 100 lbs. min. at cranking speed. Allowable variation between cylinders 10 lbs.

**VACUUM READING:** Steady 17-20" at idling speed.

**VALVE TAPPET CLEARANCE:** Intake .008", Exhaust .010" hot.

**MANIFOLD HEAT CONTROL:** Automatic thermostatic type. No Adj. Valve must operate freely.

## IGNITION

**FIRING ORDER:** 1-5-3-6-2-4. See diagram.

**SPARK PLUG GAP:** .032".

**Spark Plug**—(4D, 5D) Champion H10, (7D) Champion H11, 14 mm.

**COIL:** Auto-Lite 6012-A.

**Ignition Current**—2.5 amps. idling, 4.5 amps. stopped.

**DISTRIBUTOR:** Auto-Lite IAT-4009 (4D with 232" engine), Auto-Lite IAT-4009-B 4D, 5D, 7D (with 262" & 308" engine).

**Condenser**—Auto-Lite IAT-3076R. Capacity .21-.25 mfd.

**Contact Point Set**—Auto-Lite IAT-3028BS.

**Breaker Gap**—.020".

**Cam Angle**—39°.

**Breaker Arm Spring Tension**—17-20 ozs.

**Rotation**—Clockwise viewed from above.

► **DISTRIBUTOR INSTALLATION NOTE:** Engine rotation while oil pump removed affects timing. See "Oil Pump Removal" under Oil Pump in Hudson Special Data.

Automatic Advance  
(IAT-4009)

Degrees	Distr.	RPM	Degrees	Eng.	RPM
Start	.....	300	0	.....	600
1	.....	333	2	.....	666
3	.....	400	6	.....	800
9	.....	1100	18	.....	2200
10	.....	1200	20	.....	2400

## (IAT-4009-B)

Degrees	Distr.	RPM	Degrees	Eng.	RPM
Start	.....	500	0	.....	1000
1	.....	675	2	.....	1350
4	.....	1150	8	.....	2300
8	.....	1825	16	.....	3650
9	.....	2000	18	.....	4000

**Vacuum Spark Control:** Auto-Lite integral type.

## Vacuum Advance (IAT-4009)

Distr. Degrees	Eng. Degrees	Vacuum (" of HG)
Start	..... 0	..... 9½
1	..... 2	..... 10
3	..... 6	..... 11
5	..... 10	..... 12

## (IAT-4009-B)

Start	..... 0	..... 9-1/4
1	..... 2	..... 10
2	..... 4	..... 10-1/2
3	..... 6	..... 11
3.75	..... 7.5	..... 11-1/2

## IGNITION TIMING

**Setting**—TDC (Long line before "IUDC" on flywheel).

► **IGNITION TIMING CAUTION:** When setting timing with timing light, disconnect vacuum line from distributor and plug line to prevent disturbing engine performance.

**Timing Mark**—Long line before "UDC1" on flywheel. Timing is correct when the long line ahead of "UDC1" appears in line with pointer at opening of rear engine support plate.

## CARBURETOR

► **CARBURETOR APPLICATION:** Single carburetors used on all models or two carburetors used with Twin-H Power, all models.

## WASP

**Carter WA1 749S**—Single barrel downdraft with automatic choke.

**Idle Setting**—1/2-1-1/2 turns open. Turn screw out for richer mixture.

**Idle Speed**—550 RPM (Std. & O.D. Trans.), 500 RPM (Hydra-Matic or Automatic Trans. in "DR" range).

**Float Level**—1/2" distance from top of seam on float to tip on lower edge of float chamber, when needle is seated.

**Accelerating Pump**—Outer hole normal, inner hole if less charge required.

**Fast Idle:** 5/8" clearance between choke valve and air horn with throttle valve closed and stop screw against (not on) first step of fast idle cam. Adjust by bending link at lower offset.

**Automatic Choke Setting:** Set at index.

**Hydra-Matic & Automatic Throttle Linkage Adjustment:** See "Hydra-Matic Drive" and "Studebaker Automatic Transmission" in Transmission Section.

► **OTHER DATA:** See "Carter WA1 Carburetor" in Carburetor Section.

**Fuel Pump Pressure:** 3-1/2-5-1/2 lbs. (Std.), 4-5 lbs. (Combination).

## SUPER WASP &amp; HORNET

**Carter WGD 2115S**—Dual downdraft type with automatic choke.

**Idle Setting**—3/4-1-3/4 turns open. Turn screws out for richer mixture.

**Idle Speed**—550 RPM (Std. & O.D. Trans.), 500 RPM (Hydra-Matic & Automatic Trans. in "DR" range).

**Float Level**—3/16" between top of float and bowl cover with cover inverted and gasket removed.

**Accelerating Pump**—No seasonal adjustment required.

**Fast Idle:** .026" throttle opening with choke valve closed. Check with thermostatic coil housing, gasket and baffle removed. Crack throttle valve, hold choke

valve closed, move throttle toward closed position as far as possible. If throttle opening not exactly .026" bend connector link at lower angle.

**Automatic Choke Setting:** Set 2 points lean.

**Hydra-Matic & Automatic Throttle Linkage Adjustment:** See "Hydra-Matic Drive" & "Studebaker Automatic Transmission" in Transmission Section.

► **OTHER DATA:** See "Carter WGD Carburetors" in Carburetor Section.

**Fuel Pump Pressure:** 3-1/2-5-1/2 lbs. (Std.), 4-5 lbs. (Combination).

## TWIN H-POWER (ALL)

**Carter WA1 2114S (4D, 5D), Carter WA1 2113S (7D).** Two used. Single barrel downdraft with automatic choke.

► **TWIN-H POWER CARBURETOR ADJUSTMENT CAUTION:** Proceed as follows:

**Idle Setting**—For correct equalization of both carburetors: Remove air cleaners, install adjusting pin J-2544-1 through accelerator pedal link bellcrank lever and in hole in cylinder block to lock lever. On 5D, adjust throttle shaft rod trunnion to 1-25/32" from top face of bracket to center of clevis pin hole in cross shaft lever. Connect tachometer, but before warming up engine, remove clevis pin from ends of both throttle shaft to carburetor rods, position fast idle cam on each carburetor "off" position and turn each throttle stopscrew in until it just touches the cam. Set idle mixture screws exactly 2 turns open (7D), 1-1/4 turns open (4D, 5D). Warm engine, then adjust for correct idle speed (see below). Adjust each idle mixture adjusting screw for maximum increase in idling speed and readjust throttle stop screws for correct idling speed (**CAUTION**—turn stopscrew on each carburetor an equal amount). Adjust front and rear throttle shaft-to-carburetor rod clevises so that clevis pins can be installed freely, connect rods. On Hydra-Matic cars adjust throttle linkage (see Hydra-Matic Drive & Studebaker Automatic Trans. Linkage adjustment in Transmission Section). Remove linkage adjusting pin, adjust accelerator pedal to bellcrank rod to get 1/64-1/16" clearance between pedal and pedal stop at wide open throttle, reinstall air cleaners.

**Idle Speed**—540-560 RPM (Std.), 490-510 RPM (Hydra-Matic & Automatic), 575 RPM (Overdrive).

**Float Level**—1/2" from top of float seam to tip on lower edge of float chamber cover.

**Accelerating Pump**—Outer hole normal, inner hole if less charge required.

**Fast Idle**—1/2" (2114S), 5/8" (2113S) clearance between choke valve and air horn with throttle valve closed and stopscrew against (not on) first step of fast idle cam. Adjust by bending at lower offset.

**Automatic Choke**—Set 1 point lean.

**Hydra-Matic & Automatic Trans. Throttle Linkage Adjustment:** See "Hydra-Matic Drive" & "Studebaker Automatic Trans." in Transmission Section.

► **OTHER DATA:** See "Carter WA1 Carburetors" in Carburetor Section.

**Fuel Pump Pressure:** 3-1/2-5-1/2 lbs. (Std.), 4-5 lbs. (Combination).

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