A.E.A. tune-up

Specification

CHARTS

Hudson
1954-1957
1954 Hudson

Jet 1D, Super Jet 2D, Jet Liner 3D
Wasp 4D
Super Wasp 5D
Hornet 7D
1955 Hudson

Hudson Six - Model 35540 Wasp
Hudson Six - Model 35560 Hornet
Hudson Eight - Model 35580 Hornet
1956 Hudson

Hudson Six - Model 35640 Wasp
Hudson Six - Model 35660 Hornet
Hudson Eight - Model 35680 Hornet
AUTO-LITE No. VFX-600BA
Cut-Out Relay - Armature air gap .031" to .034". Contact point gap .035" minimum. Contacts close 12.0 to 15.7 volts. Contacts open 8.2 to 7.3 volts in sealed position.
Current Regulator - Armature air gap .048" to .052". Operating current - after 15 minutes operation:
Temp. F. | Amps | Temp. F. | Amps |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>37.5</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>80</td>
<td>28</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Voltage Regulator - Armature air gap .048" to .052". Operating voltage - after 15 minutes operation:
Temp. F. | Volts | Temp. F. | Volts |
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>40</td>
<td>14.7</td>
<td>20</td>
<td>14.5</td>
</tr>
<tr>
<td>80</td>
<td></td>
<td></td>
<td>11.9</td>
</tr>
</tbody>
</table>

DISTRIBUTOR
AUTO-LITE No. IAT-4202
Cam Angle - 30° ± 3°
Breaker Contact Gap - .020"
Breaker Contact Set-Point No. (OW-20336) 0.030 ± 0.001 in.
Breaker Arm Spring Tension - 17 ± 2 oz.
Condenser - Part No. IAT-2138
Capacity - 24 ± 25 MFDs.
Automatic Advance - Start 0° at 300 R.P.M., Intermediate 4.5° at 350 R.P.M. Maximum 12.5° at 1500 R.P.M.
(Distributor degree at distributor R.P.M. Tolerance + or - 1°)
Vacuum Control - No. (IAT-20336M 5/16" hole to start plunger travel. 7.50 maximum distributor advance at 9°-1/2" hole.

SPARK PLUGS
CHAMPION Type H-10 Gap .032" Size 14mm. Use Round Wire Gage

IGNITION COIL
AUTO-LITE No. CAT-4003 Sparking Coil No. CAT-4003 Mounting Bracket On Coil

FUEL SYSTEM
CARBURETOR
CARTER - Nos. 20095, 20095A
Float Adjustment - With bowl cover lowered and float resting on seated needle, the distance from the tip of the needle to the seating surface should be 1/16" (gage 1109-83 for 20095) and 7/32" (gage 1109-85 for 20095A).
Fixed Jet - Metering Rod - Standard Part No. 75-914 Metering Rod Jet Part No. 120-1915
Pump Adjustment - With throttle valve seated and connector link in lower hole (medium stroke), pump plunger should travel 16/64" from closed to wide open throttle position. Measure pump travel by using universal pump travel gauge 1109-1175. Place base of the gauge on slotted portion of bowl cover so that projecting portion of pump gauge rests on top surface of connector link at pump shaft. Hold gauge vertical. The difference between the numbers shown by index mark on gauge, at wide open and closed throttle position should be 16/64". Metering Rod Adjustment - Correct setting of metering rod is important and must be made after pump adjustment or when leaves from standard rods are used. Place pump travel gauge (1109-211 for 20095 and 1109-215 for 20095A) in pump and screw it tight. Place a gage pin (1109-201) through end of gage in metering rod slot. Hold gauge vertical to insure seating of pin. With engine room door open, place etch on piston directly over piston until it contacts the pump arm. There should now be less than .002" clearance between metering rod pin and shoulder in notch of gage. Gauge must rest snug on pin. Adjust by bending pin on piston link (use tool 1109-100). Anti-Selvacculator Adjustment - Crack throttle valve wide open by placing gauge 1109-29 between throttle valve and base of carburetor (side opposite idle port). Bend rocker arm (use tool 1109-160) until there is a clearance of .010" between rocker arm tip and pump arm.
### MISCELLANEOUS

<table>
<thead>
<tr>
<th>VALVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>VALVE CLEARANCE - Engine Cold - Intake - .010&quot;</td>
</tr>
<tr>
<td>- Exhaust - .015&quot;</td>
</tr>
<tr>
<td>VALVE TIMING - Intake valves open 25° before top dead center.</td>
</tr>
</tbody>
</table>

### COOLING SYSTEM

- **Capacity**: 14 Quarts with heater (U.S. Measure)
- **Thermostat**: Housing on cylinder head. Starts to open at 160°F, Pressure Cap - 6.25 to 7.75 lbs. pressure.

### ADDITIONAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Gauges</th>
<th>STEWART-WARNER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Gauge - No. 462452</td>
<td></td>
</tr>
<tr>
<td>Oil Pressure Switch - No. 47185</td>
<td></td>
</tr>
<tr>
<td>Crankcase Capacity - 3 Quarts (U.S. Measure)</td>
<td></td>
</tr>
<tr>
<td>Recommended Tire Pressure -</td>
<td></td>
</tr>
<tr>
<td>Cold - 24 lbs. front and rear</td>
<td></td>
</tr>
<tr>
<td>Other - STEWART-WARNER No. 573-A</td>
<td></td>
</tr>
<tr>
<td>Extension Shaft - No. 5219-12</td>
<td></td>
</tr>
<tr>
<td>Ignition Lock - BRIGGS &amp; STRATTON</td>
<td></td>
</tr>
<tr>
<td>Key Series - N1501, N1700</td>
<td></td>
</tr>
<tr>
<td>Key Blank - 3647</td>
<td></td>
</tr>
<tr>
<td>Lock Part No. - B004</td>
<td></td>
</tr>
</tbody>
</table>

**SERIAL NUMBER**: Top center of dash under hood. M-8701 and up (U.S. &)

**ENGINE NUMBER**: Upper left hand forward portion of cylinder block. M-8701 and up (U.S. &)

**NOTE**: The Symbols "g" used on this chart designates "inlet Vacuum" (memory).

Original equipment service parts and accurate parts to manufacturers specifications, with proper tools and equipment will restore original performance.


**ELECTRICAL SYSTEM**

**BATTERY** - 12 Volt

**AUTO-LITE** - 11N5-60B

60 Amp. Hours
(20 Hour Rate)

Negative terminal grounded

**STARTING MOTOR**

**DISTRIBUTOR**

**AUTO-LITE No.** - WD-3008

Drive - Overriding Clutch
- Part No. MCL-3122

**FUEL SYSTEM**

**PUMP**

CARTER - No. 23560

Capacity - 2 gals or over in 1 minute

Pressure - 3-1/2 lbs. min., 5-1/2 lbs. max.

Vacuum Test - 10 lbs. min., or 200 R.P.M.

**CARBURETOR**

CARTER - WCD - No. 30315, 30315A

Float Adjustment - 3/16" (10.5 - 20.5) between top of float and baffle cover, with baffle cover-gasket removed, baffle cover inverted and needle seated.

**FUEL PUMP**

Jetted - Port No. 75-1568

Metering Rod Jet

Port No. 120-159

Clometric Control - Set one point rich.

Pump Adjustment - Back out throttle lever set screw until throttle valves rest in bore of carburetor. Hold straight edge across top of shield cover at pump arm. Swing arm on top of pump arm should be parallel to straight edge. Adjust by bending throttle lever arm at upper angle. Use bend tool 1109-213.

Metering Rod Adjustment - With throttle lever set screw locked out and throttle valves seated in bores of carburetor, press down on vacuum link until metering rod bottoms in casing. With rods held in this position, rotate metering rod until lip contacts vacuum link. Hold in place and carefully tighten metering rod set screw.

Fast Idle Adjustment - With thermostatic coil housing gasket and baffle plate removed, check throttle valve and hold at 0.030" gap. Then close throttle. This should now be .030" (gage 1100-3) clearance between throttle valve and bore of carburetor.

**REGULATOR**

**AUTO-LITE** - No. VXU-23862

Cut-Out Relay - Ammeter air gap .039" - .054". Contact points gap .015 minimum. Contacts close at 13.3 to 13.7 volts. Contacts open at 8.2 to 9.3 volts from sealed position.

Current Regulator - Ammeter air gap .048" - .052".

Operating current - after 15 minutes operation:

Temp. F. 30 50 70

Current 32 2.2 3.2 28 2

Voltage Regulator - Ammeter air gap .048" - .052"

Operating voltage - after 15 minutes operation:

Temp. F. 30 50 70

Volts 14.7 15.3 14.9 2 14.2 2 14.5 2 14.8

**ENGINE TIMING**

**SPARK PLUGS**

CHAMPION - Type N-18 Gap .030" Size 14mm.

IGNITION COIL

**AUTO-LITE No.** - CAD-6048

Secondary Coil No. CAD-6048

Primary Resistor No. RJ-4001

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Automotive Electric Association, 16223 Meyers, Detroit 35, Michigan
Unloader Adjustment - Hold throttle valve in wide open position and close choke valve as far as possible without fouling. There should be 3/16" (gage T109-20) clearance between upper edge of choke valve and inner wall of air horn. Adjust by bending choke shaft unloader arm. (Use bending tool T109-100).

CARTER - WSO - No. 33325 "HORNET SPECIAL"

Float Adjustment - With bowl cover gasket removed, bowl cover removed and needle seated, there should be 7/32" (gage T109-130) between top of float and bowl cover. Adjust by bending float arm.

Float Jets -
- Metering Rod - Standard
  - Part No. 75-1285
- Metering Rod - 5 size lean
  - Part No. 75-1210
- Metering Rod - 2 sizes lean
  - Part No. 75-1311
- Metering Rod Jet
  - Part No. 135-1413

Clutch Control - Set on index.

Pump Adjustment - Back out throttle lever set screw until throttle valves seat in bores of carburetor. Hold straight edge across top of dust cover at pump area. The flat on top of pump arm should be parallel to straight edge. Adjust by bending throttle connector rod at upper angle. Use bending tool T109-213.

Metering Rod Adjustment - The metering rods must be adjusted after the pump adjustment. No metering rod gauges are necessary. With throttle lever set screw backed out and throttle valves seated in bores of carburetor, press down on vacuum link until metering rods bottoms in casting. With rods held in this position, re-engage metering rod until tip contacts vacuum link. Hold in place and carefully tighten metering rod set screw.

Fast Idle Adjustment - With the thermostatic coil housing gasket and throttle plate removed, crank throttle valve and hold choke valve closed. Then close throttle. There should now be 0.025" clearance (gage T109-189) between throttle valve and bore of carburetor, side opposite idle part. Adjust by bending the choke connector rod at lower angle.

Fast Idle on Cool - 1700 to 1800 R.P.M. (Horiz).

Unloader Adjustment - Hold throttle valve in wide open position and close choke valve as far as possible without fouling. There should be 3/16" (gage T109-20) clearance between upper edge of choke valve and inner wall of air horn. Adjust by bending choke shaft unloader arm. (Use bending tool T109-212).

Idle Engine Speed - 475 R.P.M. (Automatic transmission) 550 R.P.M. (Standard & Overdrive)
1957 Hudson

Hudson Eight - Model 35780 Hornet
Hudson Eight 1957

Electrical System

12-Volt Battery and Cables

Auto-Lite - 11H5 60 60 Amp. Hour (20-Hour Rate)
Negative terminal grounded

Battery - Packard
Battery to Ground - Length 36" Part No. 11J-27 IL-27
Battery to Switch - Length 62-1/2" Part No. 11J-65 IL-65

Starting Motor

Delco-Remy No. 1102648

FREE RUNNING SPEED - 6000 R.P.M. 75 Max. Amps. 10.3 Volts

Generator

Delco-Remy No. 1102918
Maximum Controlled Output - Cold 50 Amps, 14 Volts at 2210 R.P.M. of Generator
Brush Spring Tension - 28 oz.
Rotation - Clockwise (viewing drive end)

Regulator

Delco-Remy No. 1110667
Cam Angle - 24° - 32°
Breaker Contact Set - Part No. 1931988
Condenser - Part No. 1930004
Capacity - 0.183 - 0.33 Mfd.
Vacuum Control - No. 1116117 5.75" to 7.25" up to start plunger travel, 10" advance at 14.25 - 15.75" hg.
Automatic Advance - 7° at 200 - 350 R.P.M., Intermediate 7.5° - 9.25° at 775 R.P.M. 12° at 1400 at 1000 R.P.M. Maximum 17° at 190° at 1500 R.P.M.

Distributor

Delco-Remy No. 1110667
Cam Angle - 24° - 32°
Breaker Contact Set - Part No. 1931988
Condenser - Part No. 1930004
Capacity - 0.183 - 0.33 Mfd.
Vacuum Control - No. 1116117 5.75" to 7.25" up to start plunger travel, 10" advance at 14.25 - 15.75" hg.
Automatic Advance - 7° at 200 - 350 R.P.M., Intermediate 7.5° - 9.25° at 775 R.P.M. 12° at 1400 at 1000 R.P.M. Maximum 17° at 190° at 1500 R.P.M.

Spark Plugs

Champion - Type H-10 Gap .025" Size 14mm
Use Round Wire Gauge

Ignition Coil

Delco-Remy No. 1110667 Servicing Call No. 1115807
Mounting Bracket No. 1109326
Ignition Resistor No. 1120809

Fuel System

Fuel Pump

Carter - No. M2432
Capacity - 4 Gals. over 1 minute.
Pressure - 6 lbs. min., 2.5 to 3 lbs. max.
Vacuum Test - 10" hg., min., at 200 P.S.I.

Carburetor

Carter - Model 2935S - 2935AS
Float Level - Distance between top of float and machined surface of casting 1/8" (gage 1100-232) primary floats and 3/16" (gage 1100-222) secondary floats.
Float Drop - 0.068" Primary Floats, 0.034" secondary floats.
Fixed Jet - Metering Rod Screw - No. 1125135
Primary Metering Rod - No. 1125160
Secondary Metering Rod - No. 1125175

Pump Adjustment - Back out throttle lever set screw until throttle valves seat in bores of carburetor. Hold straight edge across top of duct cover at pump arm. Flat on top of pump arm should be parallel to straight edge.
Metering Rod Adjustment - With throttle lever set screw backed out and throttle valves seated in bores of carburetor, press down on vacuum link until metering rod bottoms in casting. With rods held in this position, rotate metering rod arm until tip contacts vacuum link. Hold in place and carefully tighten metering rod arm set screw.
Fast Idle Cam Clearance - 0.026" (gage 1100-19B) between tip of fast idle cam and base of flange casting with choke valve closed.
Fast Idle Adjustment - Should be 0.031" (gage 1100-18B) clearance between throttle valve and bore of carburetor with adjusting screw on high step of cam.

Ignition Timing

Use timing light - Breaker contacts to open at 30° (end) 10° (out).
Timing mark on vibration damper pulley.

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**Standards of Adjustment**

### Carburetor (Cont'd)
- Unloader Adjustment - There should be 9/32" (gauge T109-126) between upper edge of choke valve and inner wall of air horn.
- Bowl Vapor Vent - 1/16" (gauge T109-197) between bowl vapor vent valve and dual cover.
- Choke (Slow Closing Throttle) - Plunger shaft should bottom with 1/16" (gauge T109-197) plunger between shaft and operating lever with throttle valves seated.
- Idle Engine Speed - Do not idle below 450 R.P.M. (Auto. Trans.) 500 R.P.M. (Std. Trans.) in "neutral".

### Miscellaneous

<table>
<thead>
<tr>
<th>Valve Type</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve Clearance</td>
<td>Hydraulic valve lifters.</td>
</tr>
<tr>
<td>Valve Timing</td>
<td>Inlet valves open at 12º = 30º before top dead center.</td>
</tr>
</tbody>
</table>

### Cooling System
- Capacity: 9 Quarts without heater (U.S. Measure)
- Thermostat: Opens at approximately 165º F.

### Additional Specifications
- Gauges: Stewart-Warner
  - Temperature Gauge: No. 642652
  - Gasoline Gauge: No. 441168
- Speedometer: Stewart-Warner No. 573-A
- Extension Shaft: No. 3375-1/4"
- Auto-Lite: No. 577-22148 47º (Std. & Overdrive)
  - No. 577-22146 32º (Hydraulic)
- Crankcase Capacity: 3 Quarts (U.S. Measure)
- Recommended Tire Pressure:
  - Cold - 24 lbs. front. 30 lbs. rear
- Ignition Lock: Briggs & Stratton
  - Key Series: NS60 - N1700
  - Key Blank No.: 12617
  - Lock Part No.: 89042
- Serial Number: Under hood, right side of cowl
  - No. Y-10551 and up (U.S.)
- Engine Number: Lower left side of engine block
  - No. H-1001 and up (U.S.)