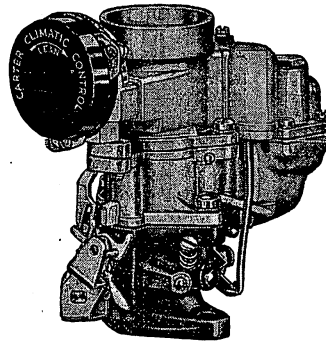


968S—Models 7B, 7C  
1952-1953

2113S—Model 7D—1954

(Two Carbureters Per Engine)



Casting No. 910 on face of flange

HUDSON  
"HORNET"

1952-1954

## WA1 Down-Draft Climatic® Control Carbureters Nos. 968S-2113S

### CARBURETER SPECIFICATIONS

For Hudson 6 Cylinder Engine: 3-13/16 Inch Bore, 4 1/2 Inch Stroke

**Dimensions:** Flange size, 1 1/2 inch S. A. E.

Primary venturi, 1 1/32 inch I. D.

Secondary venturi, 1 1/16 inch I. D.

Main venturi, 1 3/8 inch I. D.

**Float Level:** Distance from seam of float (at free end) to tip on lower edge of float chamber cover, when needle is seated, to be 1/2 inch.

**Vents:** Outside, No. 10 (.1935 inch) drill. Inside, none.

**Gasoline Intake:** Square vertical push-pull needle. Size No. 46 (.081 inch) drill hole in needle seat.

**Low Speed Jet Tube:** Jet, (968S) size No. 65 (.035 inch), (2113S) size No. 66 (.033 inch) drill. By-pass, in body, size .063 inch diameter. Economizer, in body, size .0545 to .0555 inch diameter. Idle bleed in body, size No. 52 (.0635 inch) drill.

**Idle Port:** Upper port, slot type, length .190 inch; width .040 inch.

**Idle Port Opening:** .178 to .182 inch above valve with valve tightly closed.

**Idle Screw Seat:** No. 46 (.084 inch) drill.

**Set Idle Adjustment Screw:** 1 1/4 to 2 1/4 turns open. For richer mixture turn screw out. Do not idle engine below 500 r.p.m. (Hydra-Matic—In Drive Range), 550 r.p.m. (Standard and Overdrive Trans.).

**Main Nozzle: (Assembly)** Slip nozzle, flush type, (angle tip) seats in primary venturi, at 45° angle. Discharge jet size, .110 inch diameter. Inner nozzle (seats in slip nozzle) I. D. No. 31 (.120 inch) drill.

**Metering Rod (Vacumeter Type):** Economy step (968S) .076 inch; (2113S) .075 inch diameter. Middle step tapers to (968S) .063 inch; (2113S) .068 inch diameter. Power step (968S) .056 inch; (2113S) .059 inch diameter.

**Metering Rod Jet:** .1015 inch diameter.

**Metering Rod Setting:** Use gauge, part No. T109-102 (2.468 inches).

**Accelerating Pump:** Pressure type with adjustable stroke. Discharge jet, Size No. 74 (.0225 inch) drill. Intake ball check seat, size No. 60 (.040 inch) drill. Discharge ball check seat, size No. 32 (.116 inch) drill. Relief passage (to outside), size No. 42 (.0935 inch) drill.

**Pump Adjustment:** See Adjustments.

**Choke:** Carter Climatic® Control, set 1 point lean—butterfly type, offset valve. Choke Heat Suction Hole, in body, size No. 40 (.098 inch) drill.

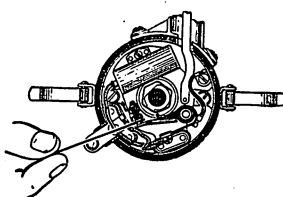
**Vacuum Spark Port:** .054-.057 inch diameter. Top of port .049 inch above top edge of valve, with valve tightly closed.

### Motor Tune-Up—Be Accurate! Always Use Feeler Gauges!

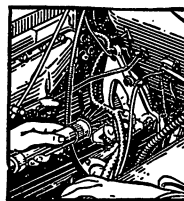
**CAUTION:** Change worn or leaky flange gaskets. Tighten manifold bolts and test compression before adjusting carburetor.



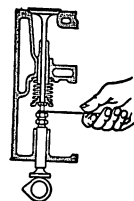
Spark Plug  
Gap  
.032"



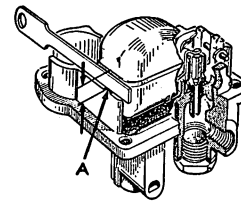
Breaker Point  
Setting  
.020"



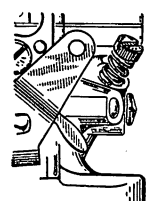
Ignition Timing  
Breaker Points to Open:  
T. D. C.



Valve Setting  
(Hot)  
Intake .010"  
Exhaust .012"



Float Setting  
Measure from point "A"  
to top of float seam  
1/2 Inch  
(Use Gauge T109-83)



Idle Adjustment  
Screw Setting  
1 1/4 to 2 1/4  
Turns Open

### CARBURETER ADJUSTMENTS

**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 T109-117S. Place base of the gauge on ridged 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" (16/64"). Adjust by bending throttle connector rod at lower angle.

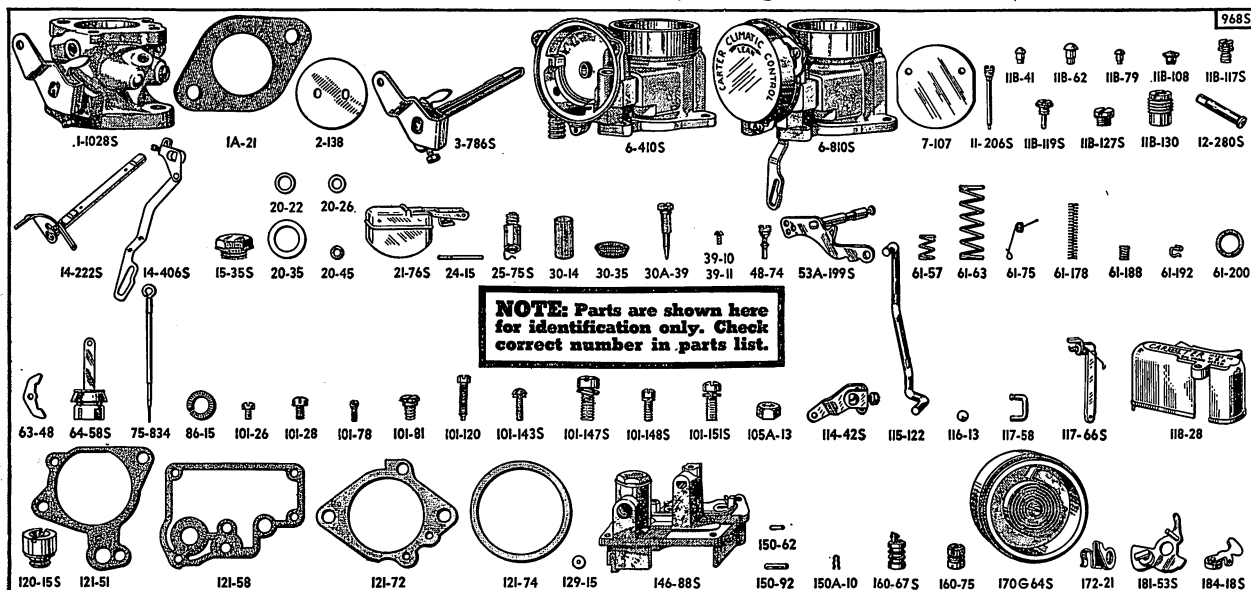
**METERING ROD ADJUSTMENT:** Correct setting of metering rod is important and must be made after pump adjustment or when leaner than standard rods are installed. Insert gauge (tool T109-102) in place of metering rod, seating tapered end of gauge in metering rod jet. Hold gauge vertical to insure seating in jet. With throttle valve seated, press down on piston link directly over piston until it contacts the pump arm. There should now be less than .005" clearance between metering rod pin and shoulder in notch of gauge. Gauge must not drag on pin. Adjust by bending lip on piston link (use tool T109-105). Remove gauge and install metering rod, disc, pin and spring.

**ANTI-PERCOLATOR ADJUSTMENT:** Crack throttle valve .016" by placing gauge T109-44 between throttle valve and

bore of carburetor (side opposite idle port). Bend rocker arm (use tool T109-105) until there is a clearance of .010" between rocker arm lip and pump arm.

**FAST IDLE ADJUSTMENT:** With fast idle cam in normal idle position, tighten throttle lever adjusting screw until it just seats against cam. Hold throttle lever closed and pull cam back until first (or lower) step is against (not on) set screw. There should now be 5/8" (T109-85) clearance between inside wall of air horn and lower edge of choke valve. Adjust by bending fast idle link at offset portion (use tool T109-41).

**UNLOADER ADJUSTMENT:** With throttle valve wide open there should be 9/16" clearance (gauge T109-84) between lower edge of choke valve and inner wall of air horn. Adjust by bending cam on throttle lever (T109-41).



## Hudson—1952-54—Carburetors Nos. 968S-2113S

WHEN SERVICING, USE GASKET ASSORTMENT No. 198 (968S-2113S); REPAIR PACKAGE No. 1723 (968S)

PART NAMES IN CAPITAL LETTERS, LISTED BELOW, INDICATE CONTENTS OF REPAIR PACKAGE

Part No.	PART NAME	Part No.	PART NAME
1-908S	Body flange assembly (968S) (Sup. by 1-1028S).....	75-834	METERING ROD—STANDARD (968S).....
1-1028S	Body flange assembly.....	75-861	Metering rod—1 size lean (968S).....
1A-21	FLANGE GASKET .....	75-862	Metering rod—2 sizes lean (968S).....
2-138	Throttle valve .....	75-863	Metering rod—3 sizes lean (968S).....
3-786S	Throttle shaft and lever assembly.....	75-955	—Metering rod—standard (2113S).....
6-410S	Air horn assembly.....	75-974	—Metering rod—1 size lean (2113S).....
6-810S	Air horn and Climatic® control assembly.....	75-975	—Metering rod—2 sizes lean (2113S).....
7-107	Choke valve .....	75-976	—Metering rod—3 sizes lean (2113S).....
11-206S	LOW SPEED JET ASSEMBLY (968S).....	86-15	Flange stud lock washer.....(2)
11-258S	—Low speed jet assembly (2113S).....	101-26	Coil housing attaching screw.....(3)
11B-41	Rivet plug .....	101-28	Throttle shaft arm clamp screw.....
11B-62	Rivet plug .....	101-78	Choke lever clamp screw.....
11B-79	Rivet plug .....	101-81	Fast idle cam screw.....
11B-108	IDLE PORT RIVET PLUG.....	101-120	Throttle lever adjusting screw.....
11B-117S	Idle passage plug assembly.....	101-143S	Piston housing attaching screw and washer assembly
11B-119S	Ball retainer screw plug assembly.....	101-147S	Body flange attaching screw and washer
11B-127S	Passage plug assembly.....(2)		assembly .....
11B-130	NOZZLE RETAINER PLUG.....	101-148S	Bowl cover attaching screw and washer
12-280S	NOZZLE ASSEMBLY .....		assembly .....
14-222S	Choke piston lever, link and shaft assembly.....	101-151S	Air horn attaching screw and washer assembly.....(2)
14-406S	Choke lever, screw and link assembly.....	105A-13	Flange stud nut.....(2)
15-35S	Strainer nut assembly.....	114-42S	THROTTLE SHAFT ARM AND SCREW ASSEMBLY
20-22	Needle seat and plug gasket.....(3)	115-122	THROTTLE CONNECTOR ROD.....
20-26	Metering rod jet and plug gasket.....(3)	116-13	PUMP INTAKE AND DISCHARGE
20-35	BOWL STRAINER GASKET.....		CHECK BALL .....
20-45	NOZZLE GASKET .....	117-58	PUMP CONNECTOR LINK.....
21-76S	Float and lever assembly.....	117-66S	Piston link and spring assembly.....
24-15	Float lever pin.....	118-28	Dust cover .....
25-75S	NEEDLE AND SEAT ASSEMBLY.....	120-15S	METERING ROD JET ASSEMBLY.....
30-14	BOWL STRAINER GAUZE .....	121-51	AIR HORN GASKET.....
30-35	PUMP STRAINER .....	121-58	BOWL COVER GASKET.....
30A-39	Idle adjustment screw.....	121-72	BODY FLANGE GASKET.....
39-10	Choke valve attaching screw.....(2)	121-74	COIL HOUSING GASKET.....
39-11	THROTTLE VALVE ATTACHING SCREW.....(2)	129-15	Metering rod disk.....
48-74	PUMP JET .....	146-88S	Bowl cover and strainer assembly.....
53A-199S	Pump arm and countershaft assembly.....	150-62	Choke piston pin.....
61-57	Idle adjustment screw spring.....	150-92	Anti-percolator pin .....
61-63	Pump spring .....	150A-10	Pin spring .....
61-75	Metering rod spring.....	160-67S	Vacuum piston and pin assembly.....
61-178	VACUUM PISTON SPRING.....	160-75	Choke piston .....
61-188	Rocker arm spring.....	170G-64S	Thermostatic coil and housing assembly.....
63-48	Coil housing retainer.....(3)	172-21	THROTTLE CONNECTOR ROD RETAINER.....
64-58S	PLUNGER AND ROD ASSEMBLY.....	181-53S	Fast idle cam and pin assembly.....
75-487	Metering rod (special for racing) (968S).....	184-18S	ANTI-PERCOLATOR CAP AND ROCKER
			ARM ASSEMBLY .....

—Parts so marked are new and listed for the first time.

NOTE: Figures in parentheses indicate number of pieces used in one carburetor. Where no figure is shown, only one is used.