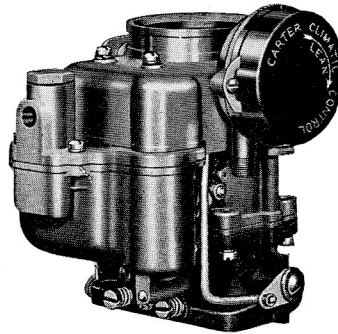


MOTOR SERIAL NUMBERS  
1941—D400051 and higher  
1942—E300001 and higher  
1946-47—F300001 and higher



## PACKARD EIGHT

MODEL	SERIES	YEAR
"120"	"1951"	1941
"120"	"2001"	1942
"120"	"2101"	1946-47

Casting No. 371 on Face of Flange

WDO Dual Down-Draft Climatic Control Carbureter—**Model 512S**—List Price \$30.00

An \$8.00 exchange allowance is deducted from the list price if buyer turns in old carbureter.

### CARBURETER SPECIFICATIONS

For Packard 8 Cylinder Engine: 3/4 Inch Bore, 4 1/4 Inch Stroke

Dimensions: Flange size, 1 inch dual, 4 bolt type.

Primary venturi, 1 1/32 inch.  
Secondary venturi, 2 1/32 inch.  
Main venturi, 1 1/8 inch.

Float Level: Distance from float bowl cover, when needle is seated, to be 5/32 inch. (Use gauge No. T109-154.)

Vents: Outside, No. 10 drill—four holes. Inside, none.

Gasoline Intake: Square vertical needle. Size No. 38 drill hole in needle seat.

Low Speed Jet Tube: Jet size, No. 70 drill.  
By-pass, size No. 52 drill.  
Economizer, size No. 50 drill.  
Idle bleed, size No. 54 drill.

Idle Ports: Upper port, slot type, length .165 inch; width .030 inch.  
Opening: .135 to .141 inch above upper edge of valve with valve closed tight.  
Lower Port: (For Idle Adjustment Screw)  
Size, .0615 to .0655 inch diameter.

Set Idle Adjustment Screw: 1/2 to 1 1/2 turns open. For richer mixture turn screw out. Do not attempt to idle engine below 350 r.p.m.

Main Nozzle: In primary venturi, angle 45°. Closed tip. Inside diameter No. 30 drill.

Upper hole: .028 inch diameter on 45° angle.  
Lower hole: .0635 inch diameter on 70° angle.

Metering Rod (Vacumeter Type): Economy step, .064 inch diameter.

Middle step tapers to .060 inch diameter.

Power step, .050 inch diameter.  
Length of rod, 2-59/64 inches.

Metering Rod Jet: 2.15 mm (.0846 inch) diameter.

Metering Rod Setting: Use gauge, part No. T109-113 (2.280 inches).

Accelerating Pump: High pressure type (spring operated lever) with adjustable pump stroke.

Pump discharge jets (twin), size No. 70 drill.

Intake ball check, size No. 40 drill.

Discharge (needle seat), size No. 50 drill.

Outside relief to pump jet, none.

Pump Adjustment: 14/64 inch plunger travel (full throttle position) short stroke. Use gauge T109-117S.

Choke: Carter Climatic Control, set at index. Butterfly type, off-set valve. Choke heat suction hole, in body, size No. 32 (.116") drill.

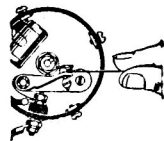
Vacuum Spark Port: .039 to .041 inch diameter. Bottom of port .009 to .013 inch (early production); .012 to .022 inch (late production) above top edge of valve.

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

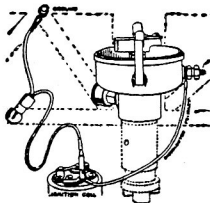
CAUTION: Change worn or leaky flange gaskets. Tighten manifold bolts and test compression before adjusting carbureter.



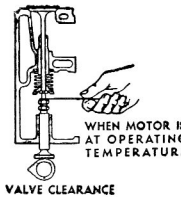
Spark Plug  
Gap  
.028" ±  
.0025"



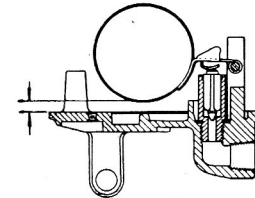
Set  
Breaker Points  
.0125" to .0175"



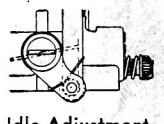
Use Timing Light  
Breaker Points to Open  
Standard Head: 5° B.T.D.C.  
Plus 0°, Minus 1 1/2°



Set Valves  
Intake .007"  
Exhaust .010"



Correct Float Level  
(Remove Cork Gasket)  
5/32"



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

### BRIEF CARBURETER ADJUSTMENTS

**PUMP ADJUSTMENT:** With the pump connector link in place, inner hole short stroke and throttle adjustment screw backed out, pump plunger should travel 14/64" from closed to wide open throttle position.

Pump travel should be measured by placing gauge T109-117S on rim of bowl cover around plunger shaft, and measure to top surface of connector link where it extends through plunger shaft. Reading should be taken at closed and wide open throttle position. Difference in reading should be "14."

Adjustment can be made by bending throttle connector rod at lower angle until correct pump plunger travel is obtained.  
**METERING ROD ADJUSTMENT:** Must be made when re-assembling the carbureter or when leaner than standard metering rods are installed. Do not disturb pump adjustment. Procedure is as follows:

(A) Back out throttle lever adjustment screw until throttle valves seat. Insert one metering rod gauge T109-113 in place of metering rod. Be sure gauge seats in jet.

(B) Install metering rod pin and pin spring, in vacuum piston and link assembly.

(C) Press lightly on top of vacuum piston until lip contacts tongue on anti-percolator arm. There should now be less than .005" clearance between metering rod pin and shoulder in notch of gauge with the valves seated.

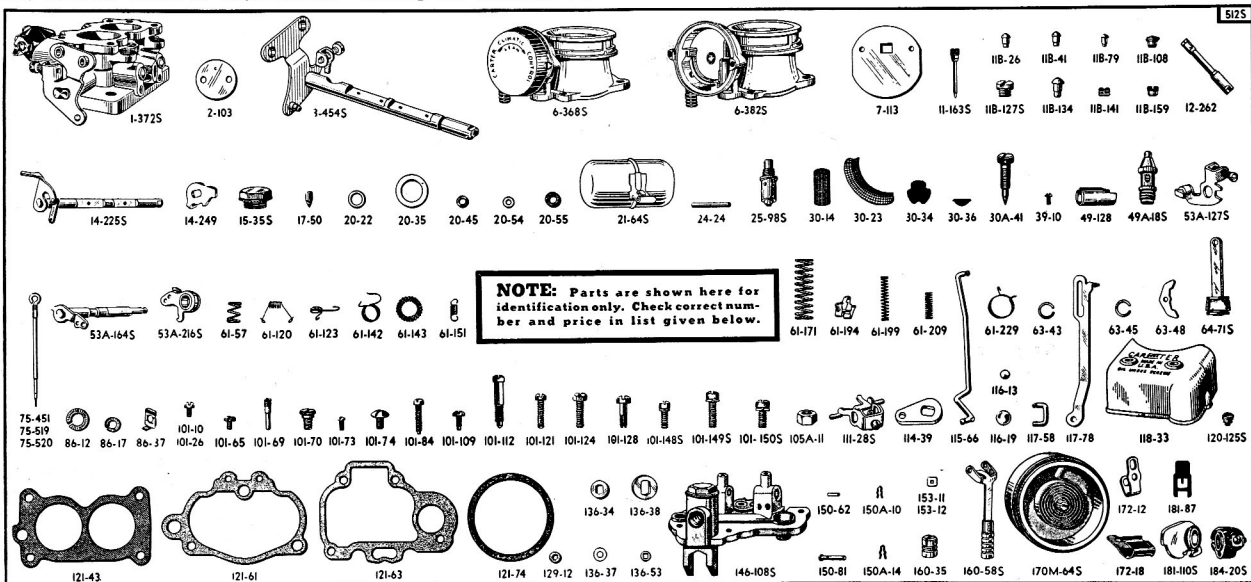
Adjust by bending tongue on pump arm. Remove gauge and metering rod pin and install metering rods, discs, spring, pin and pin spring, and hook spring to metering rods. Vacuum piston and link must not bind or drag in any position.

**ANTI-PERCOLATOR ADJUSTMENT:** Should be made after pump and metering rod adjustments. Back out throttle lever adjusting screw so that throttle valves seat in bores of carbureter. With throttle valve seated, insert .015" feeler gauge (T109-72) between anti-percolator stem and lips on anti-percolator arm. Then bend lips so that center of indi-

EFFECTIVE JANUARY 1, 1948, ADD 30% TO LIST PRICE OF CARBURETTERS AND EFFECTIVE OCTOBER 1, 1948, ADD 20% TO ALL OTHER PRICES SHOWN WITH FRACTIONAL ADJUSTMENT TO NEAREST EVEN CENT.

erator lines are just flush with top of anti-percolator plug. Care should be taken so there is an even adjustment made on both anti-percolator lips.  
**UNLOADER ADJUSTMENT:** With throttle wide open, distance between upper edge of choke valve and inner wall of air horn should be 11/64". (Use gauge T109-166.) Adjustment can be made by bending lip on fast idle connector link. With throttle wide open, push choke valve open. Choke should lock within 5° of wide open position. If it does not lock, recheck unloader adjustment. Closing the throttle will

release choke valve. Choke trip lever is notched out for this setting.  
**FAST IDLE ADJUSTMENT:** Hold choke valve tightly closed and adjust fast idle arm screw to give .020" opening between edge of throttle valve and bore of carburetor, side opposite port. (Use gauge T109-29.)  
**STARTER SWITCH:** Adjustment should be made with Carter tool No. T109-155S, obtainable from your Carter distributor with complete instructions. Switch must make contact between 30° and 45° throttle opening.



**Packard—1941-42-46-47—Carburetor No. 512S—List Price \$30.00**

WHEN SERVICING, USE GASKET ASSORTMENT No. 156, \$0.65; REPAIR PACKAGE No. 1092A, \$4.75

PART NAMES IN BOLD TYPE, LISTED BELOW, INDICATE PARTS INCLUDED IN REPAIR PARTS PACKAGE

Part No.	PART NAME	Amount	Part No.	PART NAME	Amount
1-372S	Body flange and switch assembly.....	\$6.25	75-520	Metering rod—2 sizes lean—.066"-.066" to .0635"-.054".....	(2) .30
2-103	Throttle valve.....	(2) .10	86-12	Flange stud lock washer.....	(4) .01
3-433S	Throttle shaft and lever assembly (Sup. by 3-454S).....	1.10	86-17	Body flange attaching screw lock washer.....	.01
3-454S	Throttle shaft and lever assembly.....	1.10	86-37	Switch terminal lock washer.....	(2) .01
6-368S	Air horn and climatic control assembly.....	6.00	101-10	Clamp screw.....	.05
6-382S	Air horn and pump jet assembly.....	2.25	101-26	Coil housing attaching screw.....	(2) 2 for .05
7-113	Choke valve.....	.20	101-65	Trip lever attaching screw.....	2 for .05
11-163S	Low speed jet assembly.....	(2) .30	101-69	Throttle centering screw.....	.05
11B-26	Body flange rivet plug.....	(2) .02	101-70	Fast idle arm attaching screw.....	.10
11B-41	Pump discharge rivet plug.....	(2) .02	101-73	Throttle valve attaching screw.....	(4) 2 for .05
11B-79	Rivet plug.....	(4) .02	101-74	Throttle shaft arm attaching screw.....	.05
11B-108	Idle port rivet plug.....	(2) .02	101-84	Fast idle adjustment screw.....	.05
11B-126	Nozzle passage plug (Sup. by 11B-127S).....	(2) .10	101-109	Switch terminal screw.....	(2) .05
11B-127S	Nozzle passage plug and gasket assembly.....	(2) .10	101-112	Terminal cap attaching screw.....	.05
11B-134	Rivet plug.....	(2) .02	101-121	Throttle lever adjustment screw.....	.05
11B-141	Nozzle retainer plug.....	(2) .20	101-124	Body flange attaching screw.....	.05
11B-159	By-pass bleeder screw plug.....	(2) .20	101-128	Air horn attaching screw (Special).....	.15
12-262	Nozzle.....	(2) .30	101-148S	Bowl cover attaching screw and washer assembly.....	(6) .05
14-225S	Choke piston lever, link and shaft assy.....	.10	101-149S	Body flange attaching screw and washer assembly.....	(3) .05
14-249	Choke trip lever.....	.30	101-150S	Air horn attaching screw and washer assembly.....	(2) .05
15-35S	Strainer nut and gasket assembly.....	.15	105A-11	Flange stud nut.....	(4) .05
17-50	Pump check needle.....	.06	111-28S	Anti-percolator arm and screw assembly.....	.20
20-22	Needle seat gasket.....	.05	114-39	Throttle shaft arm.....	.06
20-35	Bowl strainer gasket.....	(2) .05	115-66	Throttle connector rod.....	.25
20-45	Nozzle gasket.....	(2) .05	116-13	Ball.....	.02
20-54	Metering rod jet gasket.....	(2) .05	116-19	Switch ball.....	.15
20-55	Idle passage gasket.....	(3) .05	117-58	Pump arm link.....	.05
21-64S	Float and lever assembly.....	.80	117-78	Fast idle connector link.....	.10
24-24	Float lever pin.....	.05	118-33	Dust cover.....	.50
25-98S	Needle and seat assembly.....	.80	120-125S	Metering rod jet and gasket assembly.....	(2) .30
30-14	Bowl cover strainer gauze.....	.10	121-43	Body flange gasket.....	.25
30-23	Piston housing strainer.....	.15	121-61	Air horn gasket.....	.10
30-34	Pump strainer.....	.10	121-63	Bowl cover gasket.....	.10
30-36	Switch strainer (Sup. by 30-61).....	.10	121-74	Coil housing gasket.....	.05
30-61	Switch strainer.....	.10	129-12	Metering rod disk (Sup. by 129-18).....	(2) .02
30A-41	Idle adjustment screw.....	(2) .30	136-34	Metering rod disk.....	.02
39-10	Valve attaching screw.....	(2) 2 for .05	136-37	Choke shaft washer.....	.02
49-128	Switch plunger.....	.50	136-38	Connector rod washer.....	.02
49A-18S	Anti-percolator valve plug assembly.....	(2) .50	136-53	Throttle shaft washer.....	.02
53A-127S	Fast idle arm, pin and screw assembly.....	.30	136-53	Return spring washer (not sold separately, part of 61-243S).....	
53A-164S	Pump operating lever and countershaft assy.....	.50	146-107	Bowl cover (Not sold separately—part of 146-108S).....	
53A-216S	Pump arm and collar assembly.....	.25	146-108S	Bowl cover and strainer assembly.....	1.30
61-57	Adjustment screw lock spring.....	(2) .10	150-62	Choke piston pin.....	.02
61-120	Metering rod spring.....	.10	150-81	Metering rod pin.....	.05
61-123	Connector link spring.....	.10	150A-10	Pin spring.....	(5) .01
61-142	Fast idle arm spring.....	.10	150A-14	Countershaft pin spring.....	.01
61-143	Plunger spring.....	.10	153-11	Switch contact spring shim.....	.01
61-151	Pump arm spring.....	.10	153-12	Switch contact spring shim (.006").....	.01
61-171	Pump spring.....	.10	160-35	Choke piston.....	.20
61-194	Switch contact spring (not sold separately, part of 61-243S).....	.10	160-58S	Vacuum piston and link assembly.....	.30
61-199	Vacuum piston spring.....	.05	170M-64S	Thermostatic coil and housing assembly.....	2.00
61-209	Switch return spring (Sup. by 61-388).....	.10	170M-64SU	Unitized package (Consists of 1-170M-64S, 3-63-48, 3-101-26, 1-121-74).....	2.27
61-229	Fast idle cam spring.....	.15	172-12	Hold down clip (terminal cap).....	.10
61-243S	Switch contactor spring assembly.....	.10	172-18	Cable clip.....	.10
61-388	Switch return spring.....	.10	181-81S	Fast idle cam assembly (Sup. by 181-110S).....	.25
63-43	Switch strainer retainer ring (Use with 30-36).....	.05	181-87	Switch guide block.....	.30
63-45	Ball retainer ring.....	(2) .05	181-110S	Fast idle cam assembly.....	.75
63-48	Housing retainer.....	(2) .05	184-20S	Terminal cap assembly.....	.75
64-71S	Pump plunger and rod assembly (Identify by Shaft No. 49-127).....	.70	192-11U	Carter starter switch unit.....	1.75
75-451	Metering rod—standard—.064"-.064" to .060"-.050".....	(2) .30			
75-519	Metering rod—1 size lean—.065"-.065" to .062"-.052".....	(2) .30			

\*Gaskets so marked must be soaked in 90 proof denatured alcohol for 15 minutes, installed on part and let dry before using.  
 NOTE: Small figures in parentheses preceding list price indicate number of pieces used in one carburetor. Where no figure is shown, only one is used.