

MARVEL
CARBURETER
AND
HEAT CONTROL

AS USED ON
MODEL 101
OAKLAND

“BOOKLET 77”

MARVEL CARBURETER CO.
FLINT, MICHIGAN
U. S. A.

MODEL "D-O" CARBURETER

Used on Oakland Model 101 Eight Cylinder Cars

The Model "D-O" carbureter is of the down draft, air valve expanding type, used in conjunction with a specially designed manifold system which operates under the Marvel Automatic Heat Control System to properly govern the temperature of the ingoing mixture of fuel and air at all operating speeds and loads.

The Model "D-O" is of special design for the Oakland V-type eight cylinder engine, combining in a single carbureter and header assembly the advantages of two separate carbureters, by virtue of division walls which separate the ingoing mixture into two separate intake manifolds, feeding individually each separate four cylinder engine of the V block design.

Air enters carbureter at the top-most point of the installation, at a point between the two engine blocks which offers the greatest freedom from dirt, fumes, and excess heat, moves downwardly through the mixing chamber picking up finely atomized fuel, thence on into the divided heating chamber in the Header Assembly, where it is vaporized and directed into the two separate intake manifolds on the two four cylinder engines operating in parallel.

The complete assembly consists of an air inlet casting bolted to carbureter body or mixing chamber, which in turn is fastened to Header Assembly which carries the throttle surrounded by an exhaust heating chamber or jacket. Fuel bowl is fastened to carbureter body. Header assembly is bolted on each side also to both exhaust and intake manifolds on the two engine blocks. (See figure 1, which shows a cross section thru air inlet, mixing chamber, header assembly and bowl.) (Also see figure 1', which shows intake passage

With air valve on its seat and motor idling fuel is delivered only from the low speed nozzle.

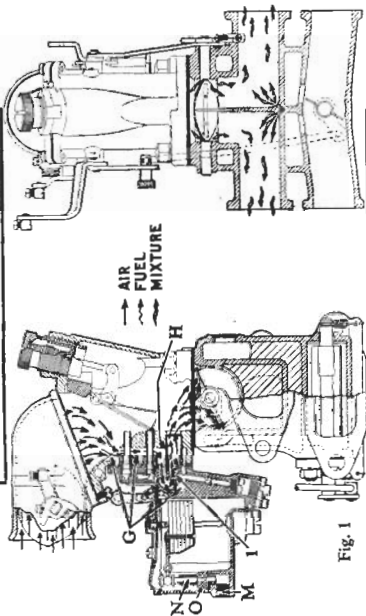


Fig 1 and 1'

Fig. 1'

Mixture is divided in header by division wall on throttle valve and header casting.

Fig. 1

with dividing wall, and exhaust passage carrying the damper heating valve.)

Carbureter proper is of the down draft type as mentioned above, carrying three nozzles, delivering into mixing chamber, and a spring controlled air valve. These nozzles are all of the fixed opening, non-adjustable type; one called the low speed, is situated in a fixed air opening called the venturi; the other two called the primary and secondary high speed nozzles, are located above the air valve and controlled by same.

In addition to the above mentioned nozzles, there is an economizer metering pin jet which surrounds a fuel metering pin connected to the throttle. This metering pin controls the flow of fuel to the high speed nozzles at all part throttle speeds up to 55—60 M. P. H. on level roads, and is fully automatic in its action, and non-adjustable.

Built in with the economizer metering pin is the accelerating device also. Quick opening of throttle not only removes pin from jet, but also forces a charge of fuel from all the jets over a prolonged period, as further described in detail below, under "Accelerating Device."

The air valve is controlled by a plunger and connected to same by a connecting rod. This plunger is surrounded by the air adjusting screw shell, thus constituting a "dash-pot", to prevent too quick opening of air valve. Enclosed between plunger and air screw is the air valve spring. Movement of air screw against spring constitutes the only mixture adjustment on the carbureter.

A choke button is provided on the instrument board to assist in starting. Pulling out this button closes choker valve which greatly restricts the air opening, and consequently produces a very rich mixture for starting. Partial release of choker button on instrument board after starting, releases choker valve so that it positions itself to the needs of the en-

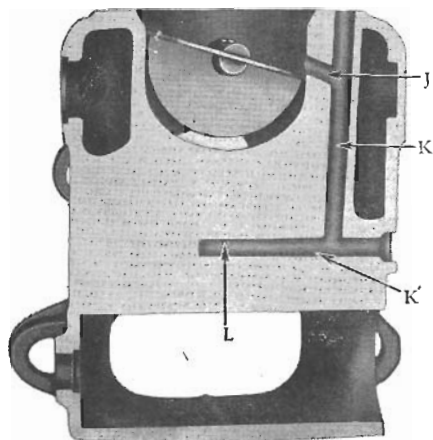


Fig. 2

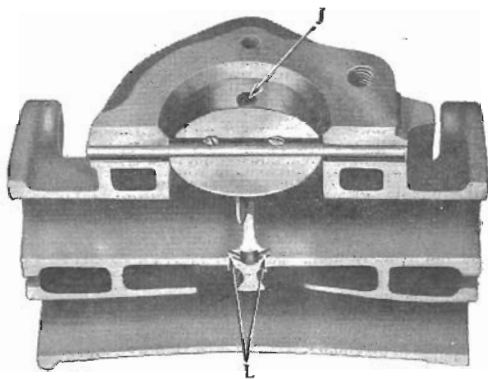


Fig. 2'

gine, due to the action of a compensating spring attached to choker valve which now becomes automatic in its action, the spring allowing the valve to open or close automatically, depending on the engine and quantity of air passing thru carbureter.

MODE OF FUNCTIONING

Fuel enters carbureter bowl at "M" (See Fig. 1) under control of float valve "N", which is opened or closed by motion of the float in fuel bowl as fuel level raises or lowers in operation. From bowl fuel flows to the three nozzles as described below. Valve seat "O" is so constructed that when engine is not running, there will always be a supply of fuel in chamber for starting.

Idling—(See Fig. 1.) Air valve is closed, no air passing thru carbureter except thru passage "G" leading to venturi "H" in which is situated low speed nozzle "I", which at this time is the only nozzle operating. Adjustment of air valve by air adjusting screw to pass more or less air controls suction on "I", and thus its fuel delivery. Backing out air screw allows more air to pass valve and produces less suction and fuel delivery at nozzle "I". Turning in air screw does just the reverse.

Idling By-Pass—(See Fig. 2 and 2'). When the motor is idling the throttle valve is substantially closed and most of the mixture at this time is by-passed from a point directly ahead of throttle, thru the heated walls of jacket and out into the center of the two intake passages of the header. Mixture enters at opening "J" passing thru channel "K" and "K'" and is delivered into intake passages at point "L" on each side of dividing wall.

Part Throttle Economy Range:—(See Fig. 3.) Throttle partly open, idle by-pass now automatically out of action due to greater air flow past throttle. Air valve is partly open; nozzle "I" which delivers fuel at all engine speeds

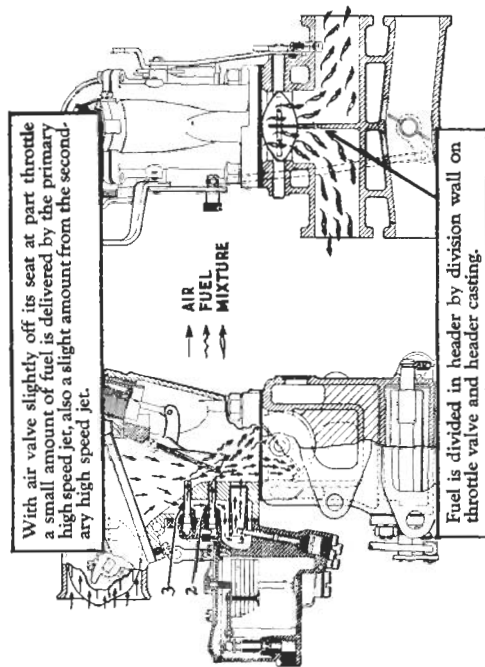


Fig. 3

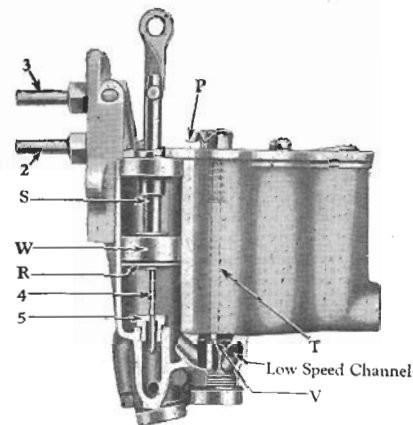


Fig. 4

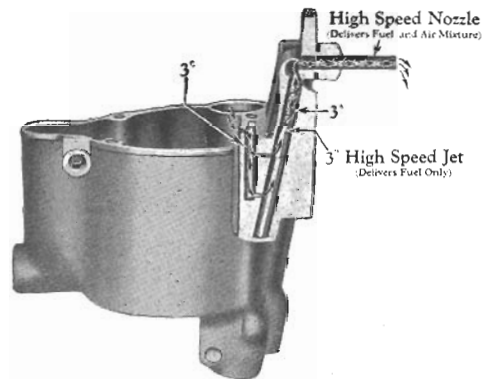


Fig. 5

and loads, is delivering; and the primary high speed nozzle "2" and secondary high speed nozzle "3" are both delivering an emulsion of fuel and air into the mixing chamber under these conditions. As the throttle is opened, the primary nozzle "2" begins to deliver first, and is then followed by delivery from the secondary nozzle "3", as the air flow thru carburetor increases.

(See Fig. 4) Under all part throttle positions up to 55—60 M. P. H. the metering pin "4" is located in metering pin jet "5" and all fuel passing to the high speed nozzles is controlled by the opening between the large diameter of pin and the walls of jet.

(See Fig. 5) The fuel leaving the high speed nozzles is first mixed in the nozzle chambers with air which enters from top of fuel chamber, which is vented to the atmosphere, this air, passing into chamber "3C" and then into chamber "3A" in which fuel jet "3B" is located, the other high speed nozzle functioning the same way. This admission of air greatly facilitates atomization of the fuel from the high speed nozzles, and results in a finely atomized fuel being delivered into mixing chamber thru high speed nozzles "2" and "3."

Full Throttle Power Range:—(See Fig. 6) Air valve is full open, all three nozzles are delivering fuel, and metering pin "4" (See Fig. 7) being inter-connected to throttle, is now positioned so that its large diameter is removed from metering pin jet "5", allowing an unrestricted flow of fuel to the high speed jets, which fuel is still mixed with the air in high speed jet chambers before delivery into mixing chamber from high speed nozzles "2" and "3."

Accelerating Device:—The accelerating device is of the "prolonged shot" type and consists of a positively connected disc "R" mounted on plunger shaft "S" (See Fig. 4 and 7), which is connected to throttle, and support-

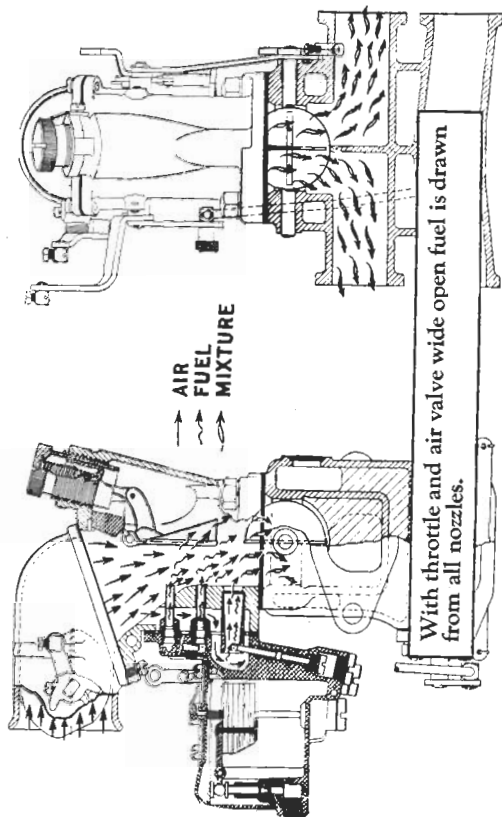


Fig. 6

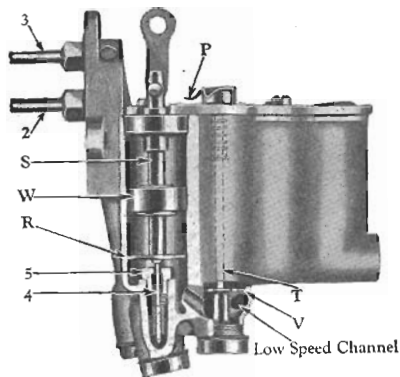


Fig. 7

ing loose plunger "W" which is free to move on plunger shaft "S". On sudden opening of throttle the three above mentioned units move downward. Disc "R" moves away from plunger "W" and forces some fuel thru all nozzles, but allows a considerable portion to escape past it thru a series of holes, which portion of the fuel is then acted upon by the plunger "W" which falls by virtue of its weight, thus keeping pressure on the accelerating fuel charge over a period of several seconds.

Seasonal Control for Accelerating Charge—(See Fig. 7) On top of fuel bowl will be found an indicator "P." When indicator "P" is set on "Winter" stem "T" is up, allowing check valve "V" to close against its seat, thus all pressure built up by quick opening of throttle forces fuel from nozzles, for use in cold weather. When indicator "P" is set on "Summer", as in Fig. 7, stem "T" is forced down by its spring holding check valve "V" from closing. On sudden opening of throttle in this setting, very little fuel is forced from nozzles, pressure being by-passed thru check

valve back into bowl. This setting is used for warm weather conditions.

HEAT CONTROL

(See Fig. 8) Throttle in header assembly is surrounded by heat jackets as shown. Header fastens to intake manifolds at "X" and to exhaust manifolds at "Y." Mounted in exhaust passage "E" of header is damper valve "A". This damper valve is connected to throttle lever of carburetor in such a manner that the greatest amount of heat is forced thru jackets when throttle is only partly open, as in idling and at low speeds, and a decreasing amount as the throttle is opened further for higher speeds. By means of the heat control lever on carburetor body which has three damper hook up holes this automatic action of the damper heat valve may be varied to suit weather and driving conditions.

Gases from one four cylinder block enter exhaust passage of header at "E". Damper valve "A" forces them upward thru jackets "B" around throttle and back down and out at "E", where they pass on to join the exhaust stream from the other cylinder block, and pass on to the muffler.

Cold Weather Setting—"No. 1 Hole", (See Fig. 8) Setting for giving most heat, throttle in closed position and damper valve "A" fully closed, in vertical position. Note also metal of header above and below edge of damper valve at F and F'. As throttle opens, damper valve moves across this metal for the first portion of throttle travel, and damper valve does not really open until its edges clear this metal or "land." Also due to angularity in hook-up between throttle and damper valve in this No. 1 setting damper valve does not open as fast as throttle is opened, but nevertheless always comes to a full heat open position at full throttle, in all three heat settings as shown in

COLD WEATHER SETTING
 Note "D" in No. 1 Hole

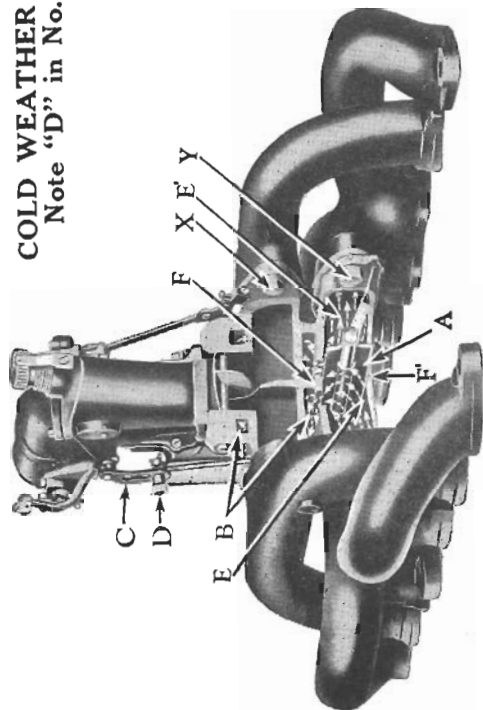


Fig. 8

Fig. 9. This No. 1 setting is to be used for all cold weather driving conditions.

Medium Heat Setting—"No. 2 Hole": (See Fig. 10) Setting for normal driving conditions thruout the majority of the year. Throttle in closed position, damper valve "A" now partially open, and opens directly with throttle to full open position, same as shown in Fig. 9.

Warm Weather Setting—"No. 3 Hole": (See Fig. 11) Setting for giving least heat, and to be used only under warm weather driving conditions, when engine may show some loss of power if the "No. 2" medium heat setting is used. Throttle in closed position, but damper valve "A" half open. Damper valve now opens quickly to wide open as throttle is opened.

SERVICE AND ADJUSTMENT

No change should be made in carburetor adjustment until after an inspection has been made to determine if the trouble is in some other unit. It should be noted that the gasoline lines and strainer are clear, that the fuel pump is properly supplying fuel, that there are no leaks at connections between carburetor and engine, that the ignition system is in proper condition, and that there is even compression in all cylinders.

If it is necessary to test adjustment or to make a readjustment, proceed as follows:

Set air screw so that the end is flush with the end of ratchet spring; set heat control lever on body in No. 1 position, and leave in this position while making adjustment.

Starting:—Open throttle lever about one quarter way, pull out choke button all the way and depress starter pedal. As soon as engine has fired, immediately release choker part way and allow engine to run at fairly good speed. If engine hesitates, pull out choke button momentarily again and allow

FULL THROTTLE POSITION

Note damper valve "A" always comes to wide open in all heat settings.

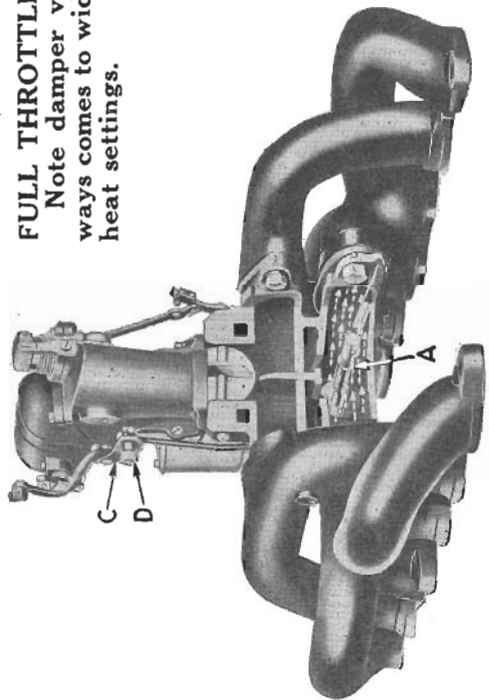


Fig. 9

MEDIUM HEAT SETTING

Note "D" in No. 2 Hole

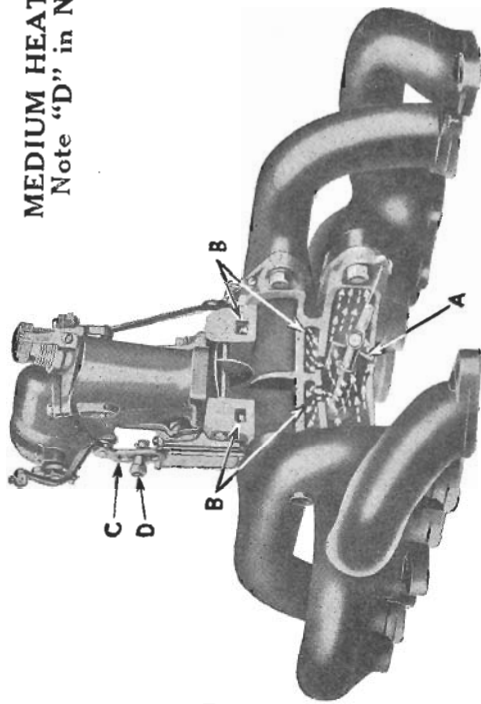


Fig. 10

WARM WEATHER SETTING
Note "D" in No. 3 Hole

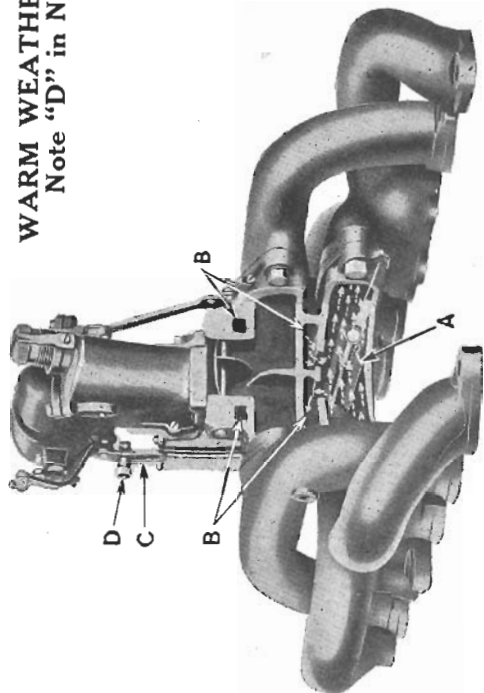


Fig. 11

engine to run for a moment until warmed up, remembering to never use choker more than necessary. Even in zero weather it is not necessary to run with choke button pulled out, except momentarily when starting up with cold engine. It should be borne in mind that the automatic heating system of the carburetor makes it entirely unnecessary to drive with choke button pulled out and that one of the objects of the heating system is for this purpose, thereby obviating the common practice of diluting the oil in the crankcase by using an excess amount of fuel from over-choking while engine is warming up.

Adjustment:—To make final setting of air screw for good idle, either turn in to the right a little or back out to the left, as the needs of the engine require. With the engine warmed up, the adjustment of the air screw for proper idling is easily accomplished by using a little care. If the air screw is turned in too tight, the motor will roll. If the air screw is not tight enough, the motor will hesitate and perhaps stop entirely. To make a nice clean adjustment, turn air screw in quarter of a turn at a time until engine rolls through richness, then turn back to the left until engine hesitates, indicating that mixture has too much air and is too lean; next turn air screw in to the right three or four notches at a time until engine runs smoothly. **This accomplished, by proceeding as directed above, the proper adjustment for the entire range of the engine will have been obtained.**

If the engine idles too fast with throttle closed, the latter may be adjusted by means of the throttle lever adjusting screw.

CAUTION

The nozzle sizes for best calibration have been carefully worked out by Marvel and Oakland engineers, therefore we desire to caution you against making any change in this respect, except in altitude territory. The

automatic heat control is provided for the purpose of taking care of all seasonal and other temperature variations.

ALTITUDE CHANGES

No change is necessary for touring thru mountainous country, but for cars operating permanently in territories of 4,000 feet elevation or over we advise going to the nearest service station and changing to 49-140-C-28 primary high speed jet and 49-240-E-28 secondary high speed jet for the best results in such altitude territory.

Do not, under any circumstances, make these changes unless operating permanently above 4,000 feet elevation.

IMPORTANT: Always see that Primary and Secondary High Speed Jets are in their proper location. See page 24 for correct positions.

CAUTION—FLOAT HEIGHT

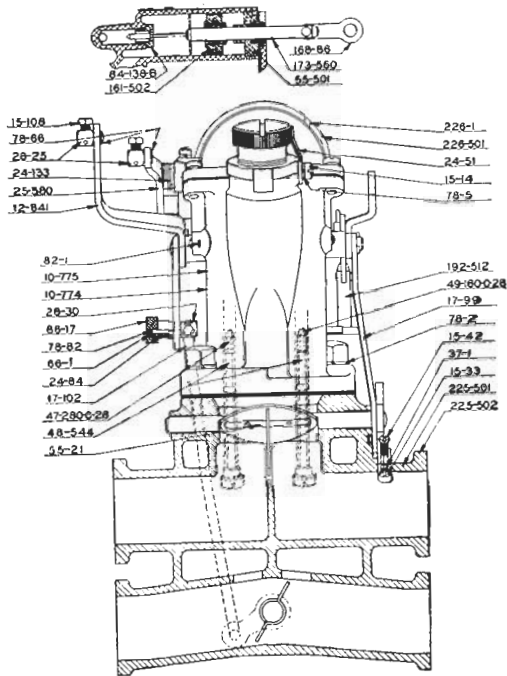
Float height is set at factory to measure, with float valve on seat $\frac{3}{8}$ " from machined surface of bowl, where cover goes on, to surface of cork; measurement being taken at side adjacent mixing chamber. Do not change this setting.

SEASONAL CONTROL: HEAT AND ACCELERATING PUMP

Seasonal control on top of fuel bowl should always be set on "Winter" in cold weather, and heat control in "No. 1 hole".

If as warmer weather comes on, car performance appears sluggish, leave pump control on "Winter" and put heat control in "No. 2 Hole". If this is not sufficient, then put pump on "Summer" setting.

In very warm weather, or in tropical climates, or with high test fuel, it may be necessary to take the final step:—leave pump on "Summer" and put heat control in "No. 3 hole." This is the setting to supply the least heat and the least fuel for the accelerating charge.

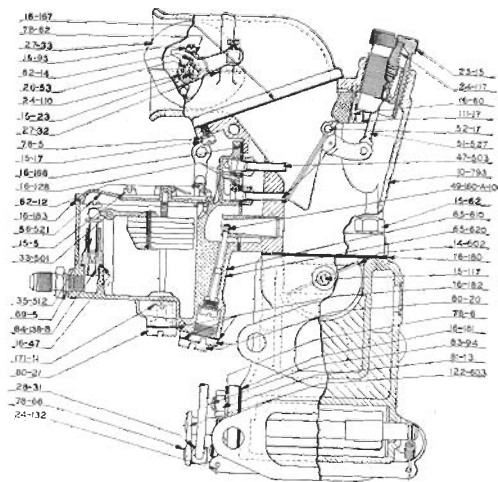


Showing Part Numbers of Service Parts

PARTS PRICE LIST
MODEL "D-O"

MARVEL CARBURETER

For
Model 101 Oakland



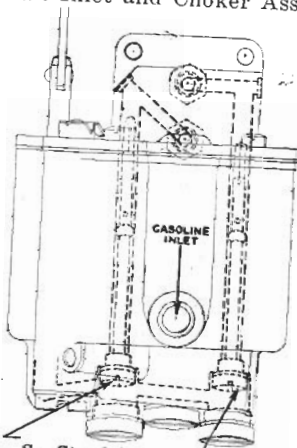
Showing Part Numbers of Service Parts

Part No.	Name	Price
10-774	Carbureter Assembly	\$25.00
10-775	Carbureter and Header Assem.	35.00
10-1016	Carbureter Body and Venturi Assembly	4.00
12-638	Throttle Shaft and Control Lever (Loose) and Swivel Assembly	1.00
12-641	Throttle Control Lever (Loose) and Swivel Assembly	.50
14-502	Throttle Fly Assembly	.60
15-5	Bowl Cover Screw	.05
15-14	Ratchet Spring Screw	.05
15-117	Throttle Fly Screw	.05
	Air Inlet to Body	.05
15-23	Choker Fly Screw	.05
15-33	Throttle Adjusting Screw Lock Screw	.05
15-42	Throttle Adjusting Screw	.05
15-60	Spacer Block Screw	.05
15 62	Body to Header Cap Screw	.05
15-95	Choker Sleeve Retainer Screw	.05
15-108	Screw used on Throttle Swivel and Choker Swivel	.05
15-117	Throttle Fly Screw	.05
16-47	Float Valve Seat Gasket	.05
16-128	Gasket used on Fuel Pipe and Standpipe	.05
16-166	Bowl to Body Gasket	.05
16-167	Air Inlet to Body Gasket	.05
16-180	Carbureter to Header Gasket	.10
16-181	Gasket for Exhaust Damper Valve Cover	.10
16-182	Gasket for Standpipe Housing Plug and Check Valve Housing Plug	.05

Part No.	Name	Price
16-183	Bowl Cover Gasket	.05
17-99	Throttle Connecting Rod	.20
17-102	Exhaust Damper Connecting Rod	.20
23-15	Air Adjusting Screw	.60
24-51	Ratchet Spring	.15
24-84	Exhaust Damper Adjusting Sleeve Spring	.15
24-110	Choker Compensating Spring	.15
24-117	Air Valve Spring	.35
24-132	Exhaust Damper Valve Spring	.15
24-133	Choker Spring	.15
25-580	Choker Lever, Swivel and Clutch Sleeve Assembly	1.00
26-53	Choker Shaft	.30
27-32	Choker Fly	.30
27-33	Choker Cross Fly	.30
28-25	Swivel used on Choker Lever and Loose Throttle Lever	.25
28-30	Damper Driving Lever Swivel	.25
28-31	Damper Driven Lever Swivel	.25
30-520	Float and Lever Assembly	1.00
33-501	Float Lever Shaft and Head Assembly	.20
35-512	Float Valve and Head Assem.	.75
36-50	Float Valve Seat	.55
37-1	Lead Shot	.05
47-503	Primary and Secondary High Speed Nozzle Assembly	.50
48-543	Low Speed Standpipe Assem.	.50
48-544	Primary and Secondary High Speed Standpipe Assembly	.50
49-160-A-10	Low Speed Jet	.30
49-160-C-28	Primary High Speed Jet	.30
49-280-E-28	Secondary High Speed Jet	.30
51-527	Air Valve and Dash Pot Plunger Assembly	1.75
52-17	Air Valve Shaft	.20
55-21	Throttle Fly Retainer	.15
48-550	Primary H.S. Standpipe Assem.	.50

Part No.	Name	Price
55-501	Metering Pin Packing Retainer Assembly	.20 1.00
56-521	Bowl Cover Assembly	.05
62-12	Metering Pin Link Pin	2.75
65-610	Bowl and Plugs Assembly	12.00
65-620	Bowl Assembly (Complete)	
66-1	Lock Wire used on Damper Driving Lever Swivel	.05
69-5	1/4" Flared Tube Union	.20
78-2	Carbureter to Riser Cap Screw Lock Washer	.05
78-5	Lock Washer used on Ratchet Spring Screw, Bowl to Body Screw and Air Inlet to Body Screw	.05
78-6	Lock Washer used on Exhaust Damper Cover Stud Screw	.05
78-62	Lock Washer for Choker Sleeve Retaining Screw	.05
78-66	Washer used on Throttle Swivel and Choker Swivel	.05
78-82	Washer used on Exhaust Damper Adjusting Sleeve	.05
80-20	Standpipe Housing Plug	.20
80-21	Seasonal Check Valve Housing Plug	.25
81-13	Exhaust Damper Cover Stud Nut	.05
82-1	Air Valve Shaft Cotter Key	.05
82-14	Cotter Key used on Choker Shaft, Throttle Lever Stud, Air Spring Plunger Pin, Damper Connecting Rod and Metering Pin Lever Stud	.05
83-94	Exhaust Damper Valve Cover to Header Stud	.05
84-144-B	Metering Pin Jet	.30
86-17	Damper Adjusting Sleeve	.15
111-17	Spacer Block	.40
119-521	Dash Pot Plunger, Rod and Washer Assem.	1.75
122-53	Damper Lever (Driver)	.25

Part No.	Name	Price
122-603	Exhaust Damper Lever, Swivel Shaft, Cover and Valve Assembly	2.00
161-502	Accelerating Plunger Assem.	.40
168-86	Metering Pin Link	.10
171-11	Seasonal Control Check Valve	.05
173-559	Metering Pin and Disc Assem.	60
173-560	Metering Pin and Accelerating Plunger Assembly (Complete)	1.25
192-512	Metering Pin and Control Lever and Idler Shaft Assem.	.90
225-501	Header, Plugs and Studs Assembly	5.50
225-502	Header Assembly (Complete)	10.00
226-1	Air Inlet Body	1.50
226-501	Air Inlet and Choker Assem.	3.50



Primary H. S. Standpipe Assem. stamped "P"

Secondary H. S. Standpipe Assem. Stamped "S"

Outside of Bowl Casting shows "P" and "S" where these Assemblies go.
View showing location of Primary and Secondary H. S. Standpipe Assemblies looking toward Gasoline Inlet.

Marvel Distributors and Service Stations

*NOTE: Marvel Distributors in charge of service stations in this territory. Carries a complete stock of carburetors and parts. Overhauls and rebuilds carburetors in addition to giving service.

- Aberdeen, Washington — Hocd Automotive Service Company.
- Abilene, Kansas—Meade Battery & Electric Company.
- Abilene, Texas—Hoppe Auto Electric Service.
- Adrian, Mich.—122 Maiden Lane—Wilson Electric Service.
- Akron, Ohio—The Maibohm Battery & Ignition Company.
- Albany, N. Y.—Stewart Warner Sales & Service.
- Albuquerque, New Mexico—4th and Copper—Automotive Service, Inc.
- Allentown, Pa.—1041 Hamilton Avenue—Motor Accessories Company.
- Amarillo, Texas—Exide Battery Station.
- Ann Arbor, Michigan—315 E. Liberty Avenue—Maynard Battery Shop.
- Atlanta, Ga.—Scarboro Electric Service.
- *Atlanta, Ga.—135 Ivy St.—Alemite Lubricator Company of Georgia.
- Augusta, Ga.—C. M. Hill Service Station.
- Bakersfield, Calif.—H. E. Jaynes & Son.
- *Baltimore, Md.—882-84 Park Avenue—Stephen Seth & Company.
- Bellingham, Washington—Paul Tiffany.
- *Birmingham, Alabama—404 South 21st Street—Alemite Lubricator Co. of Alabama.
- *Boston, Mass.—335 Newbury Street—Marvel Carburetor Sales Company.
- Brawley, Calif.—Ballard Auto Repair.
- Erooklyn, N. Y.—1061 Atlantic Avenue—E. A. Wildermuth.
- Brooklyn, N. Y. — 439-441 Madison St. — Madison Garage.
- Buffalo, N. Y.—The Battery & Starter Company—883 Main Street.
- Burlingame, Calif.—335 Lortan Ave.—George S. Brown.
- Calexico, Calif.—Imperial Avenue—Watts & Jenson.
- Canon City, Colorado — 708 Main Street — Biley-Walker Service Station.
- Canton, Ohio—420 4th St. N. E.—Carburetor Sales & Service.
- Casper, Wyoming—136 E. Midwest Avenue—Auto Electrical Company.
- Centralia, Illinois—B. J. Holtcamp Electric Service Company.
- Centralia, Washington—Motor Specialty Company.
- *Charlotte, N. C.—Woodside Motor Company.

*Chattanooga, Tenn. — 318 Market Street — Hassler Brothers.
 *Chicago, Illinois—2427 S. Prairie Avenue—Marvel Carbureter Sales Company.
 Chicago, Illinois—2919 Lawrence Avenue—Albany Park Service Station.
 Chicago, Ill.—5829 Madison St.—Geo. Hiller & Co.
 Cincinnati, Ohio — 2110 Gilbert Avenue — Lockie & Glenn.
 *Cleveland, Ohio—2013 East 65th Street—Fred Crandall Company.
 Cleveland, Ohio—1801 E. 21st Street—Hart Ignition Company.
 Colorado Springs, Colorado—111 N. Cascade Ave.—Teason Brothers.
 Columbus, Ohio—Ohio Ignition Company.
 Crown Point, Ind.—111 S. East Street—Biegel's Battery Service.
 Danville, Illinois—Hornor Electric Company
 *Dallas, Texas—2210 Live Oak Street—The Beach-Wittmann Company.
 Dallas, Texas—2016 Canton—J. J. Gibson Company.
 Davenport, Iowa — Emeis Electrical Service — 218 Iowa Street
 Dayton, Ohio—410 S. Ludlow St.—H. C. Haenggi Co.
 *Denver, Colorado—W. 13th & Acoma St.—The Auto Electric Appliance Company.
 Des Moines, Iowa—Bernhard & Turner Auto Co.
 *Detroit, Michigan—3127 Jefferson E.—Greenleaf Incorporated.
 Detroit, Mich.—52 E. Canfield—Auto City Garage.
 Detroit, Michigan — 3705 Burlingame — Northwest Auto Electric.
 Detroit, Michigan—631 Six Mile Road—Thomson's Auto Electric.
 Detroit, Mich.—10412 Harper—Klann Auto Electric.
 El Centro, Calif.—Electrical Service Co.
 *El Paso, Texas—Montana at N. Ochoa Sts.—Western Battery & Magneto Co.
 Elkhart, Indiana—522 W. Indiana—Niblock Auto & Battery Company.
 Emporia, Kansas—823 Commercial St.—Bebermeyer Electric Company.
 Enid, Okla.—Silver's Electric Station & Garage.
 Everett, Washington—2817 Rucker Avenue—Proctor Motor Company.
 *Fargo, North Dakota—404 N. "p" Avenue—United Electric Service.
 Ferndale, Michigan—Ferndale Auto Electric Co.
 Flint, Michigan—708 Cornelia Street—The Merrell Company.
 Florence, Colorado—The Electric Service Station.
 Fond du Lac, Wis.—Cor. Court & Macy Sts.—Stover Battery & Elec. Co.
 Fort Collins, Colorado—317 East Mountain Ave. — R. K. Robinson.
 Fort Scott, Kansas—9 Market Street—Johnson Electric Service.

Fort Worth, Texas—Automotive Electric & Battery Company—806 Macon St.
 Fresno, Calif.—H. E. Jaynes & Son.
 Galesburg, Illinois—P. & M. Electric Company.
 Garden City, Kansas—Kemper Auto Electric Company.
 Glendale, California—Psenner-Pauff, Inc.
 Grand Rapids, Michigan — 53 Commerce Avenue — Electric Service Station.
 Grand Rapids, Michigan—606 Division, S. E.—Martin Auto Electric.
 Great Bend, Kansas—Scheuffler Tire & Supply Company.
 Greeley, Colorado — 17 Tenth Street — The Mutual Battery & Electric Service.
 Hanford, California—Cousins Tractor Company.
 Harrisburg, Pa.—209 S. 17th St.—Automotive Elec. Service.
 Hiawatha, Kansas—Hauer Auto Repair Shop.
 Highland Park, Mich.—13961 Woodward Ave.—J. E. Furtney's Garage.
 Hoisington, Kansas—C. M. Bell Battery & Electric Company.
 Hollywood, California—6550 Sunset Blvd.—Shaefer's Battery & Ignition.
 Houston, Texas—L. A. Korn Carbureter Sales & Service.
 Huntington, W. Va.—Rear 538 Fourth Avenue—Jack Warner's Garage.
 Hutchinson, Kansas—Hilton Electric Co.
 Idaho Falls, Idaho—Idaho Falls Battery Company.
 Jackson, Michigan—146 Pearl Street — Fulhaver & Fletcher.
 *Jacksonville, Fla.—927 Main Street—The Lovejoy Company.
 Jamaica, L. I., N. Y.—104 Smith St.—Fogarty Bros.
 Jamestown, N. Dakota—N. W. Lyons.
 Joplin, Missouri—O'Neill Tire & Battery Company.
 Junction City, Kansas—Meade's Battery Service.
 Kalamazoo, Michigan—M. & T. Battery & Electric Company.
 Kankakee, Illinois—Fortin Brothers.
 *Kansas City, Mo. — 1820-22 McGee Street — The Beach-Wittmann Company.
 *Knoxville, Tenn.—307-11 N. Central Street—McNutt & Burks, Inc.
 LaPort, Indiana—610 Indiana Avenue — Borger & Fritt.
 Lansing, Michigan—125 N. Larch St.—Dyer's Garage.
 Larned, Kansas—Beebe Electric Company.
 Lexington, Ky. — 151-157 East Short — Wombwell Automotive Parts.
 Lewistown, Idaho—Robinson Battery & Ignition Co.
 Liberal, Kansas—Automotive Electric Co.
 Lincoln, Nebraska—1524 N. Street—Auto Electric Service.
 Long Beach, Calif.—1009 American Avenue—Helme Electric Equipment Company.
 Longmont, Colorado—525 Main St.—F. F. Sullivan.

- *Los Angeles, California—1837 S. Flower St.—Marvel Carbureter Sales Co.
 Los Angeles, Calif.—315 W. 12th Street—Carbureter Equipment Company.
 Louisville, Ky.—725 East Broadway—Automotive Electric Company, Inc.
 Loveland, Colorado—227 E. 5th St.—Adams Garage.
 Madison, Wis.—122 W. Madison—Automotive Electric Sales.
 Manhattan, Kansas—Sager Electric Company.
 Marion, Ohio—127 E. Church St.—Exide Battery Service.
 Marshfield, Oregon—P. J. Rooney Company.
 *Memphis, Tenn.—Union & Marshall Avenues—McGregor Battery Engineering Co.
 Menasha, Wis.—Auto Electric Co.
 *Milwaukee, Wisconsin—2838 Fond Du Lac Ave.—Praefke Auto Electric & Battery Co.
 *Minneapolis, Minn.—2901 Nicollet Avenue—Fowler Electric Company.
 Modesto, Calif.—McDermott Company.
 Montgomery, Alabama—Auto Electric Service Company.
 Mt. Vernon, Washington—Carl E. Lindbergh Company.
 *Nashville, Tenn.—1227 Broad Street—The Chapman Company.
 Newark, N. J.—United Auto Specialty Company.
 Newport News, Va.—H. & W. Motor Corp.
 New Orleans, La.—608 South Street—Auto Electric & Radiator Company.
 *New York, N. Y.—242 West 69th Street—Marvel Carbureter Sales Company.
 Oakland, Calif.—Howard Baxter Automotive Serv.
 *Oklahoma City, Okla.—706 Broadway—M. E. Way Company, Inc.
 *Omaha, Neb.—1514 Jones St.—Carl Anderson, Inc.
 Ontario, California—Cochran & Nichols.
 Ottawa, Illinois—401 W. Madison St.—Williams K. Leverich Garage.
 Pasadena, California—791 Green St.—Kay & Burbank Company.
 Peoria, Illinois—310 Knoxville Avenue—Electrical Testing Company.
 Philadelphia, Pa.—3949 N. Broad St.—Marvel Carbureter Sales Company.
 Phoenix, Arizona—316 N. Central Ave.—Motor Supply Co.
 Phoenix, Arizona—219 North First St.—Molony Battery & Ignition Company.
 Pittsburgh, Pa.—5157 Liberty Avenue—Electrical Equipment Service Company.
 Pittsburgh, Pa.—5209 Baum Blvd.—Carbureter & Ignition Co.
 Piqua, Ohio—A. J. Schlanser.
 Pontiac, Michigan—13th N. Perry—Auto Electric Equipment Company.
 Porterville, Calif.—600 N. Main St.—Dick's Automotive Service.
 Port Huron, Mich.—522 Huron St.—Sparlings Auto Electric.
 Portland, Oregon—L. H. Buntzel Company.
 Reno, Nevada—Brown-Milbery, Inc.
 Richmond, Va.—501-11 W. Broad St.—Lane Bowles Company.
 *Richmond, Va.—612 Broad Street—Richmond Battery & Ignition Corp.
 Riverside, Calif.—J. Harold Wilson.
 Rochester, N. Y.—355 Court Street—Standard Battery & Ignition Company.
 Rockford, Ill.—Phillips Battery & Electric Company.
 Royal Oak, Mich.—505 N. Main St.—Rolls Battery Service.
 Sacramento, Calif.—1316 K. Street—Ralph H. Langner.
 Saginaw, Michigan—1917 N. Michigan—Russell Electric Company.
 Salina, Kansas—The Simplex Shop.
 Salisbury, Maryland—Mitchell Battery & Elec. Co.
 *Salt Lake City, Utah—475 S. Main Street—Automotive Electric Service Co.
 San Angelo, Texas—1822 Concho—Angelo Auto Electric Company.
 *San Antonio, Texas—Westbrook Carbureter & Electric Company.
 San Bernardino, Calif.—Accessory Service Company.
 San Diego, Calif.—1322 India St.—Wetmore Motor Service.
 *San Francisco, Calif.—116 Van Ness Ave.—Marvel Carbureter Sales Co.
 San Francisco, Calif.—1765 California St.—Hanni & Girard.
 San Jose, Calif.—580 1st St.—Lehman Brothers.
 San Luis Obispo, Calif.—1009 Monterey St.—C. H. Kamm.
 Santa Ana, Calif.—5th & Spurgeon Sts.—Orange County Ignition Wks.
 Santa Barbara, Calif.—514-22 State Street—Harry A. Thayer.
 Santa Monica, Calif.—Jim Beard.
 *Seattle, Wash.—12th Avenue & E. Pine St.—McAlpin-Schreiner Company.
 Shreveport, La.—Chain Battery & Automotive Supply Company.
 Spokane, Washington—W. 610 Third Avenue—The Carbureter Service Company.
 St. Joseph, Mo.—609 Messanie—Electrical & Mag-neto Service Company.
 *St. Louis, Mo.—2129-31 Locust Blvd.—Automotive Electrical Service Company.
 St. Paul, Minnesota—Northern Auto Electric.
 Stockton, Calif.—240 E. Miner Ave.—Auto Electric Co.
 Syracuse, N. Y.—1022 S. Clinton St.—Frank Gabriel.
 Tacoma, Washington—218 St. Helens Avenue—McAlpin-Schreiner Company.
 Terre Haute, Ind.—The Terre Haute Battery & Electric Company.

Toledo, Ohio—2105 Monroe Avenue—Stagers Carbureter & Ignition Service Sta.
 Topeka, Kansas—Lester Automotive Batt. & Elec. Co.
 *Tulsa, Okla.—210 Tenth St.—Beach-Wittmann Co.
 Tucson, Arizona—140 S. 6th Avenue—Motor Supply Company.
 Union City, N. J.—586 Summit Avenue—Charlie's Auto Repairs.
 Valdosta, Georgia—R. H. Bassford.
 Visalia, Calif.—115 N. Encina Avenue—City Garage.
 Warren, Ohio—Trumbull Storage Battery Company.
 *Washington, D. C.—1019 17th Street N. W.—Tompkin's Sales & Service Co.
 Washington, D. C.—D. C. Speedometer Service Co.
 Waterloo, Iowa—217 W. 5th St.—Standard Battery & Electric Company.
 Watsonville, Calif.—568 Main St.—D. J. Burgess.
 Wellington, Kansas—114 E. 7th St.—Walter Hendricks.
 Wenatchee, Wash.—326 S. Wenatchee—Hayes Auto Repair Shop.
 Wheeling, West Va.—C. C. Seabright Company.
 *Wichita, Kansas—225 N. Market St.—Wilcoxson-Searcy Company.
 Wichita Falls, Texas—Wichita Falls Battery Company.
 Wilmington, Delaware—Magneto & Automotive Electric Company.
 Yakima, Wash.—Wm. C. Wright Company.
 Youngstown, Ohio—28 W. Madison St.—Exide Milburn Service.
 Ypsilanti, Michigan—38 E. Michigan—Walton Auto Electric.

Canadian List

Belleville, Ont.—Quinte Battery Service Station.
 Calgary, Alberta—Dyson Battery Service—330 Fifth Avenue.
 Edmonton, Alberta—Dyson Distributors, Ltd.
 Halifax, Nova Scotia—Halifax Ignition Company.
 Montreal, Quebec—Battery & Electric Service Co.
 Oshawa, Ont.—Geo. C. C. Allchin, Ltd.
 Ottawa, Ontario—Welch & Johnson.
 Regina, Saskatchewan—Magneto Service Station.
 Toronto, Ontario—350 Danforth Avenue—Barnes Battery & Ignition Co.
 *Toronto, Ontario—252 Victoria Street—Auto Electric Service Company, Ltd.
 Vancouver, B. C.—821 Hornby Street—Roy Howard, Ltd.
 Vancouver, B. C.—15th & Granville Sts.—Big Chief Service Station.
 *Vancouver, B. C.—1255 Seymour Street—Standard Equipment, Ltd.
 Victoria, B. C.—847 Yates St.—Mechanical Motors, Ltd.
 Winnipeg, Manitoba—176 Fert Street—Beattie Auto Electric Ltd.

Marvel Carbureter Company Export Distributors

NOTE: Refer all export business to Marvel Carbureter Co. office 30 Water St., New York, N. Y.
 Argentine, Buenos Aires—Calle Esmeralda 471—Alexandro De Angelis.
 Australia, Sydney—P. O. Box 152—Larke, Hoskins & Co., Ltd.
 Belgium, Brussels—rue de l'Aqueduc 104—Mertens & Straet.
 Columbia, Bogota—Antonio Puerto y Cia, S/A.
 Columbia, Cali—Arboleda y Cia, S/A.
 Columbia, Cali—Mariano Tenorio g.
 Cuba, Havana—Infanta 48-A—Lima y Daubar.
 Denmark, Copenhagen—Agersgate 27 Str.—Jens Anderson & Sonner.
 Egypt, Alexandria—15 Place des Canons—Albert Benin.
 Finland, Helsingfors—Alexandersgaten—Svend Orum.
 Germany, Berlin—Halensee—Cicerastrasse 36—Duetche Motor Service.
 Holland, Rotterdam—Van Oldenbarneveltstraat 69—G. Van Dyk & Company.
 Jamaica, Kingston—Motor Car & Supplies.
 Norway, Oslo—Drammensrsien—Sorenson og Balchen.
 Panama, Ancon, Canal Zone—P. O. Box 5033—Panazone Garage.
 Porto Rica, San Juan—J. Ochoa y Hno.
 Roumania, Bucarest—53 Calea Victoriei—Leonida & Co.
 Sweden, Stockholm—Vasgatan 52—A/B Maskinaffaren Stieltjes.
 Uruguay, Montevideo—Rincon 729—Clericetti y Barrella.

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