CAR SERIAL NUMBERS
Agri-Jeep—69589 and Higher
Jeep Trucks—10,001 and Higher
Station Wagon (4 Wheel Drive)—10,001 and Higher

WILLYS AGRI-JEEP
MODEL CJ-2A 1945-1948
2T (3/4 Ton), 4T (1 Ton)

JEEP TRUCKS - 1947-48
Station Wagon (4 Wheel Drive)
Model GSW 4x463 (Gov. Use)
Model CSW 4x463 (Civ. Use)
1948
596S-636S Superseded by 636SA

W-O DOWNDRAFT CARBURETERS 596S-636S-636SA—LIST PRICE $12.00
A $2.00 exchange allowance is deducted from the list price if buyer turns in old carbureter.

CARBURETER SPECIFICATIONS
For Willys 4 Cylinder Engine: 3 1/8 Inch Bore; 4 3/4 Inch Stroke

Dimensions: Flange size, 1 inch S. A. E.
Primary venturi, 11/32 inch I. D.
Main venturi, 1.0 inch I. D.
Float Setting: Distance from float (at free end) to float chamber cover to be 3/8 inch with free weight of float on needle and spring.
Vents: Outside, No. 10 drill size.
Gasoline Intake: Square vertical needle. No. 53 drill size in needle seat.
Low Speed Jet Tube: Jet size, .026 inch diameter (early production), .029 inch diameter (later production). Idle well jet, No. 61 drill.
By-pass in body, .059 to .060 inch diameter.
Economizer in body, .0425-.0435 inch diameter.
Idle bleed, size No. 52 drill.
Idle Port: Length, .140 inch. Width, .030 inch.
Idle Port Opening: .086 to .090 inch above upper edge of valve with valve closed tight.
Idle Screw Seat: No. 46 drill.
Set Idle Adjustment Screw: 1 to 2 turns open. For richer mixture, turn screw out. Do not attempt to idle engine below 8 miles per hour.

Main Nozzle: (Flush type) in primary venturi, angle 30°. Discharge jet size, .096 inch diameter.
Metering Rod Jet: Size, .070 inch diameter.
Metering Rod Setting: Use gauge, part No. 1109-26 (2.718 inches).
Accelerating Pump: High pressure type, spring operated. Discharge jet size, No. 73 drill. Relief passage to outside, size No. 42 drill. Intake ball check size, No. 40 drill. Discharge disk check size, No. 40 drill.
Pump Adjustment: 17/64 inch plunger travel at full throttle position. Use gauge 1109-1175.
Choke: Manual—Offset, butterfly type with pressure relief poppet valve. Inter-connected to open throttle valve to fast idle position when choke is used.
Vacuum Spark Port: (636S) Size, .062 to .064 inch diameter. Top of port .056 to .062 inch 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
Breaker Point Setting
Ignition Timing
Breaker Points to Open: 5° B. T. D. C. at IGN Mark on Flywheel
Valve Setting (Cold)
Intake .014" Exhaust .014"
Float Setting (Measure from machined surface of casting) 3/6"
Idle Adjustment Screw Setting 1 to 2 Turns Open

CARTER CARBURETOR CORPORATION, ST. LOUIS, MO., U. S. A.
WILLYS 596S-636S-636SA
August, 1945
Revised February, 1949

-effective January 1, 1946, add 30% to list price of carbureters and effective October 1, 1946, add 20% to all other prices shown with fractional adjustment to nearest even cent.
TO DISASSEMBLE

Remove carburetor from motor. Use Carter Tool Kit.
1. Remove choke link pin spring, choke connector link and spring.
2. Remove air horn assembly with all parts attached.
3. Remove low speed jet plug and gasket assembly.
4. Remove low speed jet.
5. Remove throttle shaft arm and screw assembly and throttle connector rod.
6. Remove bowl cover with all parts attached.
7. Remove pump spring from pump cylinder in body.
8. Remove idle well plug and gasket assembly.
9. Remove idle well jet.
10. Remove idle adjusting screw and spring.
11. Remove metering rod jet and gasket assembly.
12. Remove nozzle passage plug and gasket assembly.

TO REASSEMBLE

Assemble parts in group "A"
26. Install needle seat in bowl cover. Install bowl cover gasket. Put pin and spring into needle and install in seat; then install float and lever assembly.
27. Set float level. Turn gasket around so gauge can be placed on machined surface of casting. Correct setting is \( \frac{3}{16} \)". (Use tool T109-80.) Do not depress float lip against spring in needle, but let float rest of its own weight. Gauge should then be placed between free end of float and machined surface of bowl cover. Float should be set so it barely touches gauge. Adjustment is obtained by bending the lip on float which contacts pin in needle. Do not bend on front of float in adjusting, as damage will result.

CONVERSION FROM MANUAL TO GOVERNOR OPERATION (5965)

The conversion from manual to governor control is very simple. Procedure is as follows:
1. Remove screw "A," Fig. 7.
2. Connect governor control rod to ball connector "B," Fig. 8.
3. Pull hand throttle control to wide open position. Governor can be made inoperative by closing hand throttle.
Fig. 4

Assemble parts in group "D"

28. Install pump jet and pump jet plug and gasket assembly.
29. Install discharge disk check assembly.
30. Install intake ball check assembly.
31. Install pump check strainer and strainer plug and gasket assembly.
32. Install pump spring.
33. Install pump plunger and rod assembly.

Assemble parts in group "B"

34. Install loose lever and retainer plate and throttle shaft and lever assembly, back out throttle lever adjusting screw, then install throttle valve and throttle valve screws (be sure trade-mark on valve is toward the idle port when viewed from manifold side of flange). With valve screws loose, tap throttle lightly to centralize it in bore of carburetor. Hold valve in place with fingers and securely tighten screws. (New screws are recommended.)
35. Install idle port rivet plug.
36. Install idle adjustment screw and Idle adjustment screw spring.
37. Install insulator and new gaskets, then install body on flange, tightening screws evenly and securely.
38. Install idle well jet and idle well jet plug and gasket assembly.
39. Install low speed jet. Work jet well into seat by moving back and forth, then install low speed jet plug and gasket assembly.

Assemble parts in group "C"

40. Install metering rod jet and gasket assembly.
41. Install bowl cover as assembled, tightening screws down evenly and securely.
42. Install pump arm and collar and pump operating lever assembly and spring on pin in bowl cover.
43. Install pump connector link (ends away from bore and pin spring at top).
44. Install throttle shaft arm and screw assembly on throttle shaft.
45. Install throttle connector rod in throttle shaft arm, using spring and retainer at lower end and pin spring at top end.
46. Pump Adjustment: Back out throttle lever set screw. With throttle valve seated, pump plunger should travel 17/64" from closed to wide open throttle. Adjustment can be made by bending throttle connector rod at lower angle with tool T109-41. Pump travel can be measured by using universal pump stroke gauge T109-1175 by placing base of gauge on raised portion of bowl cover so that projecting ear of pump gauge rests on top of pump shaft (See Fig. 6). Hold gauge vertical. The difference between the number shown by index mark on gauge, at wide open and closed throttle positions, should be 17.
47. Metering Rod Adjustments: (See Fig. 5.) Correct setting of metering rod is important and must be made after pump adjustment. Install metering pin and spring assembly, washer and nut loosely on pump operating lever. Insert gauge (T109-26) in place of metering rod, seating tapered end in metering rod jet. With throttle valve seated, push metering rod pin downward until pin rests on shoulder of notch in gauge and tighten nut. Remove gauge, and install metering rod, disc and pin spring. Connect metering rod spring (end of spring through hole in metering rod).
48. After adjustment, metering rod should seat in metering rod jet when throttle is adjusted for normal curb idle. Metering rod spring must exert slight downward pressure on metering rod. Bend lower end of spring downward where necessary.

Fig. 5

49. Install nozzle and nozzle gasket, using tool No. T109-55. Be sure that flat side of nozzle faces up.
50. Install nozzle retainer plug and nozzle plug and gasket assembly.

Assemble parts in group "E"

51. Install air horn on body.
52. Install choke shaft and lever assembly and choke pull back spring.
53. Install choke valve and screws, centralizing the valve in air horn before tightening screws.
54. Install choke operating lever assembly and hook pull back spring in place.
55. Install choke connector link, connector link spring and pin spring.

OTHER CARBURETOR ADJUSTMENTS

If carburetor loads up after considerable service float level should be checked. Wear on lip of float lever will raise float level. Float level may be reset by bending lip of float lever down to raise float level or bending lever up to lower float level. Only a very slight bend is needed.

If motor stalls while idling, reset throttle adjusting screw and idle adjustment screw to specifications. If these adjustments do not correct the trouble (1) Remove idle well plug and gasket assembly, allowing gasoline from the bowl to flush out idle well jet. Remove low speed jet and blow out with compressed air. (2) Remove idle well jet and clean thoroughly with compressed air. Examine and see that jets seat gasoline tight at shoulder. If not, replace with new jets of identical specifications. (3) Clean carbon accumulation from bore of carburetor around throttle valve.

A clogged pump jet may be removed and cleaned with compressed air, which, in many cases, will remove the dirt or lint. However, it is usually advisable to replace the pump jet, as its cost is nominal. All jets and checks must be seated gasoline tight.

Poor acceleration may be due to damaged or worn plunger leather in accelerating pump, dirt in checks, corrosion or sediment in pump cylinder or bent throttle connector rod (parts which may be replaced at small cost).
## WILLYS carbureters 5965-6365-636SA—list price $12.00

When servicing, use repair parts pkg. no. 1355A for 5965-6365, price $4.35; gasket asst. no. 175A—price $0.70

### Part names in bold type, listed below, indicate contents of repair package

<table>
<thead>
<tr>
<th>Part No.</th>
<th>PART NAME</th>
<th>List Price</th>
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<tbody>
<tr>
<td>1-455E</td>
<td>Body flange assembly (5965)</td>
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<td>1-5065</td>
<td>— Body flange assembly (6365-SA)</td>
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<tr>
<td>1A-555</td>
<td>Insulator gasket and manifold baffle assembly</td>
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<td>Throttle valve</td>
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<td>Throttle lever assembly (loose) (5965)</td>
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<td>— Throttle lever assembly (loose) (6365-SA)</td>
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<td>Air horn assembly</td>
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<td>Choke valve assembly</td>
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<td>Rivel plug (5)</td>
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<td>Idler pivot plug</td>
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<tr>
<td>61-171</td>
<td>Pump spring</td>
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</tbody>
</table>

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*Parts so marked are new and listed for first time.*

**Must be removed when governor is used.*

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*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 carburetor. Where no figure is shown, only one is used.