



General Instructions

- Take lots of pictures as you take your carburetor apart. This will give you a reference of where things go.
- Using a cookie sheet with folded up sides will help keep parts from falling on the floor.
- We suggest not removing the throttle shaft, valves, or choke shaft unless they are corroded, or very dirty. These parts can be easily damaged and are difficult to re-assemble.
- Instruction sheets that come with our carburetor kits are somewhat generic. It may not match your parts exactly.
- Do NOT use WD-40 around your carburetor. It reacts with ethanol.
- Using Silicon Spray Lubricant on the gaskets will help with sticking in case you need to take the carburetor apart again.
- Be careful after taking the top of the carburetor off. Turning the carburetor upside down may cause parts to fall out and you won't know where they were.
- Screws and jets that are frozen can often be removed after heating outside the screw or jet.
- Stuck check balls can be removed by heating the outside of where the check ball resides and tapping the carburetor on the work bench.
- Do not discard any parts until complete done. You may have to refer for size, or matching.

Cleaning:

- Clean with carburetor dis-assembled.
- Soak all parts except rubber & electrical in Simple Green for 2 hours. Aluminum parts will get discolored if left longer.
- Wash parts with hot water if available to remove all chemicals.
- Blow out each passage way taking special notice of the smaller ones. Test each passage that air goes through the entire passage.
- Blow out the idle mixture hole.

- Check any hole above the idle mixture hole (inside the bore). This is the idle discharge and often becomes plugged.
- A tooth brush can facilitate cleaning parts.
- Soda blasting, then washing again will make the carburetor look good any will clean any minor deposits.
- Any corrosion, or deposits that are hard to remove may indicate the passages are also corroded and the carburetor should be replaced.
- If your engine has been sitting for 6 months or more, the gas has probably turned, and the gas tank will need to be cleaned as well as the fuel lines. Flushing new gas through the tank will not be enough.

Assembly:

- Do NOT apply any gasket sealant on any of the gaskets. Gas will break sealant part and the particles will clog the small passages.
- Test your float.
 - Brass floats should be immersed into hot water. As the air inside expands any leak will be noticeable with air bubbles.
 - Plastic, or Nitrophyl floats should be weighed. The weight is in grams. Check our technical pages for any weight specification that we may have.
- Most gaskets will fit as expected, but you may have to trim some, especially under the venturis.
- Your kit may include multiple gaskets in order to get better coverage out of the kit. Use the one that fits the best. Look for any opening the gasket may leave allowing air into the carburetor. Some holes may be casting holes that don't lead to anything and do not have to be covered.
- Mounting gaskets for multiple bore carburetors do not have to have matching holes. Example a four-barrel gasket can be open in the middle instead of 4 holes as long as the carburetor has some kind of passage between bores. The passage is between primary, or secondary, not both.
- When adjusting the float be careful not to put any pressure on the needle. The viton tip is easily damaged.
- Most idle mixture screws can be cleaned using a soft wire wheel. Inspect for any scoring, which would indicate over tightening. Screw with scoring should be replaced.

Accelerator Pumps:

- On leather cups run your finger around the inside of the cup to break any manufacturer sealant.
- Apply 2 drops of oil to cups (leather, or rubber) before inserting into carburetor. Do not soak the cup in oil. The swelling of the cup needs to happen inside the carburetor. Allow the 2 drops of oil and the gas to do its job naturally.
- Twist the pump as you are inserting to help keep the cup from curling or folding over.
- Test your accelerator pump circuit before putting the top of the carburetor back on. Our technical pages have instructions on how to do this for most carburetor types.
- Pump wells are usually slight tapered, and the pump will not seal until it gets towards the bottom.

INSTRUCTION SHEET

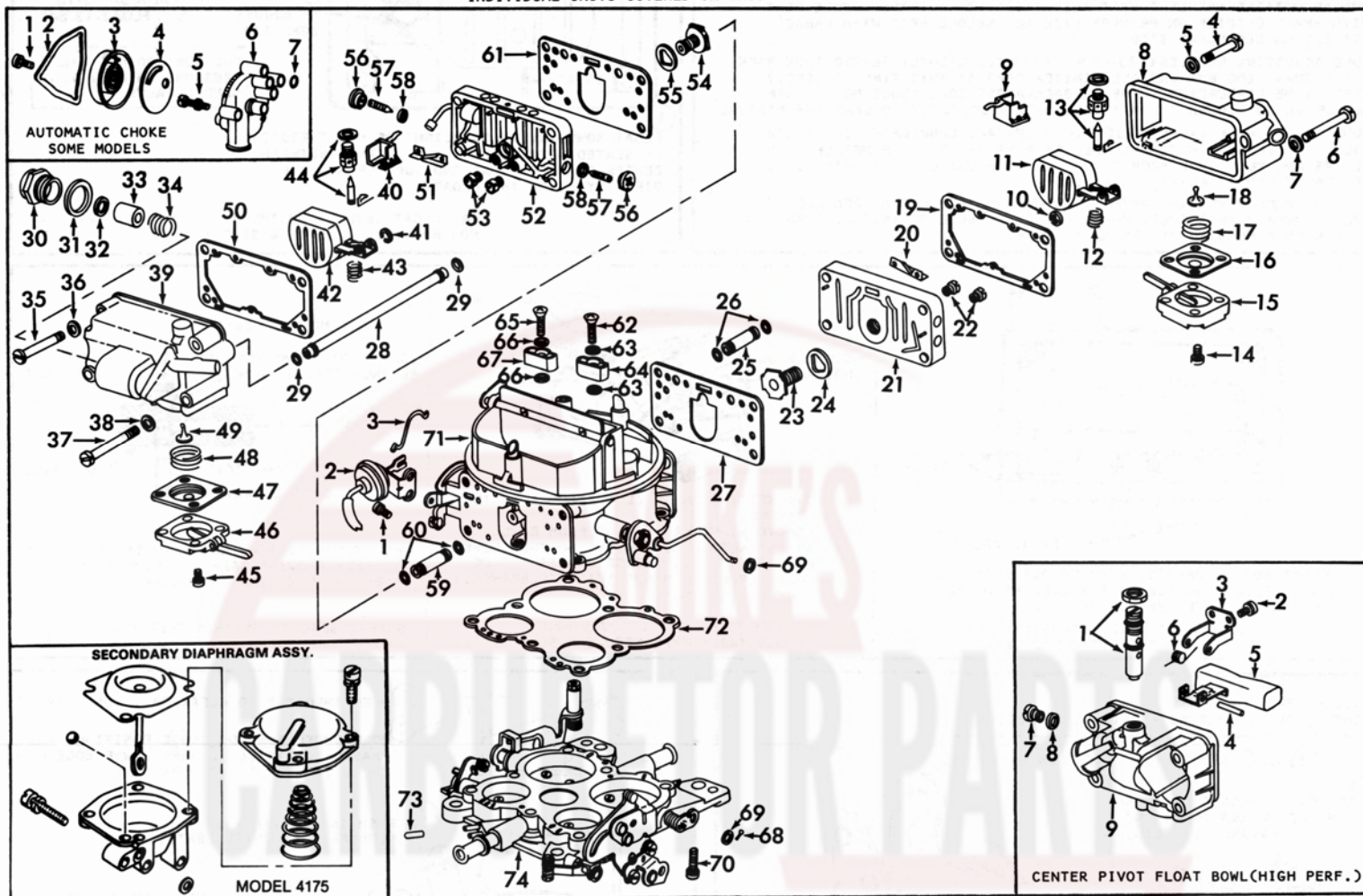
OFF VEHICLE CARBURETOR SERVICE

HOLLEY MODELS-4165, 4175

50-478-1

GENERAL EXPLODED VIEW

THE GENERAL DESIGN AND PARTS SHOWN WILL VARY TO
INDIVIDUAL UNITS COVERED ON THIS INSTRUCTION SHEET.



NOMENCLATURE

REF. NO.	REF. NO.
1. SCREW & LOCKWASHER (2)—CHOKE DIAPHRAGM ASSY.	38. GASKET (2)—FUEL BOWL SCREW
2. CHOKE DIAPHRAGM ASSY.	39. FUEL BOWL ASSY.—PRI.
3. LINK—CHOKE DIAPHRAGM	40. BAFFLE PLATE—PRI.
4. SCREW (SHORT)(2)—SEC. FUEL BOWL	41. RETAINER—FLOAT
5. GASKET (2)—FUEL BOWL SCREW	42. FLOAT & LEVER ASSY.—PRI.
6. SCREW (LONG)(2)—SEC. FUEL BOWL	43. SPRING—PRI. FLOAT
7. GASKET (2)—FUEL BOWL SCREW	44. NEEDLE, SEAT & GASKET ASSY. PRI.
8. FUEL BOWL ASSY.—SEC.	45. SCREW & LOCKWASHER (4)—PRI. PUMP COVER
9. BAFFLE PLATE—SEC.	46. COVER—PRI. PUMP
10. RETAINER—FLOAT	47. PUMP DIAPHRAGM ASSY.—PRI. (SMALL)
11. FLOAT & LEVER ASSY.—SEC.	48. SPRING—PRI. DIAPHRAGM RETURN
12. SPRING—SEC. FLOAT	49. VALVE—PRI. PUMP CHECK
13. NEEDLE, SEAT & GASKET ASSY. SEC.	50. GASKET—PRI. FUEL BOWL
14. SCREW & LOCKWASHER (4)—SEC. PUMP COVER	51. BAFFLE—PRI. METERING BODY VENT
15. COVER—SEC. PUMP	52. METERING BODY ASSY.—PRI.
16. PUMP DIAPHRAGM ASSY.—SEC. (LARGE)	53. JET (2)—PRI. MAIN
17. SPRING—SEC. DIAPHRAGM RETURN	54. VALVE—PRI. POWER
18. VALVE—SEC. PUMP CHECK	55. GASKET—PRI. POWER VALVE
19. GASKET—SEC. FUEL BOWL	56. CAP (2)—IDLE LIMITER
20. BAFFLE—SEC. METERING BODY VENT	57. NEEDLE (2)—IDLE ADJUSTING
21. METERING BODY ASSY.—SEC.	58. SEAL (2)—IDLE ADJ. NEEDLE
22. JETS—SEC. MAIN	59. TUBE—PRI. PUMP PASSAGE
23. VALVE—SEC. POWER	60. O-RING (2)—PASSAGE TUBE
24. GASKET—SEC. POWER VALVE	61. GASKET—PRI. METERING BODY.
25. TUBE—SEC. PUMP PASSAGE	62. SCREW—SEC. PUMP DISC. NOZZLE
26. O-RING (2)—PASSAGE TUBE	63. GASKET (2)—SCREW
27. GASKET—SEC. METERING BODY	64. NOZZLE—SEC. PUMP DISCHARGE (LARGE DUMP HOLES)
28. TUBE—FUEL LINE	65. SCREW—PRI. PUMP DISC. NOZZLE
29. O-RING (2)—FUEL LINE TUBE	66. GASKET (2)—SCREW
30. FITTING—FUEL INLET	67. NOZZLE—PRI. PUMP DISCHARGE (SMALL DUMP HOLES)
31. GASKET—INLET FITTING	68. COTTER PIN—SEC. CONNECTING ROD
32. GASKET—FUEL FILTER	69. WASHER (2)—SEC. CONNECTING ROD
33. FILTER—FUEL	70. SCREW & LOCKWASHER (8)—THROTTLE BODY
34. SPRING—FUEL FILTER	71. MAIN BODY ASSY.
35. SCREW (SHORT)(2)—PRI. FUEL BOWL	72. GASKET—THROTTLE BODY
36. GASKET (2)—FUEL BOWL SCREW	73. PLUG—VACUUM TUBE
37. SCREW (LONG)(2)—PRI. FUEL BOWL	74. THROTTLE BODY ASSY.

DISASSEMBLY

USE EXPLODED VIEW AS A GUIDE. THE NUMERICAL SEQUENCE MAY
GENERALLY BE FOLLOWED TO DISASSEMBLE UNIT FAR ENOUGH TO
PERMIT CLEANING AND INSPECTION. NOTE: PRIMARY AND SECONDARY
PARTS ARE NOT ALWAYS IDENTICAL. BE SURE TO MARK PARTS TAKEN
FROM PRIMARY SIDE.

CLEANING

CLEANING MUST BE DONE WITH CARBURETOR DISASSEMBLED. SOAK
PARTS LONG ENOUGH TO SOFTEN AND REMOVE ALL FOREIGN MATERIAL.
USE A CARBURETOR CLEANING SOLVENT. MAKE CERTAIN THE THROTTLE
BORES ARE FREE OF ALL CARBON AND VARNISH DEPOSITS. RINSE OFF
IN SUITABLE SOLVENT. BLOW OUT ALL PASSAGES IN CASTINGS WITH
COMPRESSED AIR AND CHECK CAREFULLY TO INSURE THOROUGH CLEANING
OF OBSCURE AREAS. CAUTION: DO NOT SOAK PARTS WITH ATTACHED
PLASTIC PARTS FOR A LONG PERIOD OF TIME. DO NOT SOAK ANY PARTS
CONTAINING RUBBER OR DIAPHRAGM ASSEMBLIES.

REASSEMBLY

REASSEMBLE IN REVERSE ORDER OF DISASSEMBLY. NOTE SPECIAL
INSTRUCTIONS AND FOLLOW NUMERICAL OUTLINE IN MAKING
ADJUSTMENTS NECESSARY FOR CARBURETOR BEING SERVICED.

NOMENCLATURE

CENTER PIVOT FLOAT BOWL(HIGH PERF.)

REF. NO.	REF. NO.
1. NEEDLE & SEAT ASSY.—ADJUSTABLE	6. SPRING—FLOAT(PRI. & SEC. ARE DIFFERENT)
2. SCREW & LOCKWASHER—FLOAT BRACKET	7. PLUG—FUEL LEVEL CHECK
3. BRACKET—FLOAT PIN	8. GASKET—CHECK PLUG
4. PIN—FLOAT	9. FUEL BOWL
5. FLOAT & LEVER ASSY.— (PRI. & SEC. ARE DIFFERENT)	

NOMENCLATURE

AUTOMATIC CHOKE SOME MODELS

REF. NO.	REF. NO.
1. SCREW(3)—CHOKE COVER RETAINER	5. SCREW & LOCKWASHER— CHOKE HOUSING
2. RETAINER—CHOKE COVER	6. CHOKE HOUSING ASSY.
3. COVER ASSY.—CHOKE THERMOSTAT	7. GASKET—CHOKE HOUSING
4. GASKET—CHOKE COVER	

SPECIAL INSTRUCTIONS ARE ON NEXT PAGE

SPECIAL INSTRUCTIONS

O-RINGS—LUBRICATE LIGHTLY WITH OIL BEFORE INSTALLING.

VITON NEEDLE & SEAT ASSY.—DO NOT USE EXOTIC FUELS OR ADDITIVES SUCH AS ALCOHOL, BENZINE OR ACETONE.

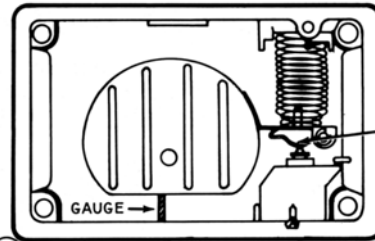
POWER VALVES (23)(54)—PRIMARY VALVE HAS SMALL HEAD ON STEM 7.5" SETTING. SECONDARY VALVE HAS LARGE HEAD ON STEM 6.5" SETTING.

NON ADJUSTABLE NEEDLE & SEAT ASSY.(13)(44)—INSTALL NEEDLE SEAT WITH SMALL ORIFICE ON PRIMARY SIDE AND NEEDLE SEAT WITH LARGE ORIFICE ON SECONDARY SIDE.

IDLE ADJUSTING NEEDLES(57)—TURN IN UNTIL LIGHTLY SEATED THEN BACK OUT 1 TURN. (DO NOT INSTALL LIMITER CAPS AT THIS TIME IF USED.)
NOTE: SOME CARBURETORS HAVE A "BACKWARDS" IDLE ADJUSTMENT, TURN NEEDLES IN TO RICHEN THE MIXTURE, BACK NEEDLES OUT TO LEAN THE MIXTURE.

PUMP INLET CHECK VALVE (18)(49)—TO INSTALL LUBRICATE TIP OF NEW VALVE AND INSERT IN CENTER HOLE OF PUMP CAVITY. USE NEEDLE NOSE PLIERS AND PULL THRU FROM FUEL BOWL SIDE UNTIL FULLY SEATED. CUT OFF VALVE TIP AT RETAINING SHOULDER.

PUMP DIAPHRAGM RETURN SPRING (17)(48)—INSTALL LARGE OPEN END OF SPRING OVER RUBBER INLET CHECK VALVE. BE SURE TO INSTALL LARGE DIAPHRAGM & HOUSING ON SECONDARY SIDE.



1. FLOAT BOWL INVERTED, WEIGHT OF FLOAT RESTING ON SEATED NEEDLE. MEASURE DISTANCE BETWEEN CENTER SEAM OF FLOAT AND SURFACE OF BOWL DIRECTLY BELOW THE FLOAT.

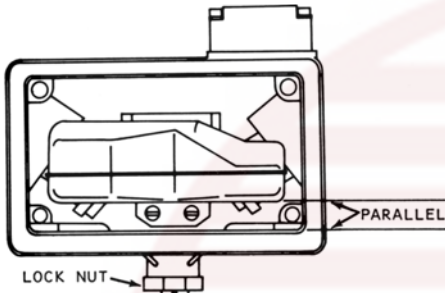
DRY FLOAT LEVEL ADJUSTMENT
NON ADJ. TYPE NEEDLE & SEAT

MODEL 4165
FLOAT LEVEL SETTING
PRI. FLOAT-3/16"
SEC. FLOAT-1/4"

MODEL 4175
FLOAT LEVEL SETTING
PRI. FLOAT-3/16"
SEC. FLOAT-13/64"

CAUTION: DO NOT EXERT
PRESSURE ON RESILIENT
NEEDLE VALVE.

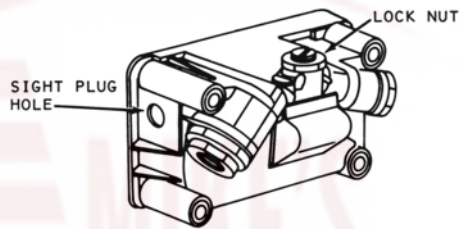
FIG. 1



FLOAT BOWL INVERTED, TURN NEEDLE SEAT ASSY. UNTIL FLOAT SURFACE IS PARALLEL WITH THE SURFACE DIRECTLY BELOW THE FLOAT.

DRY FLOAT LEVEL ADJUSTMENT
ADJUSTABLE TYPE NEEDLE & SEAT

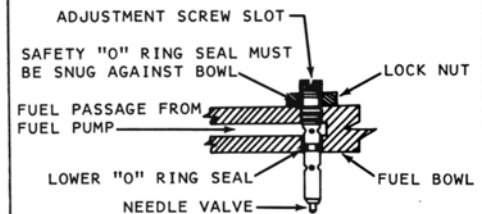
FIG. 2



1. CAR SETTING ON LEVEL SURFACE & ENGINE RUNNING.
2. REMOVE SIGHT LEVEL PLUG FROM BOWL.
3. ADJUST NEEDLE SEAT ASSY. SO FUEL LEVEL WILL BE AT BOTTOM EDGE OF SIGHT PLUG HOLE. (PLUS OR MINUS 1/32" TOLERANCE.)
4. TIGHTEN LOCK NUT.

WET FLOAT LEVEL ADJUSTMENT
ADJUSTABLE TYPE NEEDLE & SEAT

FIG. 3



THE EXCLUSIVE SEALING FEATURES OF THIS ASSEMBLY PROVIDE SAFE ADJUSTMENT OF FUEL LEVEL WHILE ENGINE IS RUNNING

SAFETY SEAL ADJUSTABLE FUEL VALVE

FIG. 4

CAM SETTING
BUICK - PRI. NO.1, SEC. NO.1
CHEV., OLD., PONTIAC - PRI. NO.2, SEC. NO.1

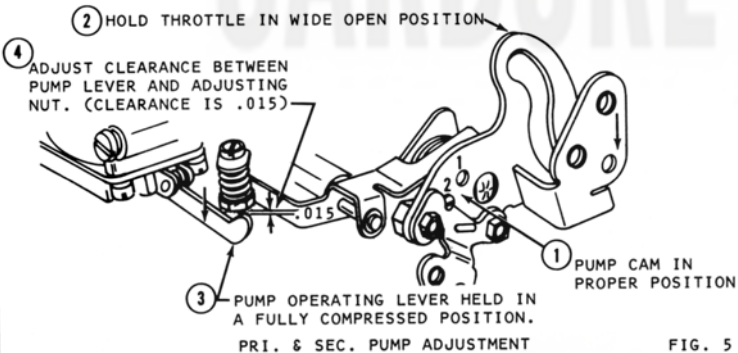
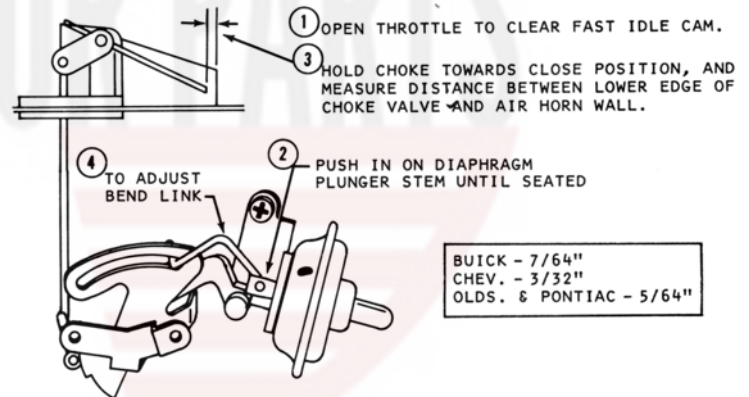


FIG. 5

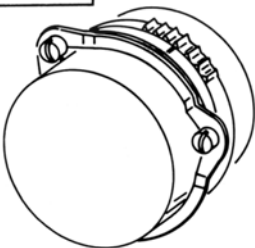


CHOKE QUALIFYING ADJUSTMENT

FIG. 6

ROTATE CHOKE COVER TO ALIGN REFERENCE MARK ON COVER TO SPECIFIED POINT ON CHOKE HOUSING

OLDSMOBILE
CARB. NO. R6497 2-RICH
R6512 1-LEAN



AUTOMATIC CHOKE ADJUSTMENT

FIG. 7