



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.

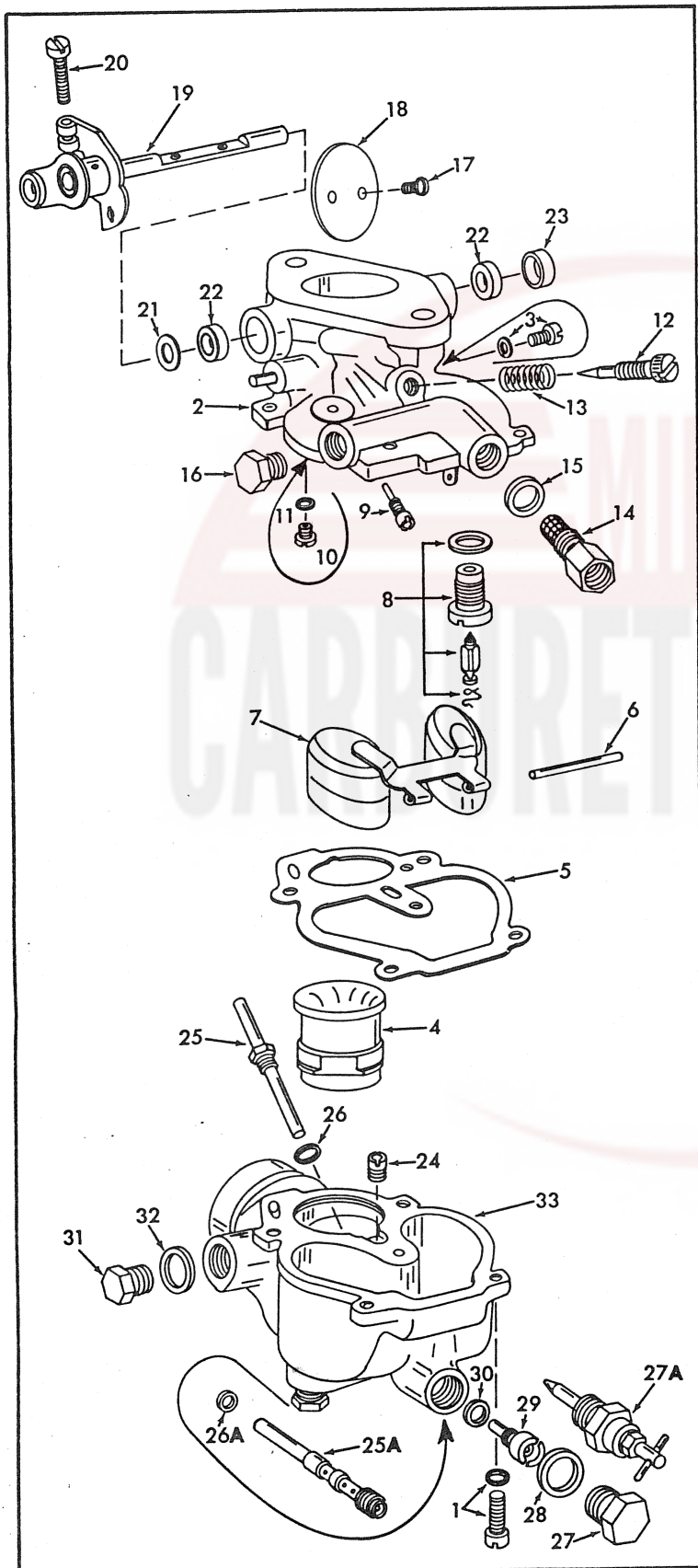
INSTRUCTION SHEET

ZENITH CARBURETOR SERIES — 61-62-67-68-161-267

50-389-1

GENERAL EXPLODED VIEW

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



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: BEFORE REMOVING THROTTLE VALVE (18) MAKE A SCRIBE MARK ON VALVE AND SURFACE OF FLANGE. ON SOME SERIES CARBURETORS IT IS NECESSARY TO FILE OFF REVETED OR PEENED END OF THROTTLE VALVE SCREWS (17) FLUSH WITH THROTTLE SHAFT BEFORE REMOVING.

NOMENCLATURE

REF. NO.	REF. NO.
1. SCREW & LOCKWASHER (4) - BOWL COVER	18. VALVE - THROTTLE
2. BOWL COVER ASSEMBLY	19. THROTTLE SHAFT & LEVER ASSY.
3. SCREW & LOCKWASHER (SERIES 62) - VENTURI	20. SCREW - THROTTLE STOP
4. VENTURI	21. RETAINER - THROTTLE SHAFT SEAL
5. GASKET - BOWL COVER	22. SEAL - THROTTLE SHAFT
6. PIN - FLOAT LEVER	23. PLUG - THROTTLE SHAFT HOLE
7. FLOAT & LEVER ASSEMBLY	24. JET - WELL VENT
8. NEEDLE, SEAT & GASKET ASSY.	25. NOZZLE - MAIN
9. JET - IDLE	25A. NOZZLE (SERIES 67-267) - MAIN
10. JET (SERIES 62) - ECONOMIZER	26. GASKET - MAIN NOZZLE
11. GASKET (SERIES 62) - ECONOMIZER JET	26A. GASKET (SERIES 67-267) MAIN NOZZLE
12. NEEDLE - IDLE ADJUSTING	27. PLUG - MAIN PASSAGE
13. SPRING - IDLE ADJUSTING NEEDLE	27A. MAIN JET ADJUSTMENT
14. SCREEN & FITTING - FILTER	28. GASKET - MAIN PASSAGE PLUG OR MAIN JET ADJUSTMENT
15. GASKET - SCREEN & FITTING	29. JET - MAIN
16. PLUG - FUEL INLET	30. GASKET - MAIN JET
17. SCREW & LOCKWASHER (2) - THROTTLE VALVE	31. PLUG - CHOKE SHAFT HOLE
	32. GASKET - CHOKE SHAFT PLUG
	33. FLOAT BOWL ASSEMBLY

CLEANING

CLEANING MUST BE DONE WITH CARBURETOR DISASSEMBLED. SOAK PARTS LONG ENOUGH TO SOFTEN AND REMOVE ALL FOREIGN MATERIAL. USE (1) A CARBURETOR CLEANING SOLVENT, (2) LACQUER THINNER, OR (3) DENATURATED ALCOHOL. MAKE CERTAIN THE THROTTLE BORE IS FREE OF ALL CARBON AND VARNISH DEPOSITS. RINSE OFF IN SUITABLE SOLVENT. BLOW OUT ALL PASSAGES IN CASTING WITH COMPRESSED AIR AND CHECK CAREFULLY TO INSURE THOROUGH CLEANING OF OBSCURE AREAS. CAUTION: DO NOT SOAK MAIN JET ADJUSTMENT (27A) OR RUBBER PARTS IN CLEANING SOLVENT.

REASSEMBLY

REASSEMBLE IN REVERSE ORDER OF DISASSEMBLY. NOTE SPECIAL INSTRUCTIONS.

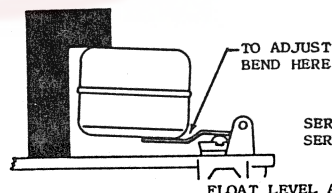
SPECIAL INSTRUCTIONS

MAIN JET ADJUSTMENT INSTALLATION (27A) - BACK OUT NEEDLE SEVERAL TURNS BEFORE TIGHTENING ASSEMBLY IN CARBURETOR. THEN TURN IN LIGHTLY UNTIL SEATED AND BACK OUT 2 TURNS.

THROTTLE SHAFT SEAL INSTALLATION - INSTALL NEOPRENE SEAL (22) WITH SEALING EDGES TO THE OUTSIDE. COVER WITH FLAT WASHER (21) AND STAKE IN PLACE.

THROTTLE VALVE INSTALLATION - INSTALL VALVE (18) WITH SCRIBE MARKS ALIGNED. TAP LIGHTLY TO CENTER IN THROTTLE BORE. TIGHTEN SCREWS SECURELY. WHERE NECESSARY, PEEN END OF SCREWS. THROTTLE HELD CLOSED, TURN THROTTLE STOP SCREW (20) UNTIL IT JUST CONTACTS STOP PIN, THEN TURN SCREW IN 1 1/2 ADDITIONAL TURNS.

IDLE NEEDLE INSTALLATION - TURN NEEDLE (12) IN LIGHTLY UNTIL SEATED. THEN BACK OUT 1 1/4 TURNS.



CAUTION: DO NOT EXERT PRESSURE ON RESILIENT NEEDLE VALVE

SERIES -61-67-68-161-267 (1 5/32")
SERIES -62 (1 39/64")

WITH BOWL COVER INVERTED, MEASURE FROM MACHINED SURFACE OF BOWL COVER (NO GASKET) TO TOP OF EACH FLOAT PONTON. TO ADJUST BEND FLOAT LEVER CLOSE TO FLOAT BODY. NOTE: WHEN VIEWED FROM FREE END, THE FLOAT PONTONS MUST BE CENTERED AND AT RIGHT ANGLES TO THE MACHINED SURFACE OF BOWL COVER AND MOVE FREELY ON THE FLOAT PIN.

VENTURI INSTALLATION - INSTALL LARGE OPENING END OF VENTURI (4) INTO THROTTLE BORE AND POSITION VENTURI SO THAT MACHINED FLAT WILL BE TOWARD FUEL BOWL WHEN ASSEMBLED. SOME SERIES USE A GUIDE NOTCH OR SCREW TO HOLD VENTURI IN PROPER POSITION.

IDLE ADJUSTMENT - ENGINE AT OPERATING TEMPERATURE, CHOKE VALVE COMPLETELY OPEN, ADJUST IDLE SCREW UNTIL ENGINE RUNS SMOOTHLY WITH IDLE STOP SCREW SET AT PROPER IDLE R.P.M.