



## **Rebuild and Adjustment Manual for Models 2010, 2300, 4010, 4011, 4150, 4160, 4165, 4175, and 4500**

**WARNING!** These instructions must be read and fully understood before beginning installation. Failure to follow these instructions may result in poor performance, vehicle damage, personal injury, or death. If these instructions are not fully understood, installation should not be attempted.

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## READ THIS FIRST:

This is a typical view type instruction sheet for different carburetor models, which will show more parts than are required for any one specific model. This kit may also contain universal part assortments, resulting in throw away or an excess in the number of parts that are actually required for servicing any one carburetor. In the case of duplicate gaskets or parts, compare with old pieces. When reassembling the carburetor, use the adjustment specification list to make the necessary adjustments for the list number of your carburetor. Since this instruction sheet cannot contain all the pertinent information required to rebuild your carburetor, Holley recommends the **HOLLEY - REBUILDING AND MODIFYING** book by Jeff William's P/N 36-185.

Throughout this instruction sheet, there will be **WARNINGS** and **NOTES**. Please read these, as they contain valuable information that can save you time and money. It is our intent to provide the best possible products for our customers: products that perform properly and satisfy your expectations. Should you need information of parts assistance, please contact our technical service department at 1-270-781-9741, Monday through Friday, 7 a.m. to 5 p.m. Central time. Please have the part number of the product you purchased when you call.

## LOCATING THE LIST NUMBER:

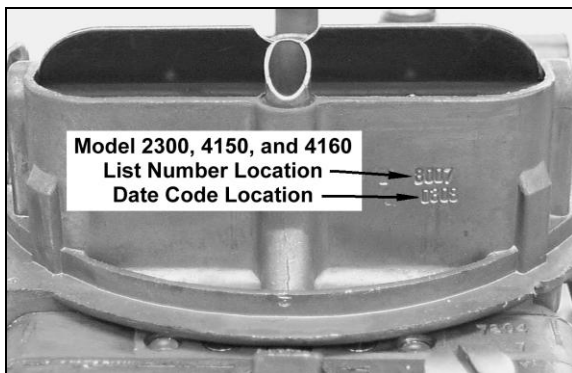


Figure 1

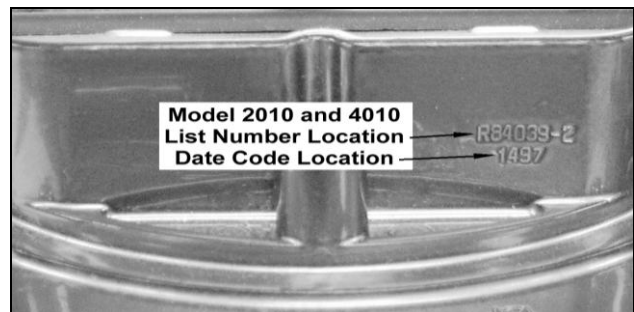


Figure 2

The List number for a Model 2010, 2300, 4010, 4011, 4150, 4160, 4165, or 4175 carburetor can be found on the **right side of choke air horn**. The List number for the 4500 can be found on the top of the main body casting. Below the list number is a date code that will contain no more than four (4) digits. See Figures below.

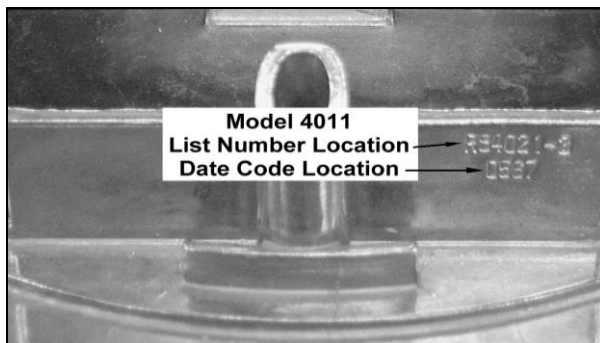


Figure 3

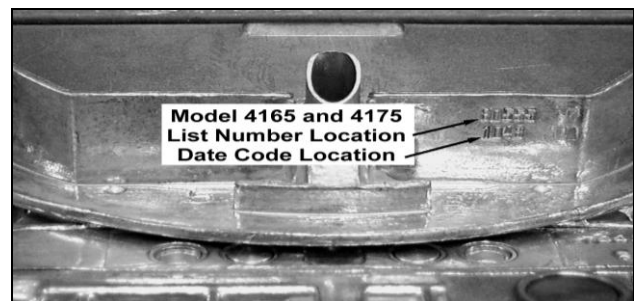
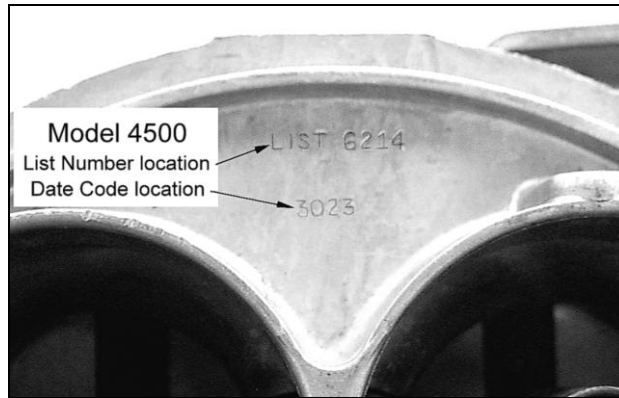


Figure 4



**Figure 5**

## **DISASSEMBLY:**

Rest the carburetor on a repair stand to avoid damage to the throttle plates during renewal procedures. Use the exploded view, for the model of carburetor you have, as a guide and follow the numerical sequence in general to disassemble unit far enough to permit cleaning and inspection. DO NOT remove throttle plates or shaft. Idle limiter: turn the idle limiter cap to its leanest (clockwise) position and remove cap. Observe and Record the initial position of the needle slot. Turn the idle needles clockwise, until lightly seated, recording the number of turns required to seat the needles. This procedure is necessary to reinstall the idle needles after renewing the carburetor.

**WARNING!** Use care not to damage the idle adjusting needles when removing idle limiter caps.

## **CLEANING AND CARE:**

Cleaning must be done with carburetor disassembled. Soak parts long enough to soften and remove all foreign material. Use a carburetor solvent, lacquer thinner or denatured alcohol. Make certain the throttle body is free of all hard carbon deposits. Wash off in suitable solvent. Blow all passages in castings with compress air and check carefully to insure thorough cleaning of obscure areas.

**WARNING!** DO NOT soak parts containing rubber or plastic material. Serious damage could result.

**WARNING!** Fuel bowls, should only be exposed to carburetor cleaner long enough to permit removal of gum and varnish deposits with a brush. Some fuel bowls have internal "O" Ring seals, which are not removable, but can be damaged by prolonged exposure to some carburetor cleaning solvents.

## **REASSEMBLY:**

Reassemble in reverse order of disassembly. Note the special instructions and follow the calibration numbers in the **SPECIFICATIONS** manual in making final adjustments.

Manually operate the throttle lever and choke mechanism, checking for binding or malfunction. Any binding or interference could cause throttle to stick during operation and result in loss of carburetor throttle control (or uncontrolled engine speed).

**WARNING!** Check carburetor to be sure there are no leaks or flooding, which might cause a fire.

## **SPECIAL INSTRUCTIONS FOR ALL CARBURETORS:**

**IDLE ADJUSTING NEEDLES** - Tapered portion of needle must be straight and smooth. If grooved or ridged, a new needle would be install.

**PUMP INLET CHECK VALVE** - Lubricate tip of new valve and insert in center hole in pump cavity. Pull through from fuel bowl side, until seated.

**CHOKE PLATE SCREW** - Choke plate screws are staked to prevent loosening. To avoid breaking or stripping the threads in the choke shaft, lightly file off the staking. Choke plate screws should be restaked after tightening to prevent loosening.

**THROTTLE BODY** - DO NOT remove throttle shafts or plates. If throttle plates are nicked or damaged, it will be necessary to replace the throttle body.

**CHECK BALL** - Your kit may contain more than one check ball. The check ball removed from your carburetor should be compared to the new check ball for correct sizing before installation.

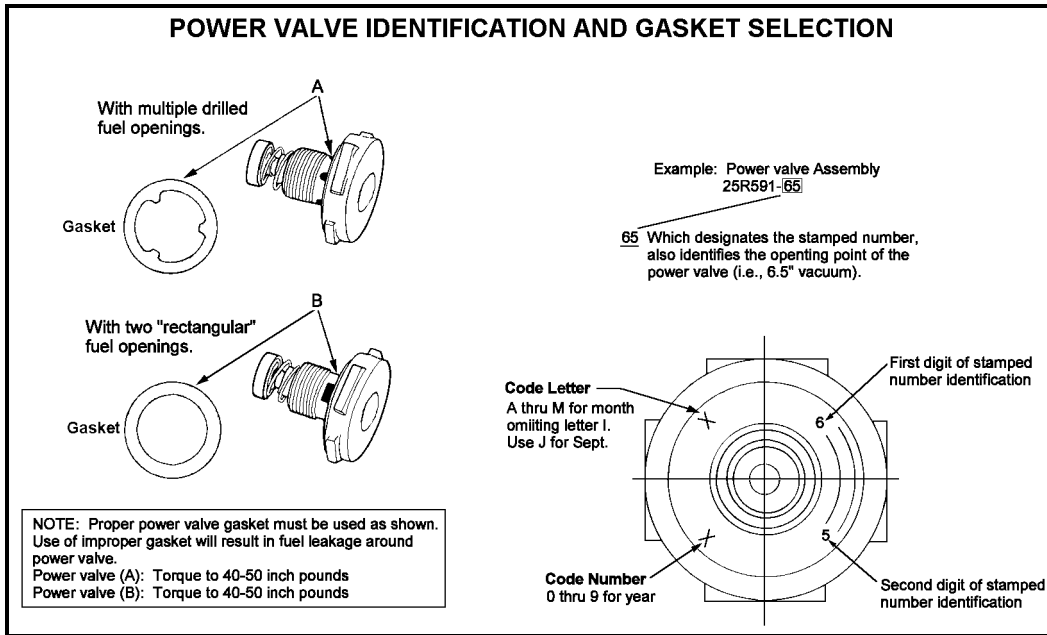


Figure 6

### SPECIAL INSTRUCTIONS FOR MODELS 2300, 4150, 4160, 4165, and 4175:

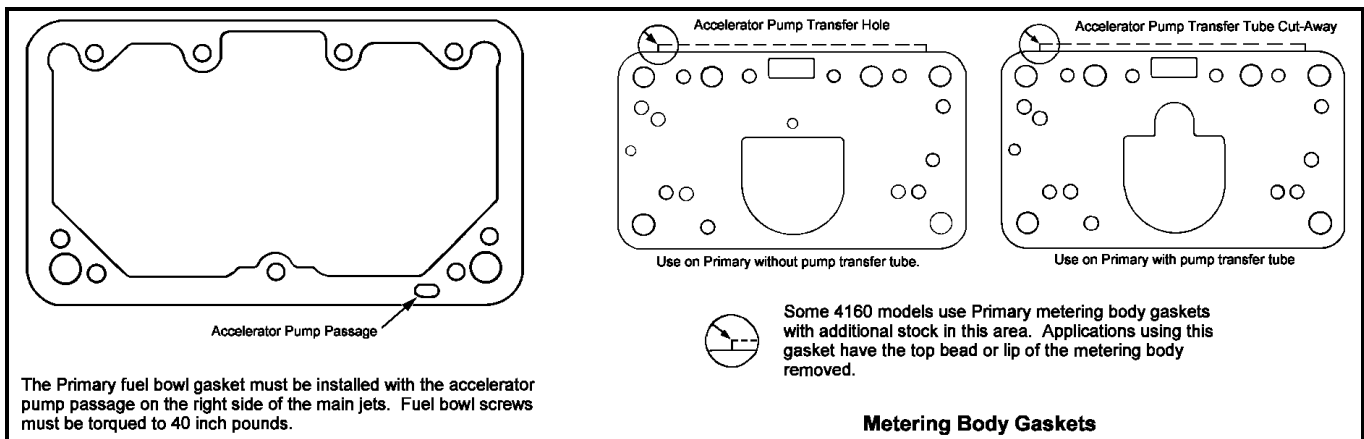


Figure 7

### SPECIAL INSTRUCTIONS FOR MODELS 2010, 4010, AND 4011:

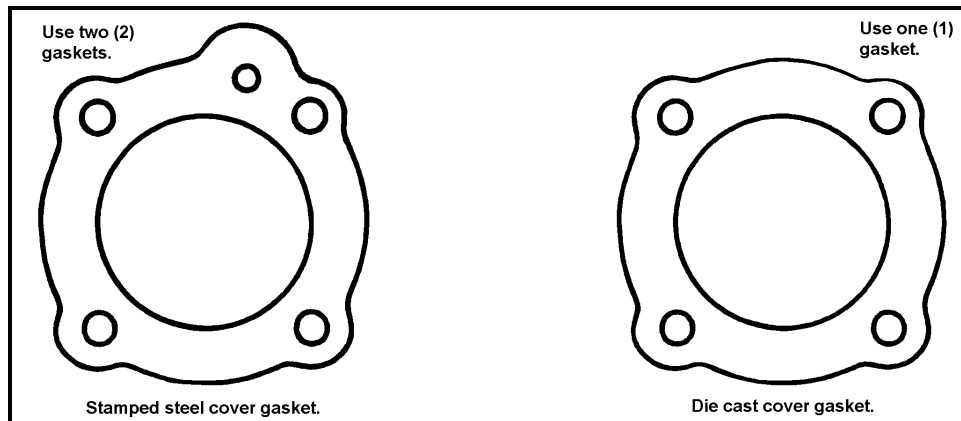
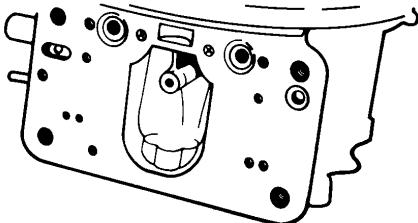
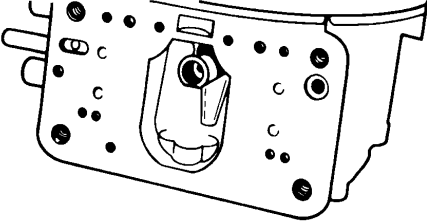
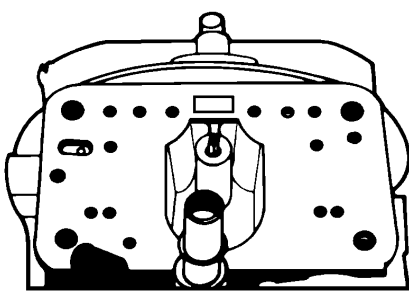
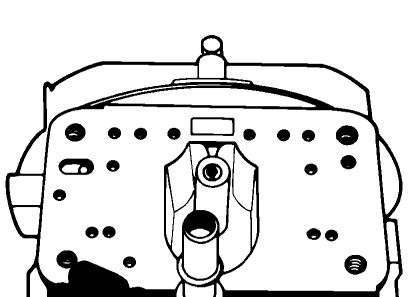
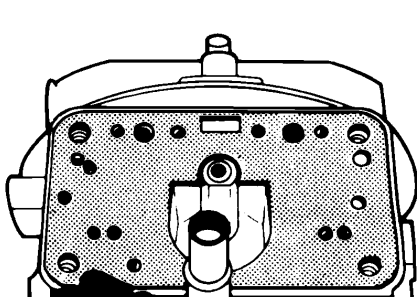


Figure 8

## SPECIAL INSTRUCTIONS FOR MODELS 4165/4175

**NOTE:** Spread bore carburetors have been built with two types of main metering bodies and main body castings.

Type A	Type B	
 <p>Main body has accelerator pump passage boss flush, or even, with gasket surface for metering body.</p> <p>FIG. 9</p>	 <p>Main body has accelerator pump passage boss recessed .20 (almost 1/4") below gasket face and use connector tube and "O" rings.</p> <p>FIG. 10</p>	
<p>If your carburetor is Type A install roll pin and "O" ring enclosed</p>		
 <p>1 Insert split roll pin in accerator pump passage on metering body face of main body. Place washer provided over roll pin into main body until the amount protruding is flush with washer.</p> <p>FIG. 11</p>	 <p>2 Discard washer and place small "O" ring provided over roll pin.</p> <p>FIG. 12</p>	 <p>3 Assemble carburetor with new gaskets provided.</p> <p>FIG. 13</p>

## SPECIAL INSTRUCTIONS FOR MODEL 4500:

It is absolutely imperative that the throttles are timed to open exactly together. If due to wear or severe use the throttles are not synchronized a minor adjustment to the operating link will remedy the problem. With the throttle lever held against the wide open throttle stop, bending adjustments can be made to lengthen or shorten the connecting link; to remove idle slack between the throttle shafts, the link should be shortened; to prevent over travel at wide open throttle, the link must be made longer. To adjust the linkage for wide open throttle of all four bores, the intermediate connecting link can be made shorter or longer as the carburetor requires.

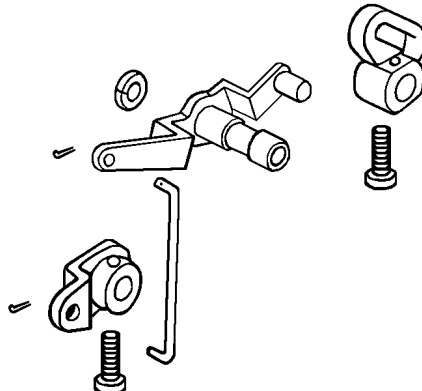
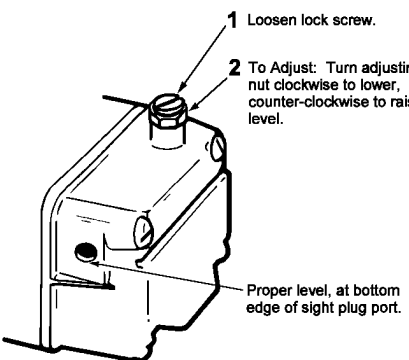
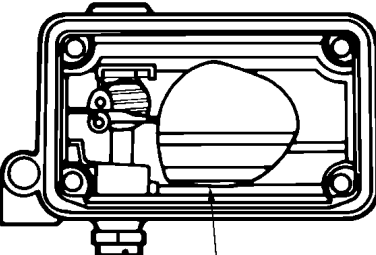
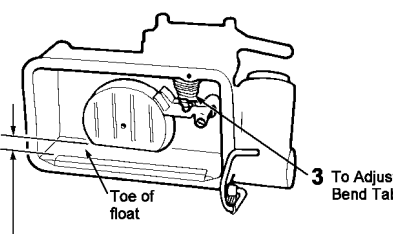
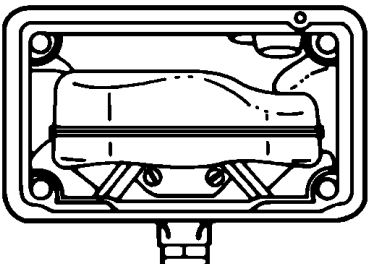
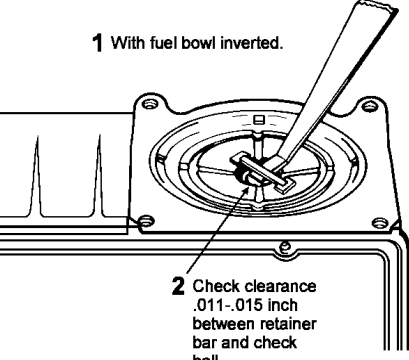
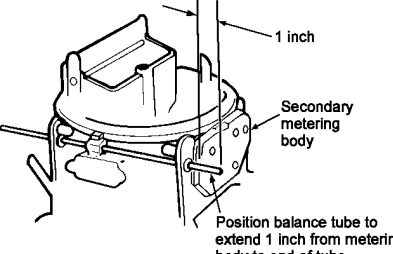
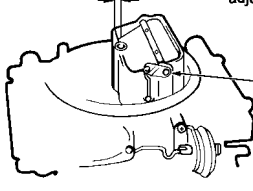
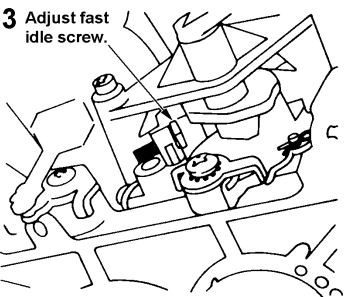
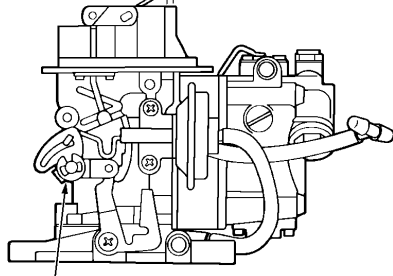


Figure 14

# CARBURETOR ADJUSTMENTS:

<p><i>Model 2010, 2300, 4010, 4011, 4150, 4160, 4165, 4175, 4500</i></p>	<p><i>Model 2300, 4150, 4160</i></p>	<p><i>Model 2300, 4150, 4160, 4165, 4175</i></p>
 <p>1 Loosen lock screw. 2 To Adjust: Turn adjusting nut clockwise to lower, counter-clockwise to raise level. Proper level, at bottom edge of sight plug port. With car on level surface and engine running.</p> <p><b>FIG. 15 - WET LEVEL ADJUSTMENT</b></p>	<p>1 With fuel bowl inverted.</p>  <p>2 Adjust float parallel to bowl floor.</p> <p>Externally Adjustable <b>FIG. 16 - DRY FLOAT SETTING</b></p>	<p>1 With fuel bowl inverted.</p>  <p>2 Measure distance between surface of fuel bowl and float, at toe of the float. 3 To Adjust: Bend Tab</p> <p>Non-Adjustable Type <b>FIG. 17 - DRY FLOAT SETTING</b></p>

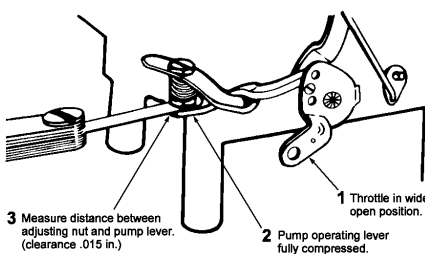
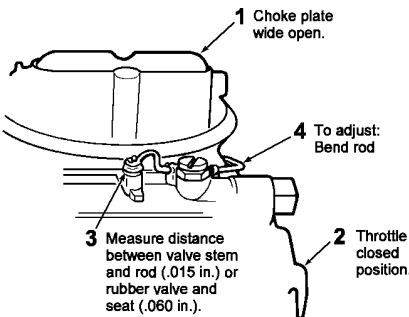
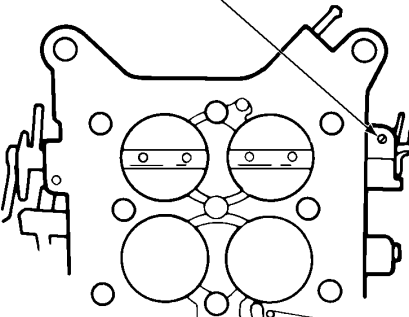
<p><i>Model 2300, 4160, 4165, 4175, 4500</i></p>	<p><i>Model 2300, 4150, 4160</i></p>	<p><i>Model 4150, 4160</i></p>
<p>1 With fuel bowl inverted.</p>  <p>2 Adjust float until it is centered in the center of the fuel bowl. Center Hung Float</p> <p><b>FIG. 18 - DRY FLOAT SETTING</b></p>	<p>1 With fuel bowl inverted.</p>  <p>2 Check clearance .011-.015 inch between retainer bar and check ball.</p> <p><b>FIG. 19 - PUMP INT. CHECK BALL ADJ.</b></p>	<p>CAUTION: Be sure "O" rings and washers are seated in recesses.</p>  <p>1 inch Secondary metering body Position balance tube to extend 1 inch from metering body to end of tube.</p> <p><b>FIG. 20 - BALANCE TUBE ADJUSTMENT</b></p>

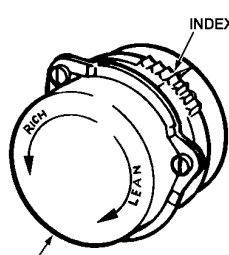
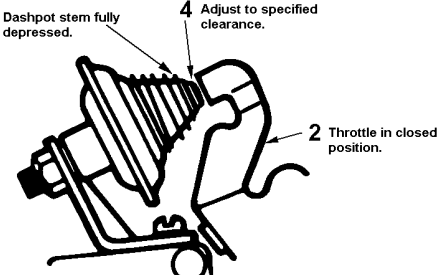
<p><i>MODEL 4150</i></p>	<p><i>MODEL 2010, 4010, 4011, 4150, 4160, 4165, 4175</i></p>	<p><i>MODEL 2300</i></p>
<p>3 Measure distance between top edge of choke plate and wall of air horn. 4 To Adjust: Bend cam positioner adjustment tang. 2 Light closing pressure on choke plate. 1 Fast idle speed adjusting tang contacting 2nd highest step of fast idle cam.</p>  <p><b>FIG. 21 - CAM INDEX ADJUSTMENT</b></p>	<p>1 Turn engine off. 2 Close choke 3 Adjust fast idle screw.</p>  <p>(Non-Marine Only) <b>FIG. 22 - FAST IDLE ADJUSTMENT</b></p>	<p>2 Apply light closing pressure on choke plate. 3 Measure distance between edge of choke plate and airhorn wall. 4 To adjust: Bend choke control lever tang. 1 Position fast idle tang on second step of fast idle cam.</p>  <p><b>FIG. 23 - FAST IDLE ADJUSTMENT</b></p>

<p><b>Model 2010, 4010, 4011, 4150, 4160, 4165, 4175</b></p> <p>2 Close lever in closed choke position.</p> <p>3 Top of choke rod 1/2 to 1 rod dia. below hole.</p> <p>4 To adjust: Bend rod here</p> <p>1 Push rod down.</p> <p>Type I</p> <p><b>FIG. 24 - CHOKE ROD ADJUSTMENT</b></p>	<p><b>Model 4150, 4160</b></p> <p>2 Choke lever in closed choke position.</p> <p>4 To adjust: Bend rod here.</p> <p>3 Bottom of choke rod 1/2 to rod dia. above hole.</p> <p>1 Pull rod up.</p> <p>Type II</p> <p><b>FIG. 25 - CHOKE ROD ADJUSTMENT</b></p>	<p><b>Model 4160</b></p> <p>1 Choke plate in closed position.</p> <p>1-23/32"</p> <p>2 Measure distance between center line of hole to bottom surface of throttle body.</p> <p>Type III</p> <p><b>FIG. 26 - CHOKE ROD ADJUSTMENT</b></p>
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<p><b>Model 2300</b></p> <p>1 Close choke plate.</p> <p>3 Bend link to adjust.</p> <p>1-17/32"</p> <p>2 Measure from top of choke rod hole to base of carburetor.</p> <p><b>FIG. 27 - CHOKE ROD ADJUSTMENT</b></p>	<p><b>Model 4150, 4160, 4165, 4175</b></p> <p>3 Measure distance between top edge of choke plate and wall of air horn.</p> <p>1 Light closing pressure on choke plate.</p> <p>2 Depress stem and diaphragm to the limit of its travel.</p> <p>4 To adjust: Bend link here.</p> <p><b>FIG. 28 - CHOKE QUALIFYING (Vacuum Pull Down) ADJUSTMENT</b></p>	<p><b>Model 2300</b></p> <p>4 Measure clearance between bottom edge of choke plate and airhorn wall.</p> <p>2 Apply sufficient vacuum to fully retract diaphragm stem.</p> <p>3 Apply light closing pressure on choke lever.</p> <p>5 To adjust: Bend link.</p> <p>1 Position fast idle tang on second step of fast idle cam.</p> <p><b>FIG. 29 - CHOKE QUALIFYING (Vacuum Pull Down) ADJUSTMENT</b></p>
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<p><b>Model 2010, 2300, 4010, 4011, 4150, 4160, 4165, 4175</b></p> <p>Note: Bend a paper clip (.030 ti .036 dia.) as shown to provide end no longer than 1/8 inch long.</p> <p>1 Insert paper clip into piston bore until end of bore slot is hooked as shown.</p> <p>3 Measure distance between upper edge of choke plate and air horn. See Fig. 9.</p> <p>2 Move piston and levers in choke closing direction until edge of piston slot engages paper clip.</p> <p>4 To adjust: Bend piston lever tang.</p> <p><b>FIG. 30 - CHOKE QUALIFYING (INTEGRAL CHOKE) ADJUSTMENT</b></p>	<p><b>Model 2300</b></p> <p>1 Push choke piston against stop</p> <p>2 Apply light closing pressure to choke plate.</p> <p>4 To adjust: Turn screw in or out as required.</p> <p>3 Measure distance between upper edge of choke plate and airhorn wall.</p> <p>(Late Intertal Choke)</p> <p><b>FIG. 31 - CHOKE QUALIFYING</b></p>	<p><b>Model 2010, 4010, 4011, 4150</b></p> <p>4 Measure distance between top edge of choke plate and wall of air horn.</p> <p>5 To Adjust: Bend throttle lever unloader tang.</p> <p>3 Light closing pressure on choke plate.</p> <p>1 Throttle plates in wide open position.</p> <p>2 Choke rod properly adjusted.</p> <p><b>FIG. 32 - UNLOADER ADJUSTMENT</b></p>
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<b>Model 2010, 2300, 4010, 4011, 4150, 4160, 4165, 4175, 4500</b>	<b>Model 2300, 4150, 4160, 4165, 4175</b>	<b>Model 4010, 4011, 4150, 4160, 4165, 4175</b>
 <p>1 Throttle in wide open position.</p> <p>2 Pump operating lever fully compressed.</p> <p>3 Measure distance between adjusting nut and pump lever. (clearance .015 in.)</p> <p><b>FIG. 33 - PUMP OVERRIDE ADJUSTMENT</b></p>	 <p>1 Choke plate wide open.</p> <p>2 Throttle in closed position.</p> <p>3 Measure distance between valve stem and rod (.015 in.) or rubber valve and seat (.060 in.).</p> <p>4 To adjust: Bend rod</p> <p><b>FIG. 34 - VENT VALVE ADJUSTMENT</b></p>	<p>Back the secondary throttle stop screw out until the secondary throttle plates are closed in the throttle bore. Turn the screw in (clockwise) until it just touches the stop on the lever, then give it an additional 1/4 turn.</p>  <p><b>FIG. 35 - SECONDARY THROTTLE STOP ADJUSTMENT</b></p>

<b>Model 2010, 2300, 4010, 4011, 4150, 4160, 4165, 4175</b>	<b>Model 2300, 4010, 4011, 4150, 4160</b>
 <p>INDEX</p> <p>RICH</p> <p>LEAN</p> <p>Rotate cover to align reference mark on cover with specified mark on choke housing.</p> <p><b>FIG. 36 - CHOKE ADJUSTMENT</b></p>	<p>1 With choke in wide open position.</p> <p>2 Throttle in closed position.</p> <p>3 Dashpot stem fully depressed.</p> <p>4 Adjust to specified clearance.</p>  <p><b>FIG. 37 - DASHPOT ADJUSTMENT</b></p>