



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:

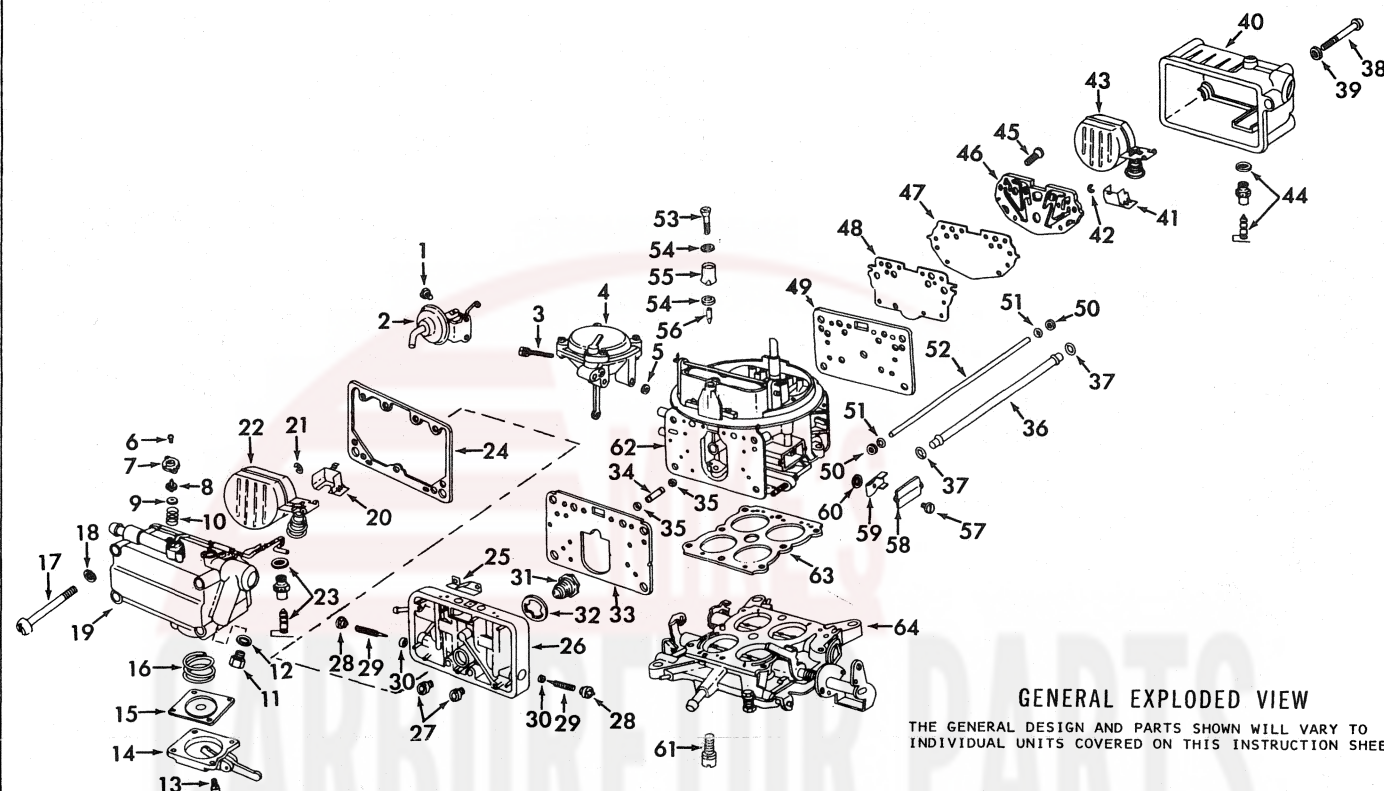
- On leather cups run your finger around the inside of the cup to break any manufacturer sealant.
- Apply 2 drops of oil to cups (leather, or rubber) before inserting into carburetor. Do not soak the cup in oil. The swelling of the cup needs to happen inside the carburetor. Allow the 2 drops of oil and 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

HOLLEY CARBURETOR MODEL 4160

(INTERNAL NEEDLE AND SEAT)

IS-50-514



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)-VACUUM BREAK ASSY.	32. GASKET-POWER VALVE
2. VACUUM BREAK & LINK ASSY.	33. GASKET-PRI. METERING BODY
3. SCREW & LOCKWASHER(3)-DIAPHRAGM HOUSING ASSY.	34. TUBE-PUMP TRANSFER
4. DIAPHRAGM HOUSING ASSY.-SEC. THROTTLE	35. O-RING(2)-PUMP TRANSFER TUBE
5. GASKET-SEC. DIAPHRAGM HOUSING	36. TUBE-FUEL LINE
6. SCREW & LOCKWASHER(2)-VENT VALVE COVER	37. O-RING(2)-FUEL LINE TUBE
7. COVER-VENT VALVE	38. SCREW(4)-SECONDARY FUEL BOWL
8. VENT VALVE-STEM	39. GASKET(4)-FUEL BOWL SCREW
9. VALVE-VENT	40. FUEL BOWL ASSY.-SECONDARY
10. SPRING-VENT VALVE	41. BAFFLE-SECONDARY NEEDLE & SEAT
11. FITTING-FUEL INLET	42. RETAINER-FLOAT
12. GASKET-INLET FITTING	43. FLOAT & SPRING ASSY.-SECONDARY
13. SCREW & LOCKWASHER(4)-PUMP COVER ASSY.	44. NEEDLE, SEAT & GASKET ASSY.-SEC.
14. PUMP COVER ASSY.	45. SCREW(6)-SEC. METERING BODY
15. PUMP DIAPHRAGM ASSY.	46. METERING BODY-SECONDARY
16. SPRING-DIAPHRAGM	47. GASKET-SEC. METERING BODY PLATE
17. SCREW(4)-PRIMARY FUEL BOWL	48. PLATE-SECONDARY METERING BODY
18. GASKET(4)-PRI. FUEL BOWL SCREW	49. GASKET-SECONDARY METERING BODY
19. FUEL BOWL ASSY.-PRIMARY	50. WASHER(2)-BALANCE TUBE
20. BAFFLE-PRI. NEEDLE & SEAT	51. O-RING(2)-BALANCE TUBE
21. RETAINER-FLOAT	52. TUBE-BALANCE
22. FLOAT & SPRING ASSY.-PRI.	53. SCREW-PUMP DISC. NOZZLE
23. NEEDLE, SEAT & GASKET ASSY.-PRI.	54. GASKET(2)-PUMP DISC. NOZZLE
24. GASKET-PRIMARY FUEL BOWL	55. NOZZLE-PUMP DISC.
25. VENT BAFFLE-PRI. FUEL BOWL	56. NEEDLE VALVE-PUMP DISC.
26. METERING BODY-PRIMARY	57. SCREW(2)-IDLE COMPENSATOR COVER
27. JET(2)-PRI. MAIN	58. COVER-IDLE COMPENSATOR VALVE
28. CAP(2)-IDLE LIMITER	59. VALVE-IDLE COMPENSATOR
29. NEEDLE(2)-IDLE ADJUSTING	60. GASKET-IDLE COMPENSATOR VALVE
30. SEAL(2)-IDLE NEEDLE	61. SCREW & LOCKWASHER(6 OR 8)-THROTTLE BODY
31. VALVE-POWER	62. MAIN BODY ASSY.
	63. GASKET-THROTTLE BODY
	64. 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 SIDE (CHOKE SIDE) AND SECONDARY SIDE PARTS ARE NOT ALWAYS IDENTICAL. BE SURE TO MARK PARTS TAKEN FROM PRIMARY SIDE. SECONDARY THROTTLE DIAPHRAGM ASSY. (4)- IF TAKEN APART BE CAREFUL NOT TO TEAR DIAPHRAGM WHEN TAKING OUT OR INSTALLING COVER SCREWS.

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.

SPECIAL INSTRUCTIONS

THROTTLE BODY GASKET(63)-BE SURE HOLES ARE PROPERLY MATCHED TO THROTTLE BODY.

THROTTLE BODY SCREWS(61)-TORQUE EVENLY IN STAGES TO 50 INCH LBS.

POWER VALVE INSTALLATION(31)-USING PROPER WRENCH TORQUE TO 100 INCH LBS.

IDLE ADJ. NEEDLES(29)-TURN IN UNTIL LIGHTLY SEATED, THEN BACK OUT 1 TURN. (DO NOT INSTALL IDLE LIMITER CAPS AT THIS TIME WHEN USED.) NOTE: SOME LATE CARBURETORS HAVE A "BACKWARDS" IDLE ADJUSTMENT, TURN NEEDLES IN TO RICHEN THE MIXTURE, BACK NEEDLES OUT TO LEAN THE MIXTURE.

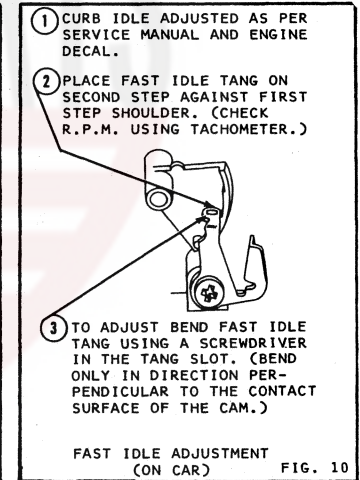
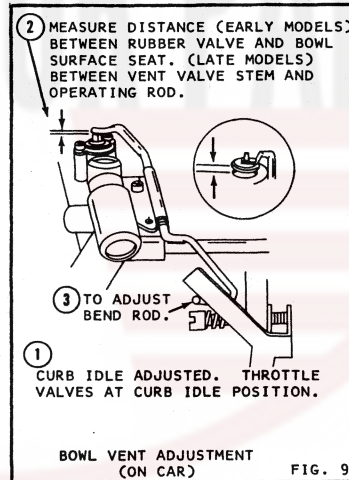
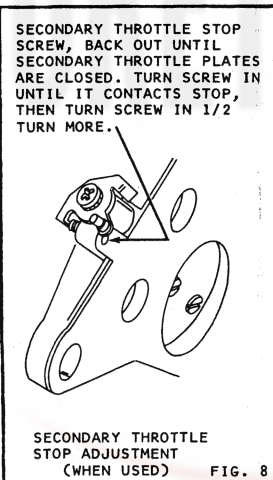
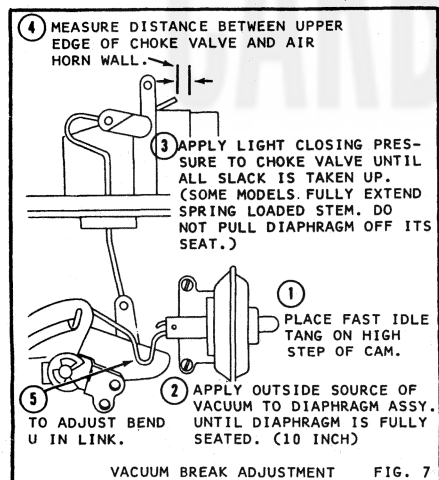
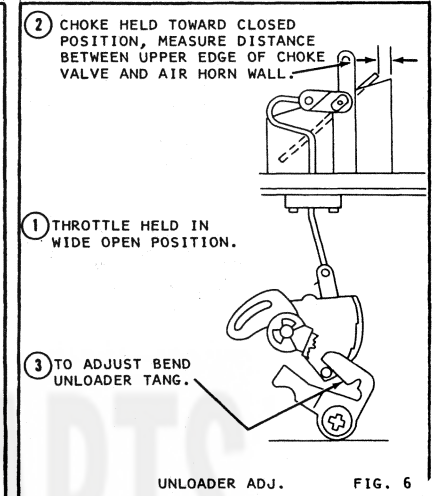
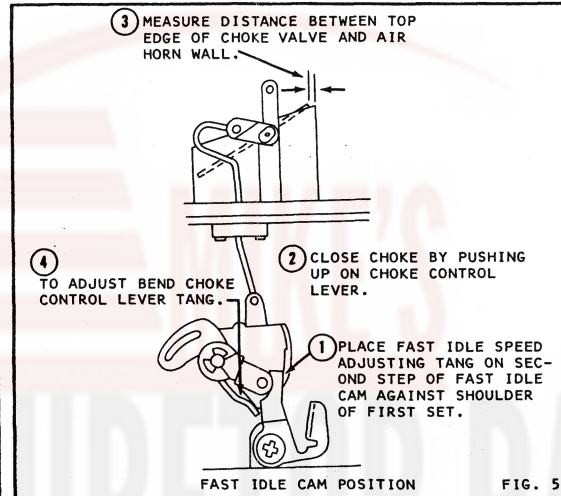
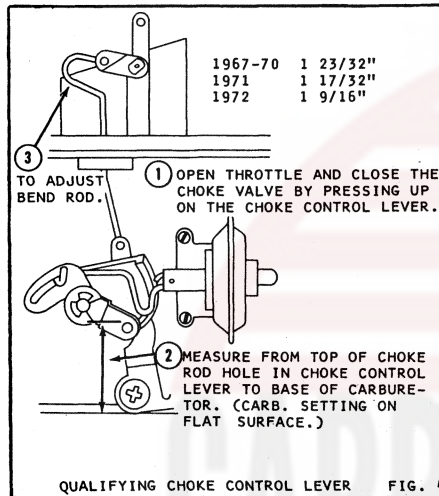
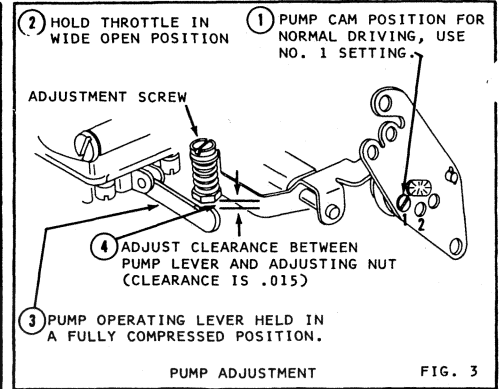
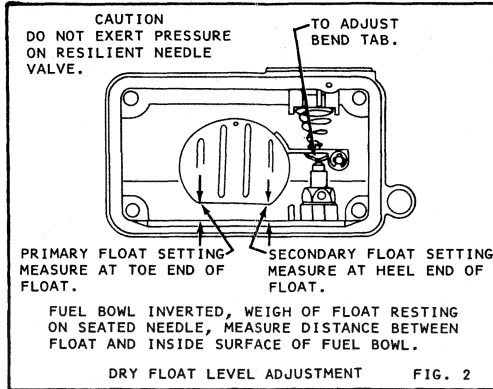
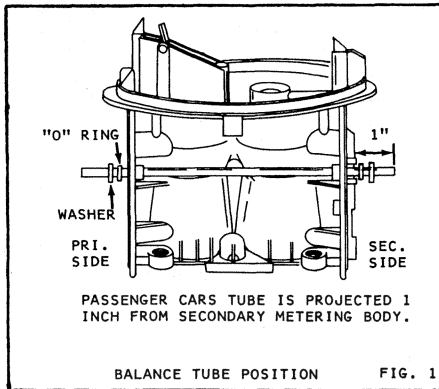
BOWL SCREW GASKETS(18)(39)-INSTALL GASKET ON SCREW BEFORE INSTALLING SCREW.

FUEL BOWL SCREWS(17)(38)-TORQUE EVENLY IN STAGES TO 25-30 INCH LBS.

O-RINGS-LUBRICATE LIGHTLY BEFORE INSTALLING.

1968-69 MODELS. DO NOT HAVE IDLE MIXTURE ADJUSTING NEEDLES (29) ON PRIMARY METERING BLOCK. REPLACED BY IDLE LIMITER SCREWS. FACTORY ADJUSTED AND SEALED. DO NOT REMOVE OR ADJUST. A SINGLE IDLE ADJUSTING SCREW IS LOCATED JUST INSIDE AIR CLEANER RING ON AIR HORN, DIRECTLY ABOVE PRIMARY METERING BLOCK. THIS SCREW HAS A LEFT HAND THREAD.

ADJUSTMENTS



ADJUSTMENT DATA TABLE

YEAR	MAKE		FLOAT SETTING		FAST IDLE CAM POSITION	UNLOADER ADJUSTMENT	VACUUM BREAK ADJUSTMENT	BOWL VENT ADJUSTMENT	FAST IDLE R.P.M.		AUTO CHOKE SETTING
			PRI.	SEC.							
1967	CHRYSLER PRODUCTS	S/T	1/4"	9/32"	1/16"	5/32"	7/64"	3/32"	700	L/S	2-RICH
	440" STD. V8 ENG.	A/T	1/4"	9/32"	1/16"	5/32"	1/16"	3/32"	700	L/S	2-RICH
1968	440" V8 ENG.	ALL/T	1/4"	9/32"	5/64"	5/32"	7/64"	5/64"	1400	2ND/S	2-RICH
1969	440" V8 ENG.	ALL/T	1/4"	9/32"	5/64"	5/32"	1/16"	5/64"	1400	2ND/S	2-RICH
1970	383" V8 ENG.	S/T	1/4"	9/32"	1/16"	5/32"	11/64"	(C.A.S. 5/64")	2000	2ND/S	2-RICH
	383" V8 ENG.	A/T	1/4"	9/32"	1/16"	5/32"	5/64"	(E.C.S. 1/32")	1800	2ND/S	2-RICH
	440" V8 ENG.	A/T	1/4"	9/32"	1/16"	5/32"	5/64"		1600	2ND/S	2-RICH
1971	383" ENG. HEATED AIR		1/4"	9/32"	1/16"	5/32"	S/T 11/64"	1/64"	S/T 1800	2ND/S	2-RICH
			1/4"	9/32"	1/16"	5/32"	A/T 5/64"	1/64"	A/T 1700	2ND/S	2-RICH
	FRESH AIR		1/4"	9/32"	1/16"	5/32"	S/T 5/64"	1/64"	S/T 1800	2ND/S	2-RICH
			1/4"	9/32"	1/16"	5/32"	A/T 11/64"	1/64"	A/T 1700	2ND/S	2-RICH
1972	440" V8 ENG. H.P.	S/T	1/8"	7/32"	1/16"	5/32"	9/64"	1/64"	1800	2ND/S	—
		A/T	1/8"	7/32"	1/16"	5/32"	5/64"	1/64"	1600	2ND/S	—

C.A.S.= CLEANER AIR SYSTEM
E.C.S.= EVAPORATION CONTROL SYSTEM

L/S= LOW STEP
2ND/S= SECOND STEP

ADJUSTMENT DATA TABLE

IS-50-568

Motorcraft Carburetor Number	Holley Carburetor Number	Float Level Pri. Sec.	Fuel Level Pri. Sec.	Pump Cam Position	Pump Lever Setting	Choke Pulldown Setting	Choke Unloader Setting	Auto Choke Setting
SPECIFICATIONS - MODEL 2300, 2V CARBURETOR								
D1FF-LA	R-6150A	Fig. 1	Fig. 2	No. 2	.015	5/32"	5/16"	INDEX
D1JJ-B	R-6317-1A	Fig. 1	Fig. 2	No. 1	.015	5/32"	5/16"	3 LEAN
D3JL-S	R-7036A	Fig. 1	Fig. 2	No. 1	.015	5/32"	5/16"	3 LEAN
SPECIFICATIONS - MODEL 4150, 4V CARBURETOR								
D1FF-TA	R-6361A	Fig. 1	Fig. 2	No. 2	.015	9/64"	5/16"	INDEX
SPECIFICATIONS - MODEL 4160, 4V CARBURETOR								
C9FF-D	R-4473A	Fig. 1	Fig. 2	No. 1	.015	---	---	INDEX
C9FF-E	R-4608A	Fig. 1	Fig. 2	No. 2	.015	---	---	INDEX
D1FF-MA	R-6151A	Fig. 1	Fig. 2	No. 2	.015	9/64"	5/16"	INDEX
D1FF-NA	R-6152A	Fig. 1	Fig. 2	No. 2	.015	9/64"	5/16"	INDEX
D2JL-C	R-6407A	Fig. 1	Fig. 2	No. 2	.015	9/64"	5/16"	3 LEAN
D2JL-E	R-6576A	Fig. 1	Fig. 2	No. 1	.015	9/64"	5/16"	3 LEAN
SPECIFICATIONS - MODEL 4160, 4V CARBURETOR (Internal Needle & Seat)								
D4JL-J	R-7128A	*	---	No. 2	.015	9/64"	5/16"	*
D4JL-F	R-7169A	*	---	No. 2	.015	9/64"	5/16"	*
D4JL-G	R-7163A	*	---	No. 2	.015	9/64"	5/16"	*

*Check Boat Manufacturers Service Manual For Settings.

ADJUSTMENT

