

FUEL SYSTEM

SERVICE INSTRUCTION WORKSHEET

TO REPAIR

GF3479-7

HOLLEY CARBURETOR

4 Barrel Models 4150, 4160

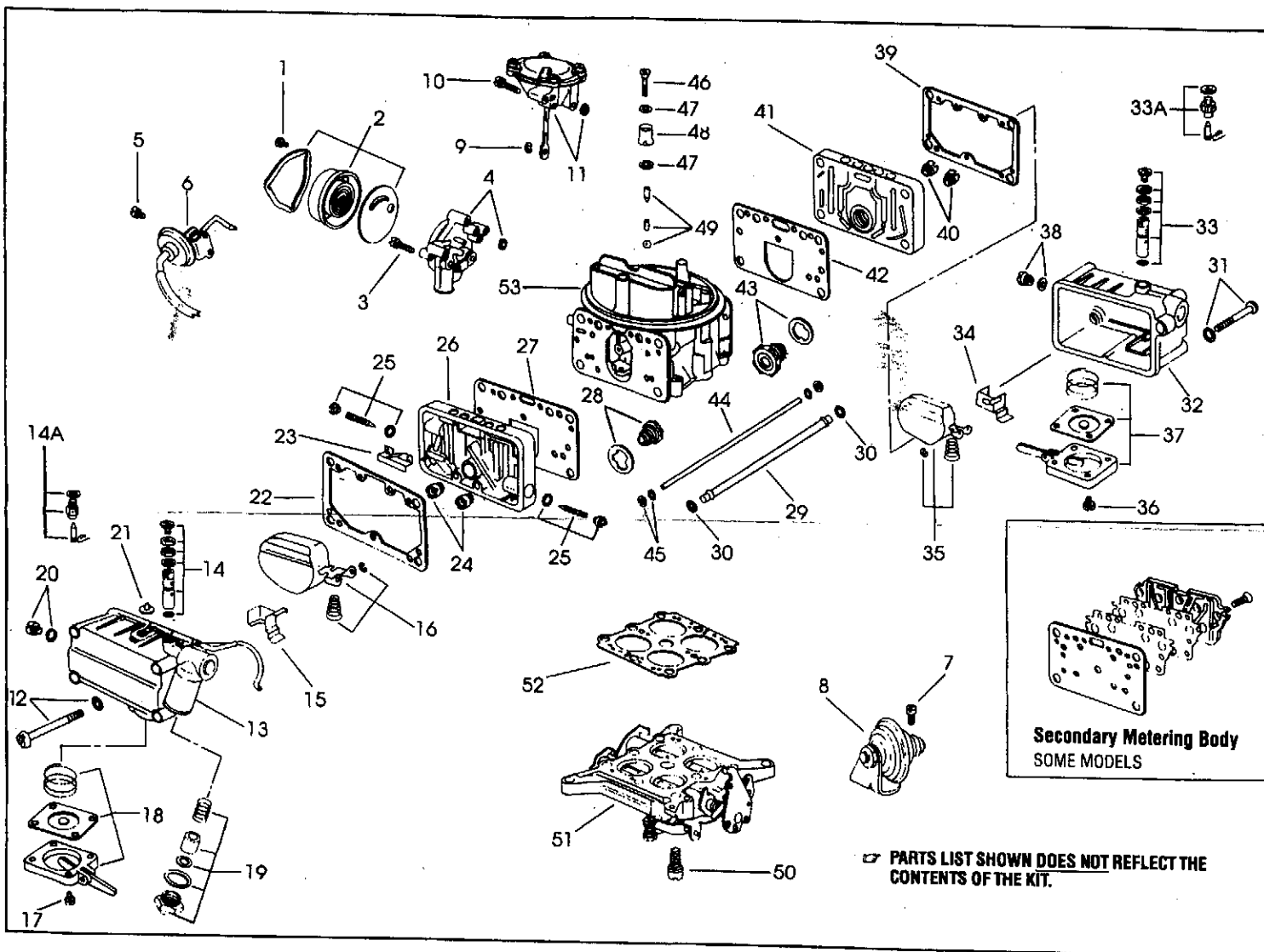
1. Carefully read the text in the following pages to become familiar with the contents of this worksheet before performing carburetor overhaul.

2. The exploded view is typical of the model carburetor this kit will service. The view may differ slightly from the actual carburetor being overhauled.

3. Use the exploded view as a guide. The numerical sequence of the parts list may generally be followed to disassemble the carburetor far enough to permit cleaning and inspection.

4. Parts list shown DOES NOT reflect the contents of the kit.

5. Kit may contain extra parts intended for other carburetors within this group. Substitute identical replacement parts for original worn parts found in carburetor.



PARTS LIST

- 1. Screw, retainer (3) *
- 2. Thermostatic coil & cover assembly *
- 3. Screw, choke housing (3) *
- 4. Choke housing & washer assembly *
- 5. Screw, choke diaphragm (2)
- 6. Choke diaphragm assembly
- 7. Screw, dashpot
- 8. Dashpot assembly *
- 9. Retainer, sec. diaphragm stem
- 10. Screw, diaphragm housing (3)
- 11. Sec. throttle diaphragm assembly
- 12. Screw, primary fuel bowl (4)
- 13. Primary fuel bowl assembly
- 14. Adjustable needle & seat assembly, primary *
- 14A. Non-adjustable needle & seat, primary *
- 15. Baffle plate
- 16. Float & spring assembly
- 17. Screw, pump cover (4)
- 18. Pump diaphragm & cover assembly

- 19. Fitting & filter assembly, fuel inlet
- 20. Plug & washer, fuel level sight
- 21. Air vent valve or cap
- 22. Gasket, primary fuel bowl
- 23. Vent baffle, metering body
- 24. Main jets, primary
- 25. Idle mixture needle, cap & washer
- 26. Metering body, primary
- 27. Gasket, primary metering body
- 28. Economizer assembly, primary
- 29. Tube, fuel line
- 30. O-ring, tube (2)
- 31. Screw, sec. fuel bowl (4)
- 32. Sec. fuel bowl assembly
- 33. Adjustable needle & seat assembly, sec. *
- 33A. Non-adjustable needle & seat, sec. *
- 34. Baffle plate
- 35. Float & spring assembly
- 36. Screw, pump cover (4) *

- 37. Pump diaphragm & cover assembly (Hi-perf. carb.) *
- 38. Plug & washer, fuel level sight
- 39. Gasket, sec. fuel bowl
- 40. Main jets, secondary
- 41. Metering body, secondary
- 42. Gasket, sec. metering body
- 43. Economizer assembly, secondary *
- 44. Balance tube *
- 45. Washer & o-ring, tube (2 ea.) *
- 46. Screw, pump discharge nozzle
- 47. Washer, nozzle (2)
- 48. Nozzle, pump discharge
- 49. Needle valve or ball & weight
- 50. Screw, throttle body (8)
- 51. Throttle body assembly
- 52. Gasket, throttle body
- 53. Main body assembly

* Some Models

REMOVAL & INSTALLATIONS NOTES

1. Cover opening on intake manifold after carburetor is removed.
2. Do not mix parts and components from primary and secondary sides. They are not always interchangeable. Be sure to mark part when similarity exists.
3. Exercise care when disassembling and assembling secondary throttle diaphragm assembly (11). Do not damage diaphragm with cover screws.
4. Before removing idle mixture needle (25), turn in until lightly seated, counting number of turns. Record for proper installation.
5. Install parts and components in reverse order of removal.
6. When installing throttle body gasket (52), be sure holes are matched correctly.

7. When installing idle mixture needle (25), turn in until lightly seated, then back out number of turns recorded earlier.
NOTE: Some late models have a "backwards" idle adjustment. Turn in for rich mixture, turn out for lean mixture.
NOTE: 1968 & 69 models do not have idle mixture needles (52) on primary metering body. They were replaced by idle limiter screws, adjusted and sealed by the factory. Do not remove or adjust. A single idle adjusting screw is located inside the air cleaner ring on air horn, directly above primary metering body. This screw has a left hand thread.
8. Before installing o-rings, lubricate lightly with clean oil.

TORQUE TABLE

Economizer assembly (23, 43) - 100 in.-lbs.
Throttle body screws (50) - 50 in.-lbs.
Fuel bowl screws (12, 31) - 25-30 in.-lbs.

CLEANING

Cleaning must be done with carburetor disassembled. Use spray cleaner and a stiff bristle brush to remove dirt and carbon deposits. Do not use abrasives and wires to clean parts and passageways. Wash off in suitable solvent, and clear all passageways with compressed air.
Caution: When cleaning with solvent do not soak or spray parts containing rubber, leather, plastic and electrical components.

FIG. 1
SAFETY SEAL
ADJUSTABLE NEEDLE VALVE

1. The special design and sealing features of this assembly provide safe adjustment of fuel level while engine is running.
NOTE: Make sure that upper o-ring fits snugly in place (where applicable).

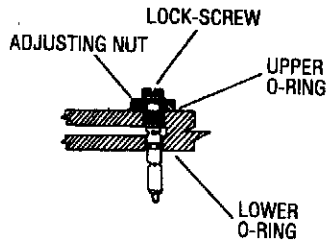
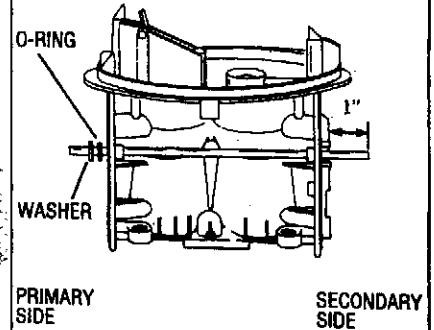


FIG. 2
BALANCE TUBE POSITION

- Cars**— Install balance tube so it projects 1 inch from secondary metering body as shown.
- Trucks**— Install balance tube so it projects equally from both primary and secondary sides.



ADJUSTMENT DATA

FIG. 3
DRY FLOAT LEVEL
ADJUSTMENT

1. With fuel bowl inverted, surface of float should be parallel to top surface of fuel bowl.
2. To adjust, open lock-screw and turn adjusting nut. Re-tighten lock-screw while holding adjusting nut.

SIDE HUNG FLOAT

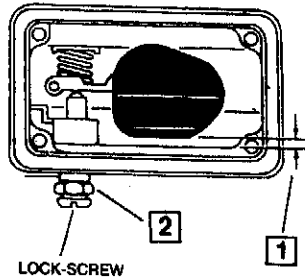


FIG. 4
DRY FLOAT LEVEL
ADJUSTMENT

1. With fuel bowl inverted, surface of float should be parallel to top surface of fuel bowl.
2. To adjust, open lock-screw and turn adjusting nut. Re-tighten lock-screw while holding adjusting nut.

CENTER HUNG FLOAT

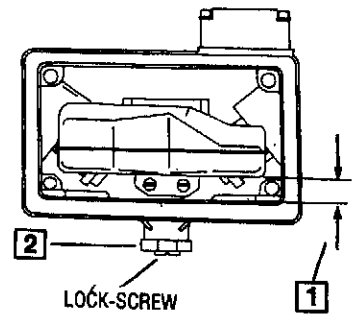


FIG. 5
DRY FLOAT LEVEL
ADJUSTMENT
(with non-adjustable
Needle Valve)

1. Invert fuel bowl and allow float tab to rest on seated needle.
Caution: Do not exert pressure on resilient needle valve.
2. Measure distance between toe end of float and surface of fuel bowl on primary side, and heel end of float and surface of fuel bowl on secondary side.
3. To adjust, bend float tab.

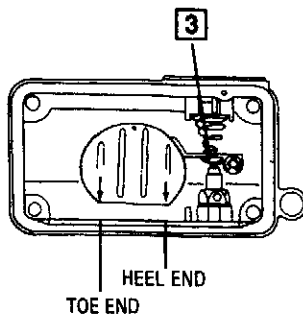
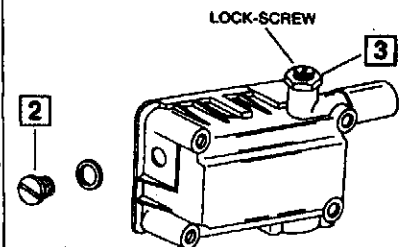


FIG. 6
WET FLOAT LEVEL
ADJUSTMENT

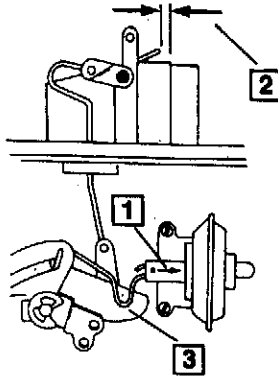
1. With car on flat surface, bring engine to normal operating temperature and then shut it off.
2. Remove sight plug from fuel bowl. Fuel level should be a lower edge of sight plug hole.
Caution: Place a suitable container or rag to collect spillover of fuel.
3. To adjust, open lock-screw and turn adjusting nut. Re-tighten lock-screw while holding adjusting nut.
Important: Do not open sight plug while engine is running.



ADJUSTMENT DATA (Cont'd)

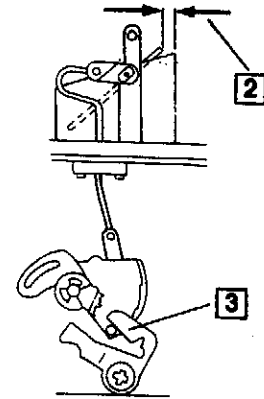
**FIG. 7
VACUUM BREAK
ADJUSTMENT**

1. Open throttle valve to clear fast idle cam then push diaphragm plunger upward to fully seat diaphragm. An outside vacuum source can be applied to diaphragm assy. as an alternate method.
2. Apply lightly closing pressure to choke valve without pulling diaphragm. Measure distance between upper edge of choke valve and air horn wall.
3. To adjust, bend 'U' shaped link as necessary.



**FIG. 8
UNLOADER
ADJUSTMENT**

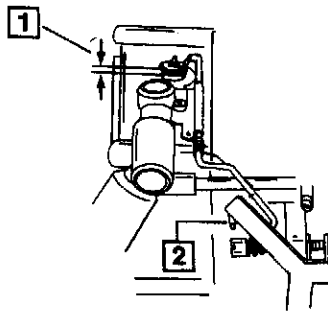
1. Hold throttle valves in wide open position.
2. Apply lightly closing pressure to choke valve and measure distance between upper edge of choke valve and air horn wall.
3. To adjust, bend unloader tang or link if applicable.



**FIG. 9
BOWL VENT
ADJUSTMENT**

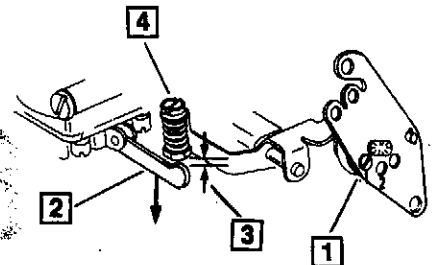
NOTE: Make this adjustment after curb idle was adjusted.

1. With throttle valves fully closed, measure clearance between vent valve and seat. It should be as specified.
2. To adjust, bend rod as necessary.



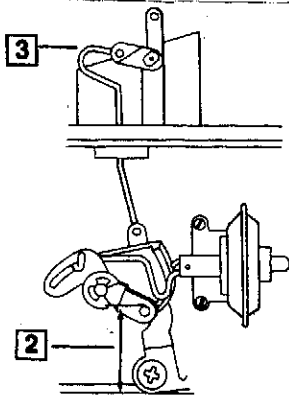
**FIG. 10
PRIMARY AND SECONDARY
PUMP ADJUSTMENT**

1. Pump cam positioned in hole 1 as shown unless otherwise specified. Throttle valves held in wide open position.
2. Hold pump operating lever in a fully compressed position. Push down in direction of arrow.
3. Measure clearance of 1/64" between end of pump lever and adjusting nut.
4. To adjust, turn screw as necessary.



**FIG. 11
QUALIFYING CHOKE
CONTROL LEVER**

1. Open throttle valves and close choke valve by pushing up choke control lever.
2. Measure distance between top of hole in choke control lever and surface of carburetor. (Carburetor should be on flat surface).
3. To adjust, bend 'U' shaped link as necessary.



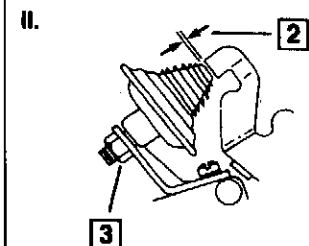
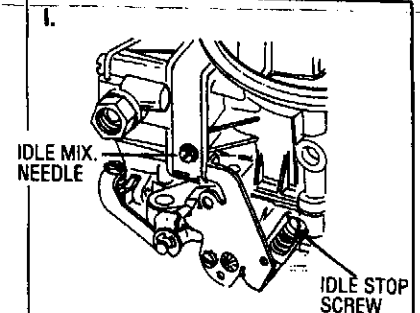
**FIG. 12
I. SLOW IDLE ADJUSTMENT**

1. With engine at normal operating temperature and choke valve wide open, adjust idle mixture needles to a smooth idle. Then, adjust idle stop screw to the proper R.P.M. as indicated on engine decal.

II. DASHPOT ADJUSTMENT

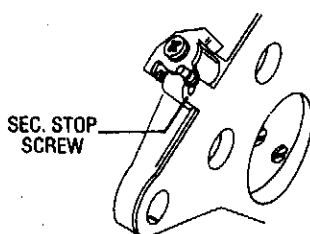
NOTE: Step one should be performed before this adjustment.

2. Push plunger inward and measure distance between end of plunger and throttle arm.
3. To adjust, loosen locknut and turn dashpot assembly as necessary. Retighten locknut.



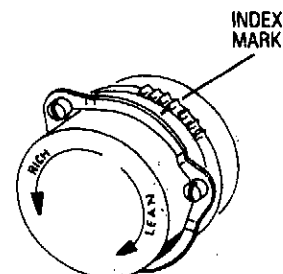
**FIG. 13
SECONDARY THROTTLE STOP
ADJUSTMENT (if applicable)**

1. Back out secondary throttle stop screw until throttle valves are closed.
2. Turn screw inward until it contacts stop, then turn in 1/2 to 3/4 turns more.



**FIG. 14
AUTO CHOKE ADJUSTMENT**

1. Align mark on thermostatic coil with appropriate mark on choke housing as indicated in specification chart.



SPECIFICATIONS BY APPLICATION

Year	Application	Float Adjust. (Dry) Fig. 3&4	Float Adjust. (Dry) Primary Fig. 5	Float Adjust. (Dry) Secondary Fig. 5	Vacuum Break Adjust. Fig. 7	Unloader Adjust. Fig. 8	Bowl Vent Adjust. Fig. 9	Qualifying Choke Adjust. Fig. 11	Dashpot Adjust Fig. 12	Auto Choke Fig. 14
CHRYSLER MOTORS — SPECIFICATION I.D.-A										
1971	383, 440 Eng. -Carb. Nos. R4668; R4734; R6515 R4735, -1 R6191, 6193 R6538	—	7/64 15/64 15/64 7/64	9/32 17/64 17/64 13/64	13/64 ² 13/64 11/64 ³ 7/32	23/64 23/64 5/32 3/8	1/64 1/64 1/64 1/64	1-17/32 1-17/32 1-17/32 1-17/32	— — — —	2NR 2NR 2NR 2NR
1970	383, 440 Eng. Carb. No. R4217 R4217-1, -2, -3; R4367, -1; R4736, -1; R4738, -1 R4218; R4380, 66 R4218-1, -2, -3; R4360-1, -2; 4368, -1; 4369, -1; R4737, -1, 4739, -1	—	15/64 15/64 15/64	17/64 17/64 17/64	11/64 27/64 5/64	5/32 3/8 5/32	1 1 1	1-23/32 1-23/32 1-23/32	— — —	2NR 2NR 2NR
1970-67	340 Eng. -Carb. No. R6270, -1 383, 440 Eng. -Carb. No. R4749, -1, -3	—	7/64 15/64	13/64 17/64	15/64 15/64 ⁴	3/8 3/8	1/64 1/64	1-23/32 1-23/32	— —	2NR 2NR
1969-67	383, 440 Eng. -Carb. No. R4166, -1, -2 R4440, -1, -2 R3918, -1, -2 R3575, -1; R3667, -1	—	7/64 15/64 15/64 15/64	9/32 17/64 17/64 17/64	13/64 13/64 9/32 17/64 ⁵	25/64 25/64 3/8 13/32	5/64 5/64 5/64 3/32	1-23/32 1-23/32 1-23/32 1-23/32	— — — —	2NR 2NR 2NR 2NR
CHEVROLET — SPECIFICATION I.D.-B										
1967	302, 327, 396, 427 Eng. -Carb. Nos. R3806, 07, 10, 11, 14, 15 R3836, 37, 38, 39	—	5/16 11/32	11/32 ⁶ 11/32	3/16 ⁷ 11/64 ⁸	17/64 17/64	3/32 3/32	— —	— —	— —
CHRYSLER MOTORS — SPECIFICATION I.D.-C										
1972	440 Eng. -Carb. Nos. R6160, -1; R6253, 55, 57, 90, -1 -Carb. Nos. R6252, 54, 56	—	7/64 7/64	13/64 13/64	3/16 11/32	23/64 23/64	1/64 1/64	1-9/16 1-9/16	— —	— —
AMC — SPECIFICATION I.D.-D										
1973-70	304, 350, 360, 390, 401 Eng. ¹⁰ -Exc. Carb. No. R6267 ¹⁰	°	—	—	3/16 3/16	11/32 11/32	1/16 1/16	— —	7/64 1/8	1NR 1NR
1966-65	327 Eng.	°	—	—	11/32	11/32	1/16	—	7/64	1NL ¹¹
1965-58	250, 327 Eng.	°	—	—	3/16	17/64	1/16	—	7/64	1NL
EDSEL — SPECIFICATION I.D.-D										
1960-58	332, 352, 361, 383, 401 Eng.	°	—	—	—	17/64	1/16	—	5/64	Index
FORD, LINCOLN, MERCURY — SPECIFICATION I.D.-D										
1974-71	Carb. Nos. R6520 ¹⁰ ; 7053, -1 R6590 R6591	°	—	—	7/32 15/64 15/64	11/32 5/16 5/16	1/16 1/16 1/16	— — —	1/8 1/32 5/64	4NR ¹² 1NR 3NR
1971-68	Carb. Nos. R3796-1 ¹⁰ ; 4452-1 ¹⁰ ; 6291 ¹⁰ , -1 ¹⁰ Carb. No. R4452 ¹⁰ Carb. No. R4548 Carb. No. R4549 Carb. No. R4550-1 Carb. No. R4581 Carb. No. R4699	°	—	—	19/64 ¹³ 7/64 1/4 15/64 15/64 —	11/32 17/64 1/4 5/16 5/16 17/64 19/64	5/64 1/16 1/16 1/16 1/16 1/16 5/64	— — — — — — —	7/64 1/8 7/64 7/64 1/32 9/64 7/64	Index 1NR 1NR 3NR 1NR — 1NL
1967-65	Carb. Nos. R3300, -1; 3489, 90, 91, 92; 4005, 06 Carb. No. R3794 ¹⁰ , 96 ¹⁰	°	—	—	3/16 11/32	17/64 11/32	1/16 5/64	— —	5/64 - 7/64 7/64	Index ¹⁴ Index
1964-58	Carb. Nos. R1740-1; 1847-1, 48-1, 49, 50; R2112, 42, -1, 43, -1; 2652, -1; 2804, 05; 3113, 15	°	—	—	—	17/64	1/16	—	5/64 - 7/64	Index ¹¹
FORD, KIEKHAEFER, PALMER MARINE — SPECIFICATION I.D.-D										
1973-72	302 Eng. Carb. No. R6407 ¹⁰ R4680 ¹⁰ ; 4473	°	—	—	9/64	19/64	—	—	—	3NL Index
1971-69	351 Eng. Carb. Nos. 6151 ¹⁰ , 52 ¹⁰	°	—	—	9/64	19/64	—	—	—	Index
FORD TRUCKS — SPECIFICATION I.D.-D										
1974-73	460 Eng. Carb. No. R7413	°	—	—	7/32	11/32	1/16	—	1/8	4NR
JEEP — SPECIFICATION I.D.-D										
1967-65	327 Eng.	°	—	—	3/16	17/64	1/16	—	7/64	Index

FOOTNOTES:

- 1 For CAS carb. set 5/64; for ECS carb. set 1/32.
- 2 Carb. No. R4734 set 13/32; R6515 set 1/4.
- 3 Carb. No. R6193 set 5/64.
- 4 Carb. No. R4749 set 9/32.
- 5 Carb. No. R3667, -1 set 13/64.
- 6 Carb. Nos. R3806, 07 set 9/32.
- 7 Carb. Nos. R3814, 15 set 11/64.

- 8 Carb. No. R3839 set 13/64.
- 9 Float parallel with fuel bowl surface.
- 10 Position pump cam in hole No. 2.
- 11 Carb. Nos. R3391; R1740-1 set 1NR.
- 12 Carb. No. R7053-1 set 2NR.
- 13 Carb. Nos. R4452-1; R6291, -1 set 5/32.
- 14 Carb. No. R3300 set 3NR.

ABBREVIATIONS:

- C.A.S. - Cleaner Air System
 E.C.S. - Evaporation Control System
 Exc. - Except
 NL - Notch Lean
 NR - Notch Rich