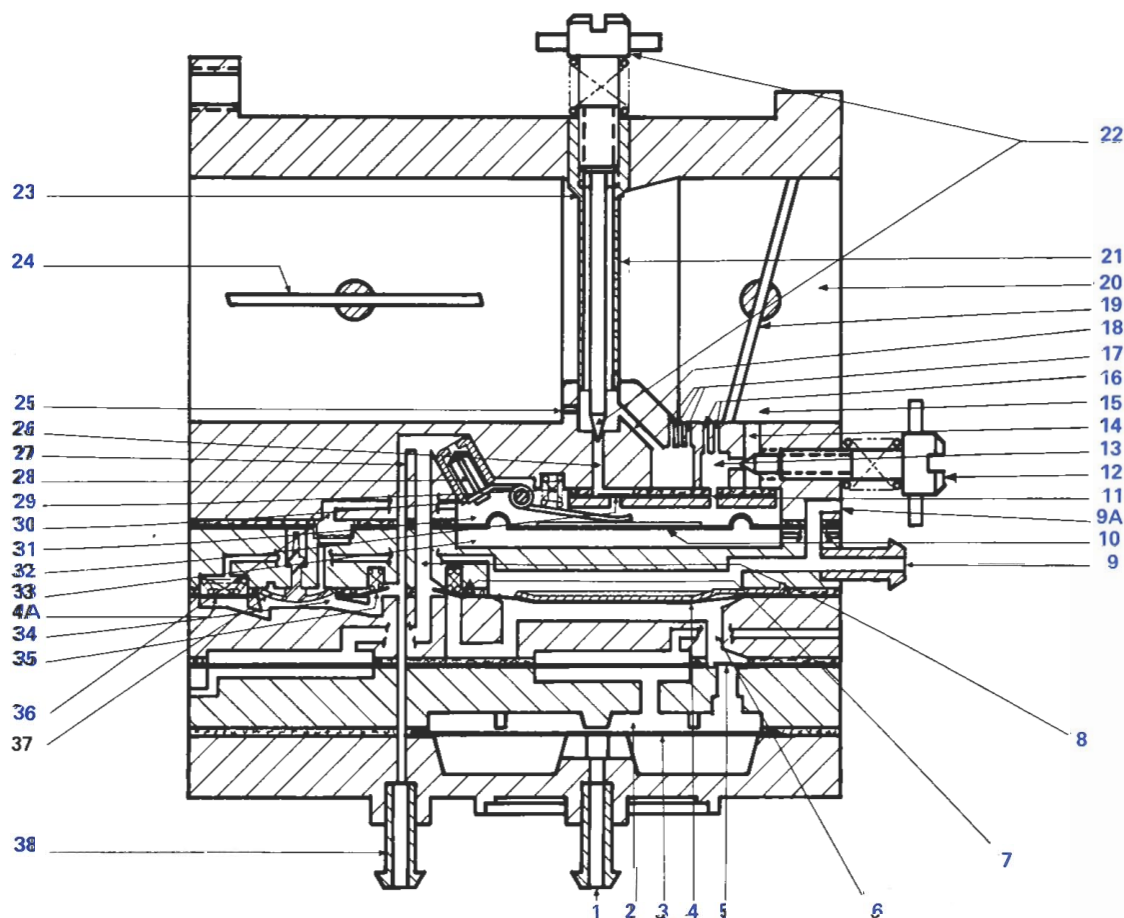
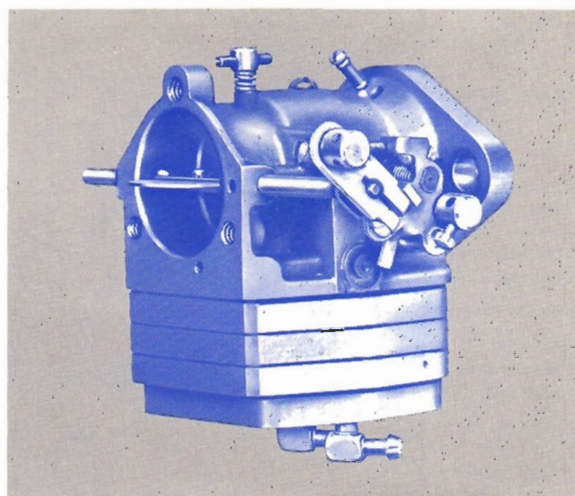




IDENTIFICATION NUMERALS

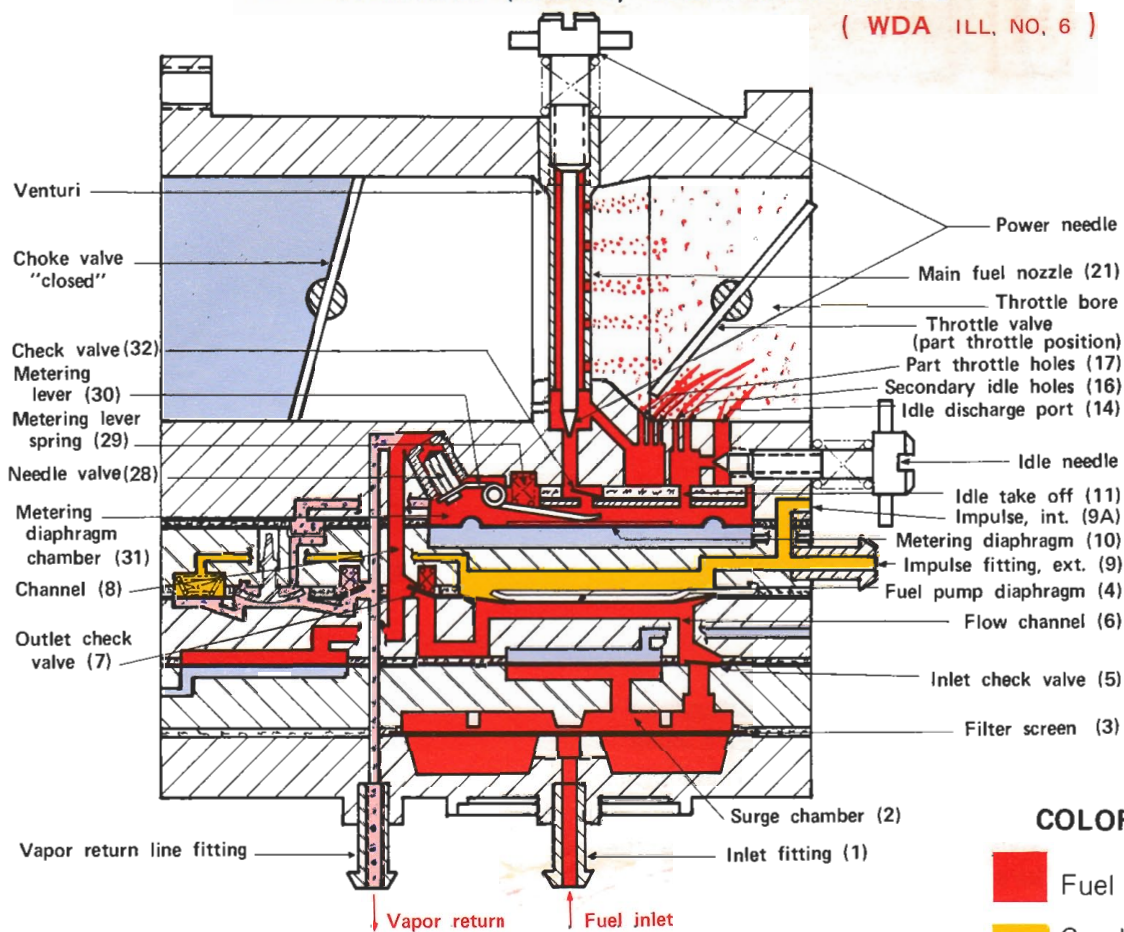
- | | | |
|---------------------------------|-----------------------------------|--------------------------------|
| 1. Fuel inlet | | |
| 2. Surge chamber | | |
| 3. Filter screen | | |
| 4. Fuel pump diaphragm | | |
| 4A. Secondary fuel pump | | |
| 5. Diaphragm check valve | | |
| 6. Channel | | |
| 7. Fuel pump outlet check valve | | |
| 8. Channel | | |
| 9. Impulse fitting, external | | |
| 9A. Internal | | |
| 10. Metering diaphragm | | |
| 11. Idle take off | | |
| 12. Idle needle | | |
| 13. Idle pocket | | |
| 14. Idle discharge port | | |
| 15. Point | | |
| 16. Secondary idle holes | | |
| 17. Part throttle holes | | |
| 18. Passage | | |
| 19. Throttle valve | | |
| 20. Throttle bore | | |
| * 21. Main nozzle | | |
| 22. Power needle | | |
| | * 23. Venturi | |
| | 24. Choke valve | |
| | * 25. Nozzle air bleed | |
| | 26. Passage | |
| | 27. Vapor and fuel return channel | |
| | 28. Needle valve | |
| | 29. Metering lever spring | |
| | 30. Metering lever | |
| | | 31. Metering diaphragm chamber |
| | | 32. Check valve |
| | | 33. Atmosphere chamber |
| | | 34. Chamber |
| | | 35. Outlet valve |
| | | 36. Channel |
| | | 37. Check valve |
| | | 38. Vapor return line fitting |

* Refer to WDA Illustration No. 6

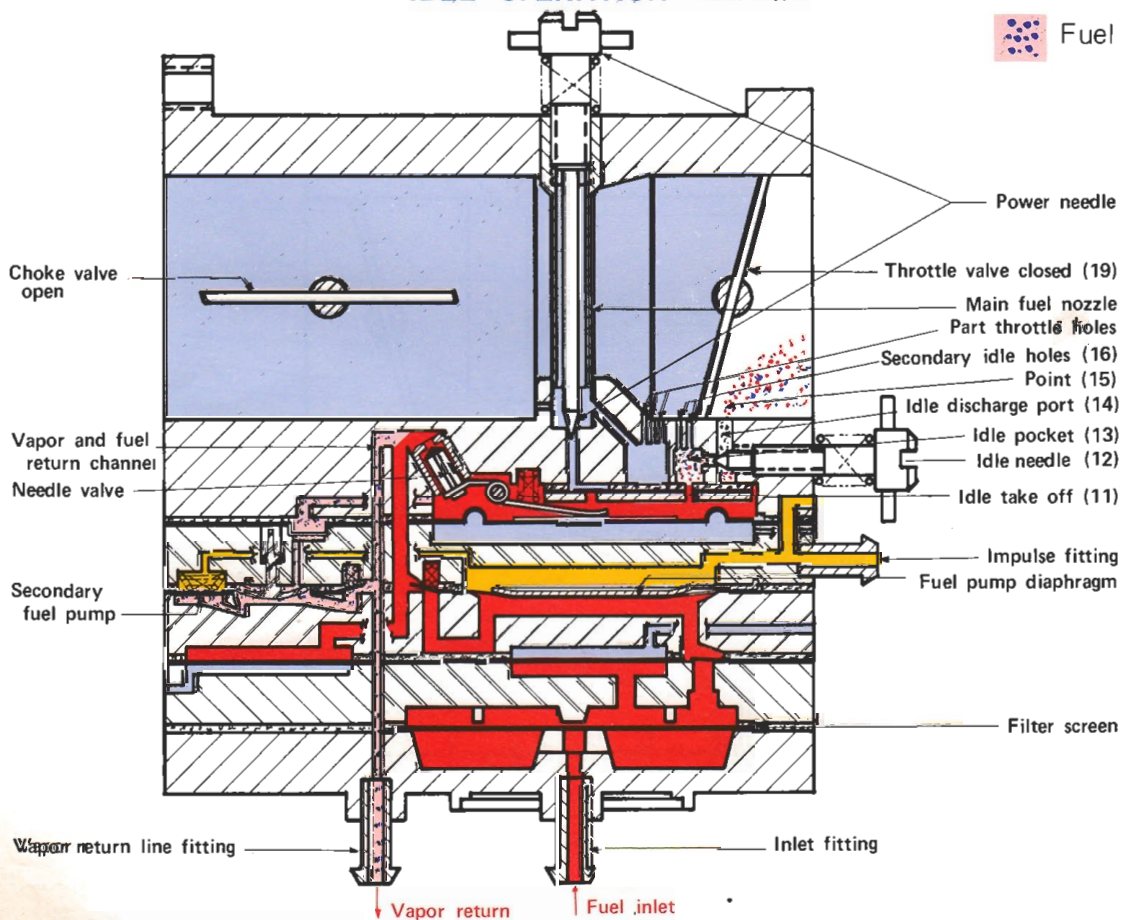


STARTING (CHOKE) OPERATION ILL. NO. 2

(WDA ILL. NO. 6)



IDLE OPERATION ILL. NO. 3



STARTING (CHOKE) OPERATION ILL. NO. 2 (**WDA** ILL. NO. 6)

THIS IS HOW IT WORKS:

Fuel from the supply tank is drawn in the fuel inlet (1) into the surge chamber (2) through the filter screen (3) by pulsations of the fuel pump diaphragm (4). The engine crankcase pulsations transmitted through the external impulse fitting (9) or internal impulse hole (9A) actuates the fuel pump diaphragm (4) which supplies pumping action for the fuel pump. The fuel is drawn from the surge chamber through the check valve (5) and the channel (6). The fuel continues past the fuel pump outlet check valve (7) and into channel (8). Fuel continues through fuel channel (8) and to the needle valve (28). The metering lever spring (29) transmits a force through the metering lever (30) and seats the inlet needle valve (28) against pressure. The metering diaphragm (10) is pulled upward by engine suction which is transmitted through the idle discharge port idle hole (14) secondary idle holes (16) and part throttle feed holes (17). The diaphragm action depresses the metering lever (30) and unseats the needle valve (28) and allows the fuel to enter the metering diaphragm chamber (31) and pass through the idle take off (11). Check valve (32) is forced open passing fuel into the main nozzle (21) which also feeds the part throttle holes (17). Fuel only is fed through all discharge holes.

IDLE OPERATION ILL. NO. 3 (**ALL MODELS**)

At idle speed the fuel passes from the idle take off (11) to the idle pocket (13) where it mixes with air from the secondary idle holes (16). This rich mixture passes around idle needle (12) through the idle discharge port (14) where it mixes with additional air passing the throttle valve (19) at point (15).

PART THROTTLE OPERATION ILL. NO. 4 (**ALL MODELS**)

At part throttle, in addition to the fuel fed into the throttle bore by the idle system, more fuel enters past the check valve (32) through passage (26) around the power needle (22) and through the passage (18) and discharged into the throttle bore (20) through the part throttle holes (17). All ports except the main nozzle feed progressively as throttle valve opens for smooth acceleration. Air is intermixed through air bleed nozzle (25).

FULL (WIDE OPEN) THROTTLE OPERATION ILL. NO. 5 (**WDA** ILL. NO. 6)

At full throttle operation fuel passes around the power needle (22) and is discharged through the main nozzle (21) into the venturi (23). During full throttle air is mixed with fuel in the main nozzle (21) through the nozzle air bleed (25). Suction (or vacuum) created by the engine's piston action draws fuel and air as the ports are exposed by position of the throttle valve.

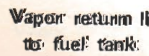
FUEL AND VAPOR RETURN SYSTEM (**ALL MODELS**)

At high temperature or high elevation fuel vaporizes and collects in channel (8) and metering diaphragm chamber (31). As fuel is pumped past the fuel pump diaphragm (4) through channel (8) to the needle valve (28) some fuel and vapor is pumped into channel (27) and on out the fuel and vapor return line fitting (38). Vapor in the metering diaphragm chamber (31) is pumped by a secondary fuel pump (4A), through channel (36) past check valve (37) into chamber (34) through the outlet valve (35) into the vapor and fuel return channel (27) and out the vapor return line fitting (38).

ILL. NO. 4



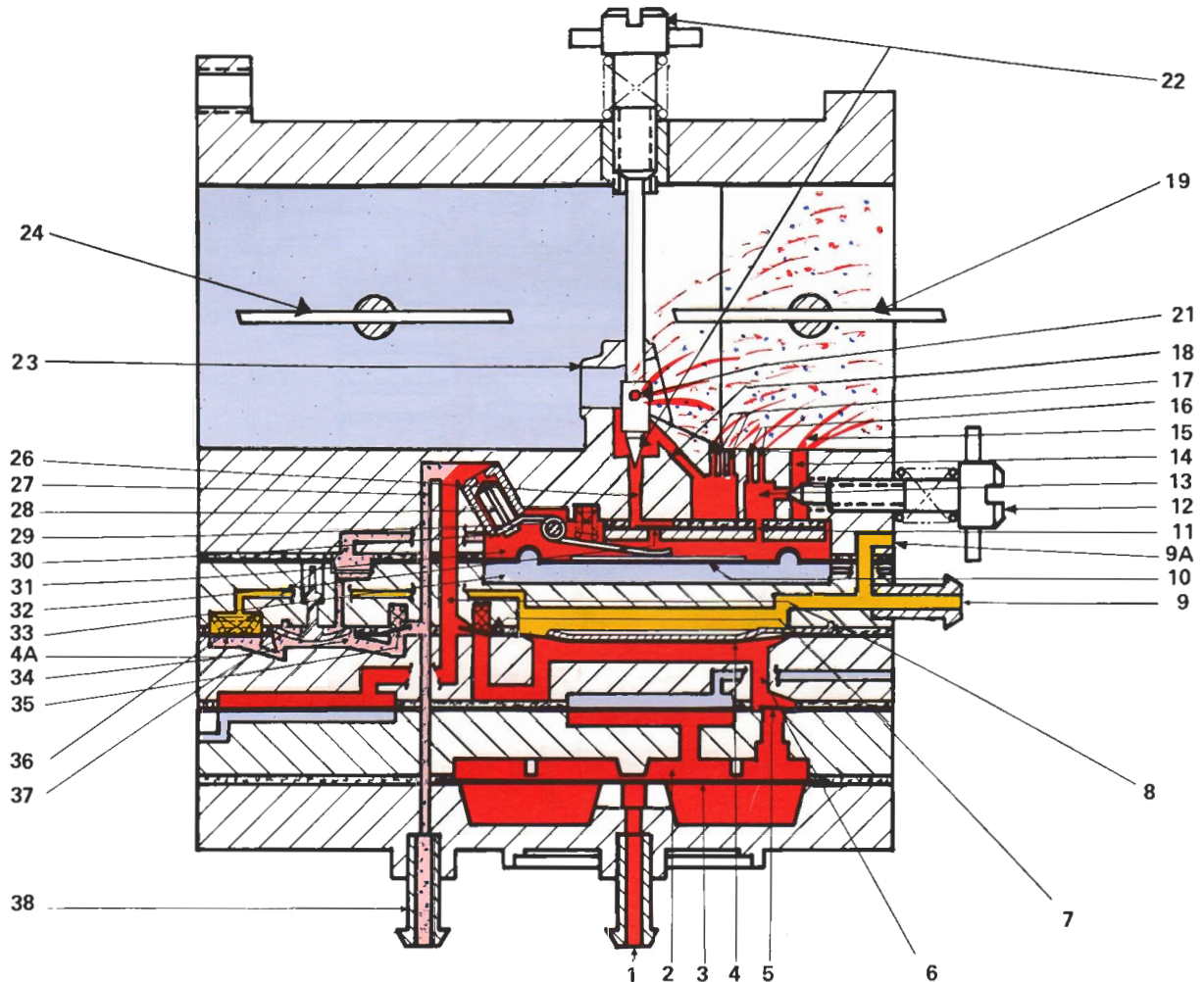
ILL. NO. 5





NOTE: STARTING, IDLE, and PART THROTTLE operations of the WDA carburetor are identical to that of the WD and WR models.

FULL (WIDE OPEN) THROTTLE OPERATION ILLUSTRATION NO. 6

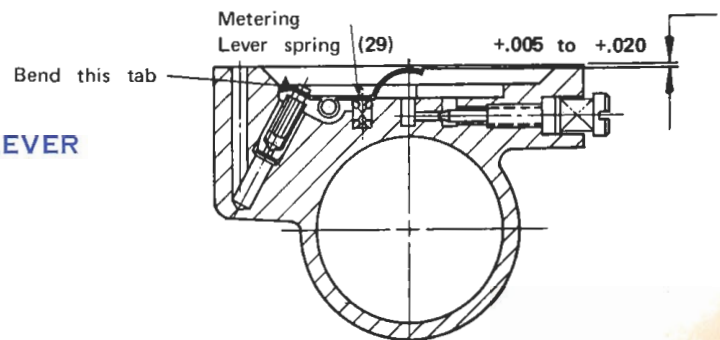


During full throttle operation, the WDA carburetor brings fuel past the power needle (22) and into the primary (gunsight) venturi at the main nozzle (21). The fuel - air mixture from the primary venturi picks up additional fuel as it flows past the idle and part-throttle fuel ports. This provides immediate fuel response at wide open throttle. (Part throttle holes (17) are not used in some models of WDA calibration.)



ADJUSTING THE METERING LEVER

ILLUSTRATION NO. 7



WALBRO PUMPER CARBURETORS

RUGGED • DURABLE • RELIABLE



Over-All
Length 3-7/32"
COMPACT
FOR EASY
FIT



WD or
WDA "BIG BORE"

Smooth Acceleration

NO "FLAT SPOTS"

NO Vapor Problems

(ENGINE STALLING)

Designed and built by the maker of more than 16 million carburetors for lawnmowers, chain saws, tillers and outboards.



WDA - WD - WR

FOR IMPROVED PERFORMANCE

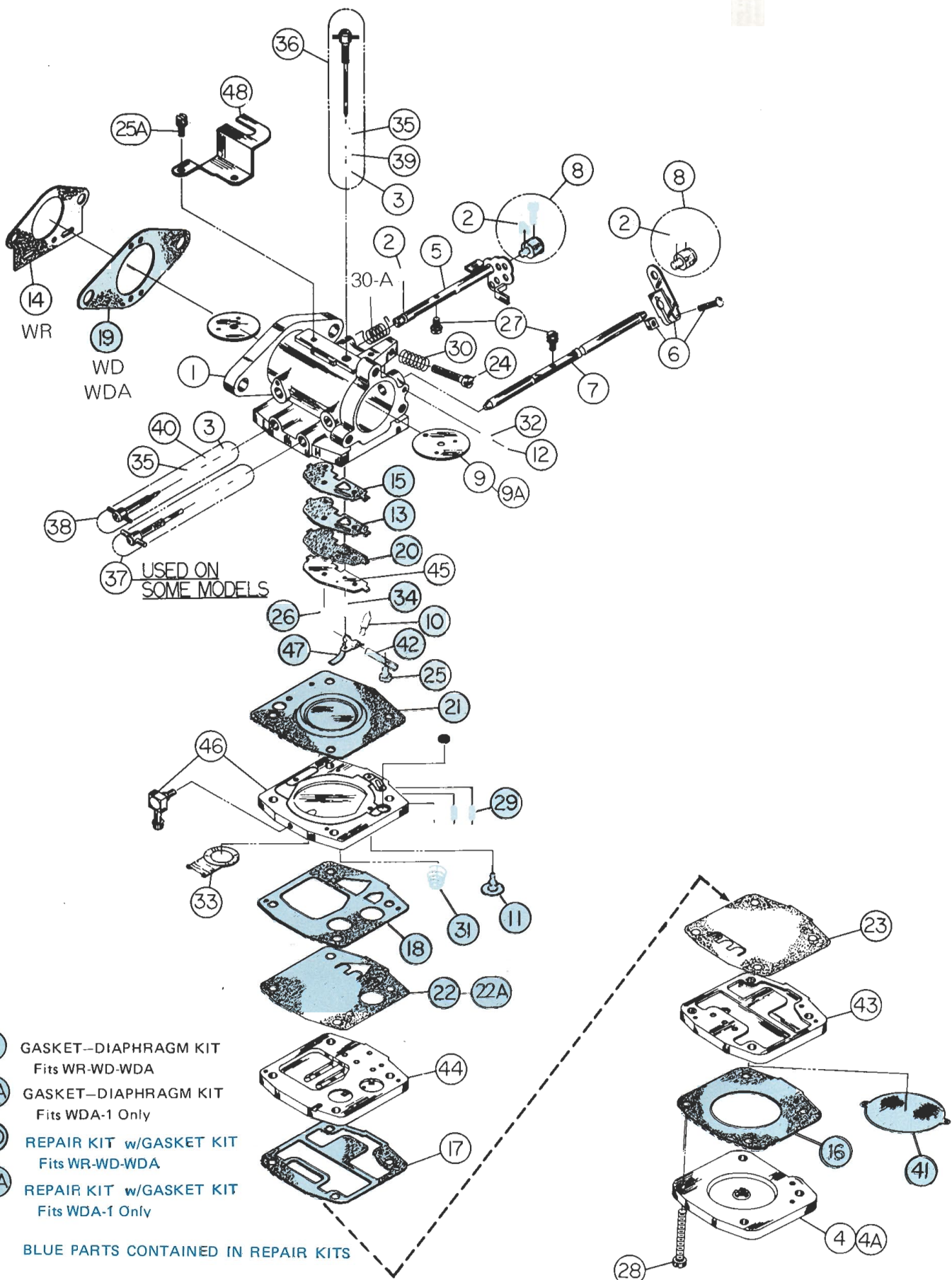
PLUS FEATURES.....

1. **Vapor Return System** - Vapor and excess fuel are forced back to the tank by a unique vapor sensitive pump.
2. **Fuel Volume** -
 - a. Large fuel pump diaphragm.
 - b. 3 Inlet pump valves (Diaphragm Flappers).
 - c. 2 Outlet pump valves (Diaphragm Flappers).
 - d. Nozzle check valve. (Diaphragm Flapper).
 - e. Double area surge chambers.
3. **Smooth Acceleration** -
 - a. Primary and secondary idle systems.
 - b. 3-stage part throttle system.
 - c. High speed nozzle responds on command.
 - d. Primary and main venturi provided in WDA Series.
4. **Filter** - 3 times greater area.
5. **Inlet Needle** - positive lift-off.
6. **Servicing** -
 - a. Easy accessibility to fuel metering circuit. No Welch Plugs.
 - b. One Universal Repair or Gasket Kit fits all models.
7. **Equipment** -
 - a. Throttle Control Cable Bracket.
 - b. Primer Connection Fitting.
 - c. Universal Throttle Lever.
 - d. Universal Choke Lever.
8. **Accessories** - Velocity Stacks, Filters, Tank Return Fittings, Mounting Adapters and Primer Kits are available.



WALBRO CORPORATION

CASS CITY, MICHIGAN 48726



- 49 GASKET-DIAPHRAGM KIT
Fits WR-WD-WDA
- 49A GASKET-DIAPHRAGM KIT
Fits WDA-1 Only
- 50 REPAIR KIT w/GASKET KIT
Fits WR-WD-WDA
- 50A REPAIR KIT w/GASKET KIT
Fits WDA-1 Only



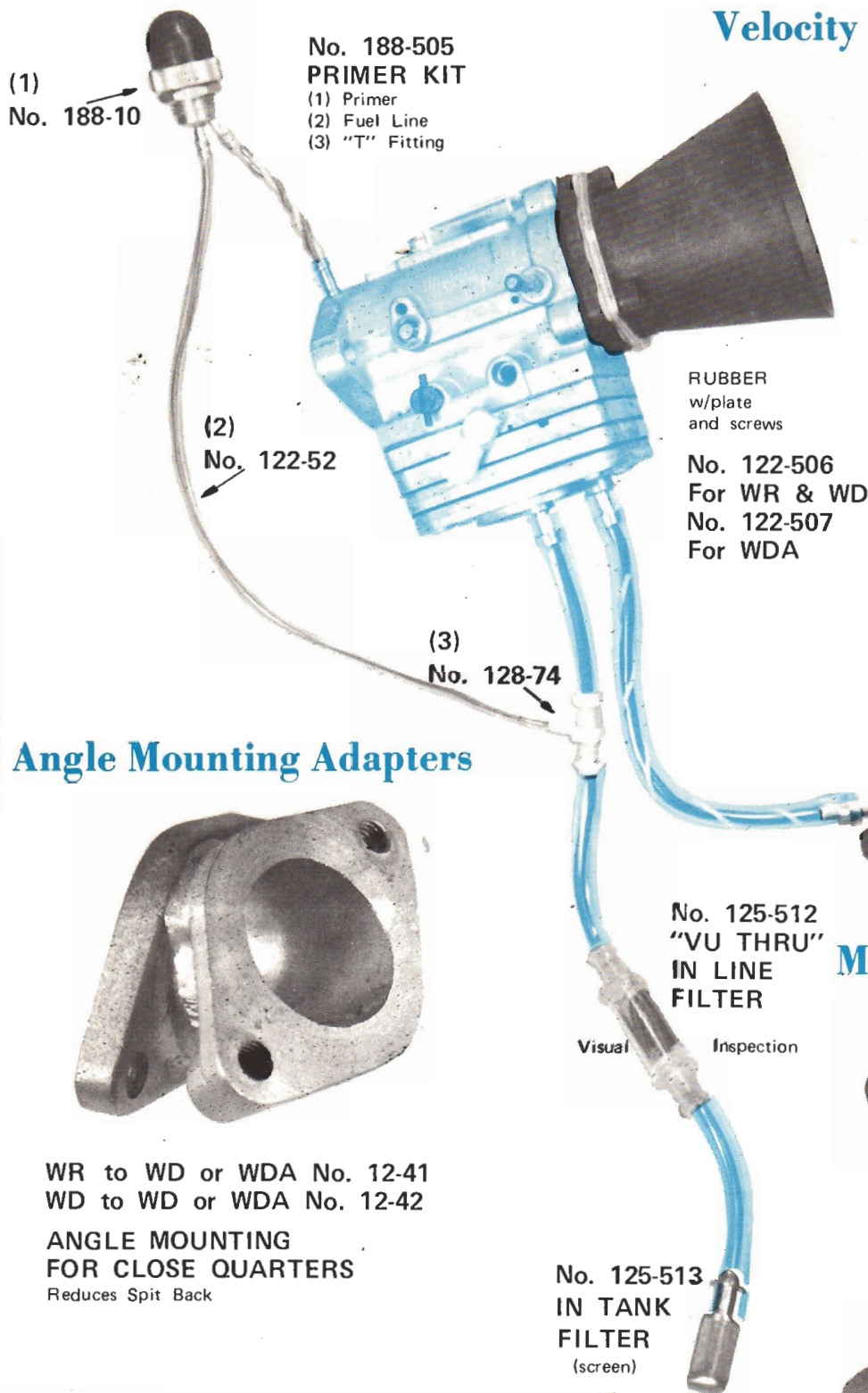
WALBRO CARBURETORS

WDA/WD/WR Service Price List
Use With Exploded View

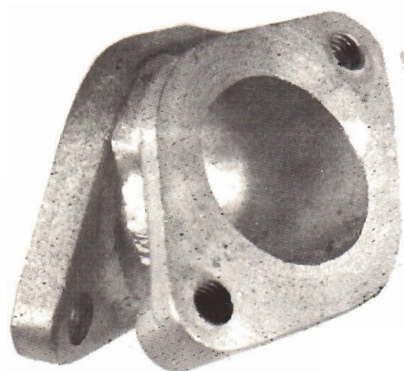
| SYM NO. | PART NO. | DESCRIPTION | LIST PRICE |
|---|----------|--|------------|
| | WR-5 | All Purpose Single Cylinder | \$29.90 |
| | WR-6 | All Purpose Twin Cylinder | 29.90 |
| | WD-5 | All Purpose Single Cylinder | 34.20 |
| | WD-6 | All Purpose Twin Cylinder | 34.20 |
| | WDA-5 | Big Bore Single Cylinder | 36.00 |
| | WDA-6 | Big Bore Twin Cylinder | 36.00 |
| NOTE: Model number may be determined for replacement, WR for HR, WD and WDA for HD and number of cylinders. See Back Page for more specific information. | | | |
| 2 | *16-33 | Ring-Retaining Swivel (2) | .15 |
| 3 | **16-45 | Ring-Adj. Packing-Needles (2) | .30 |
| 4A | 21-586 | Cover Assy-Conversion W/Elbow Fittings | 5.50 |
| 4 | 21-588 | Cover Assembly-Fuel Pump-Straight Fittings | 4.75 |
| 5 | 30-666 | Shaft & Lever Assembly-Throttle | 2.50 |
| 6 | 42-502 | Lever Assembly-Choke | 1.15 |
| 7 | 44-126 | Shaft-Choke | 1.95 |
| 8 | *52-501 | Swivel Assembly-Throttle & Choke (2) | .55 |
| 9 | 62-48 | Valve-Choke (WR & WD) | .45 |
| 9A | 62-51 | Valve-Choke - WDA only | .45 |
| 10 | *82-30 | Valve-Inlet Needle | .80 |
| 11 | *82-34 | Valve-Check | .55 |
| 12 | *89-29 | Ball-Choke Friction | .10 |
| 13 | **92-116 | Gasket-Circuit Plate | .15 |
| 14 | **92-118 | Gasket-Flange-WR | .10 |
| 15 | **92-131 | Gasket-Circuit Plate | .10 |
| 16 | *92-133 | Gasket-Fuel Inlet | .35 |
| 17 | **92-134 | Gasket-Fuel Pump Check Valve | .35 |
| 18 | **92-135 | Gasket-Fuel Pump | .35 |
| 19 | **92-141 | Gasket-Flange-WD/WDA | .15 |
| 20 | *95-45 | Diaphragm-Circuit | .50 |
| 21 | *95-47 | Diaphragm-Metering | 1.35 |
| 22 | *95-51 | Diaphragm-Fuel Pump | .40 |
| 22A | 95-54 | Diaphragm - Fuel Pump (WDA-1 Only) | .85 |
| 23 | *95-52 | Diaphragm-Check Valve | .95 |
| 24 | 96-171 | Screw-Idle Adj. | .10 |
| 25 | *96-172 | Screw-Meter Lever Pin | .10 |
| 25A | 96-177 | Screw-Throttle Bracket (2) | .10 |
| 26 | *96-192 | Screw-Circuit Plate (3) | .10 |
| 27 | 96-517 | Screw-Valve (2) | .05 |
| 28 | 96-550 | Screw Assembly-Cover (4) | .10 |
| 29 | *98-186 | Spring-Valve (3) | .10 |
| 30 | 98-191 | Spring-Idle Screw | .10 |
| 30-A | 98-195 | Spring-Throttle Return | .25 |
| 31 | *98-196 | Spring-Pressure | .15 |
| 32 | *98-198 | Spring-Choke Friction | .10 |
| 33 | *98-215 | Spring-Fuel Pump Leaf | .20 |
| 34 | *98-216 | Spring-Metering Lever | .10 |
| 35 | *98-217 | Spring-Idle & Power Needles (2) | .15 |
| 36 | 100-530 | Needle Assembly-Power-(Top) Standard | 1.20 |
| 37 | 100-531 | Needle Assembly-Power-(Side) Some OEM Models | 1.05 |
| 38 | 102-524 | Needle Assembly-Idle | 1.05 |
| 39 | *108-26 | Retainer-O'Ring (Top Only) | .20 |
| 40 | *136-106 | Washer-Adj. Packing (Side) (2) | .15 |
| 41 | *140-45 | Screen Filter | .70 |
| 42 | *144-69 | Pin-Metering Lever | .10 |
| 43 | 157-91 | Plate-Filter | 2.25 |
| 44 | 157-92 | Plate-Fuel Pump | 3.30 |
| 45 | 157-95 | Plate-Circuit | 1.90 |
| 46 | 157-523 | Plate Assembly-Metering Diaphragm | 3.90 |
| 47 | *166-41 | Lever-Metering | .25 |
| 48 | 167-51 | Bracket-Throttle | 1.95 |
| 49 | *92-534 | Gasket-Diaphragm Kit WD, WR & WDA | 3.95 |
| 49A | 92-536 | Gasket-Diaphragm Kit WDA-1 Only | 4.25 |
| 50 | 300-719 | Repair Kit WD, WR & WDA | 10.95 |
| 50A | 300-730 | Repair Kit - WDA-1 Only | 10.95 |

*Denotes parts contained in Repair Kit; **Denotes parts in Gasket, Diaphragm Kit

WALBRO - FUEL SYSTEM ACCESSORIES



Angle Mounting Adapters



WR to WD or WDA No. 12-41
WD to WD or WDA No. 12-42

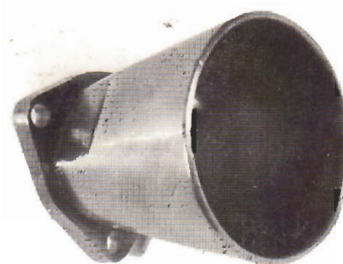
ANGLE MOUNTING
FOR CLOSE QUARTERS

Reduces Spit Back

Velocity Stacks

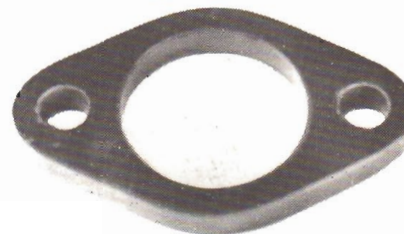


For FLARED METAL
WR/WD No. 122-508 w/screen
WDA No. 122-509 w/screen

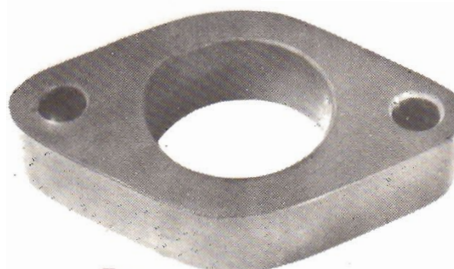


For TAPERED METAL
WR/WD No. 122-510 less screen
WDA No. 122-511 less screen

Mounting Spacer Blocks



For
WR-3/8" No. 12-43
WR-3/4" No. 12-44
(Dissipates Engine Heat)



For
WD/WDA 3/8" No. 12-45
WD/WDA 3/4" No. 12-46

SUGGESTED LIST PRICES

| | | |
|---------------------|-----------------------|-----------------------|
| 12-41. . . . \$8.95 | 122-506. . . . \$3.95 | 125-512. . . . \$.95 |
| 12-42. . . . 9.95 | 122-507. . . . 4.95 | 125-513.85 |
| 12-43. . . . 2.95 | 122-508. . . . 4.95 | 128-509. . . . 1.15 |
| 12-44. . . . 3.95 | 122-509. . . . 5.95 | 188-505. . . . 6.75 |
| 12-45. . . . 2.95 | 122-510. . . . 3.95 | |
| 12-46. . . . 3.95 | 122-511. . . . 4.95 | |