TM 9-1826B

WAR DEPARTMENT TECHNICAL MANUAL

ORDNANCE MAINTENANCE

CARBURETORS (STROMBERG)

WAR DEPARTMENT *1 APRIL 1944*

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WAR DEPARTMENT
Washington 25, D. C., 1 April 1944

TM 9-1826B—Ordnance Maintenance—Carburetors (Stromberg), is published for the information and guidance of all concerned.

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BY ORDER OF THE SECRETARY OF WAR:

G. C. MARSHALL,
Chief of Staff.

OFFICIAL:

J. A. ULIO,
Major General,
The Adjutant General.

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(For explanation of symbols, see FM 21-6)

CONTENTS

CHAPTER 1

INTRODUCTION

1. SCOPE.

a. The instructions contained in this manual are for the information and guidance of personnel charged with the maintenance and repair of Stromberg carburetors. These instructions are supplementary to field and technical manuals prepared for the using arm. This manual does not contain information which is intended primarily for the using arm, since such information is available to ordnance maintenance personnel in 100-series TM's or FM's.

b. This manual contains a description of, and procedure for disassembly, inspection, repair, assembly, and adjustment of the following Stromberg carburetors:

Carburetor Model	Chapter
BXV	4
SF	5
AAV	6
NA-R6B	7
NA-R9D	8
NA-R9G	9
NA-Y5G	10
HD-5	11

2. MWO AND MAJOR UNIT ASSEMBLY REPLACEMENT RECORD.

a. Description. Every vehicle is supplied with a copy of A.G.O. Form No. 478 which provides a means of keeping a record of each MWO completed, or major unit assembly replaced. This form includes spaces for the vehicle name and U. S. A. Registration No., instructions for use, and information pertinent to the work accomplished. It is very important that the form be used as directed, and that it remain with the vehicle until the vehicle is removed from service.

b. Instructions for Use. Personnel performing modifications or major unit assembly replacements must record clearly on the form a description of the work completed, and must initial the form in the columns provided. When each modification is completed, record the date, hours and or mileage, and MWO number. When major unit assemblies (such as engines, transmissions, transfer cases) are replaced, record the date, hours and or mileage and nomenclature of the unit assembly. Minor repairs, and minor parts and accessory replacements need not be recorded.

c. Early Modifications. Upon receipt by a third or fourth echelon repair facility of a vehicle for modification or repair, maintenance personnel will record the MWO numbers of modifications applied prior to the date of A.G.O. Form No. 478.

CHAPTER 2

PRINCIPLES OF CARBURETION

3. FUNCTION OF CARBURETOR.

a. The basic function of the carburetor is to meter air and fuel in varying percentages, according to the engine requirements. The engine requirements may vary widely as engine operating conditions vary. These conditions range from a no-load idle through acceleration, normal driving speeds, and full power. As engine loads vary, the ratio of air to fuel needs to be changed, although there is no speed change. This is done automatically within the carburetor against the changing pressure in the intake manifold, resulting from the vacuum-creating effect of the downward stroke of the pistons.

4. OPERATION.

a. Float System (fig. 1). Fuel enters the carburetor at the gasoline inlet, flowing through the float needle valve and seat into the float chamber, where it is maintained at a constant level by the float. The float chamber can be vented by either an external or an internal vent. The internal vent is in the air horn, and because of its position, the air pressure on the gasoline in the float chamber is balanced with the pressure in the air horn. This results in the mixture remaining correct, regardless of the fact that dirt gradually accumulates in the air cleaner, restricting the flow of air.

b. Idle System—First Stage (fig. 2). When an engine idles at its slowest speed, the throttle is held open slightly by the throttle stop screw. The idle speed may be varied by turning this screw. Any throttle valve position thus obtained controls the amount of air entering the engine, and thereby regulates the engine's idling speed. At closed throttle, or slow engine speeds, the fuel is delivered through the idle system. The fuel is taken from the base of the main discharge jet, flowing into the bottom of the idle tube, where it is metered. From the tube it flows through a connecting channel, where air from the idle air bleed is mixed with it, so that a mixture of air and fuel passes down the channel and is discharged from the idle discharge holes. The idle needle valve controls the quantity of fuel discharged from the primary hole, thereby affecting the mixture ratio.

c. Idle System—Second Stage (fig. 3). When an engine runs at no-load, slightly faster than the idling speed, it operates in the second stage of the idle system. While in this range of operation the fuel is delivered into the barrel from the second, or upper, idle discharge hole. The idle adjusting needle has no effect upon the second stage.

d. Main Metering System (fig. 4). The main metering system controls the flow of fuel during the intermediate or part throttle posi-

PRINCIPLES OF CARBURETION

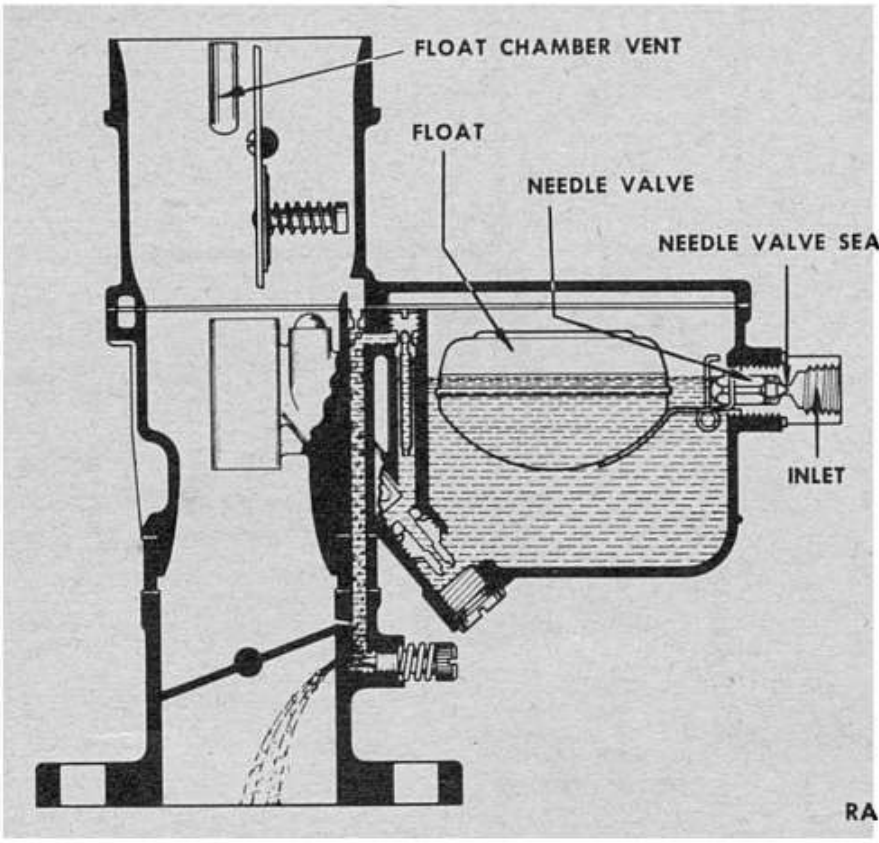

Figure 1—Float System

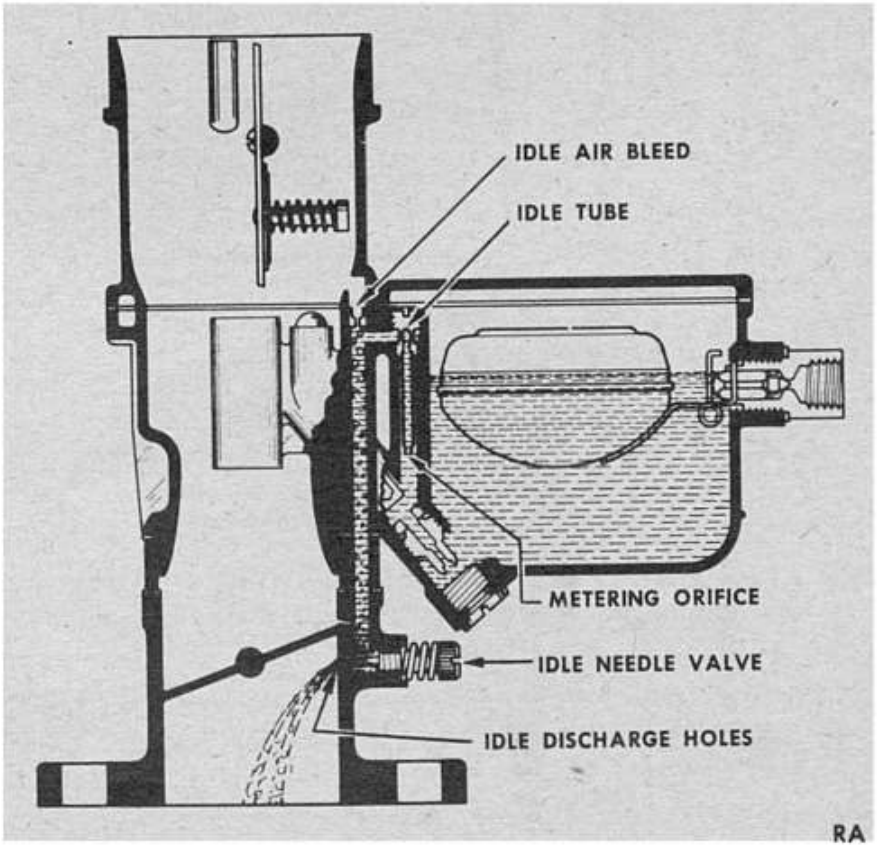

Figure 2—Idle System (1st stage)

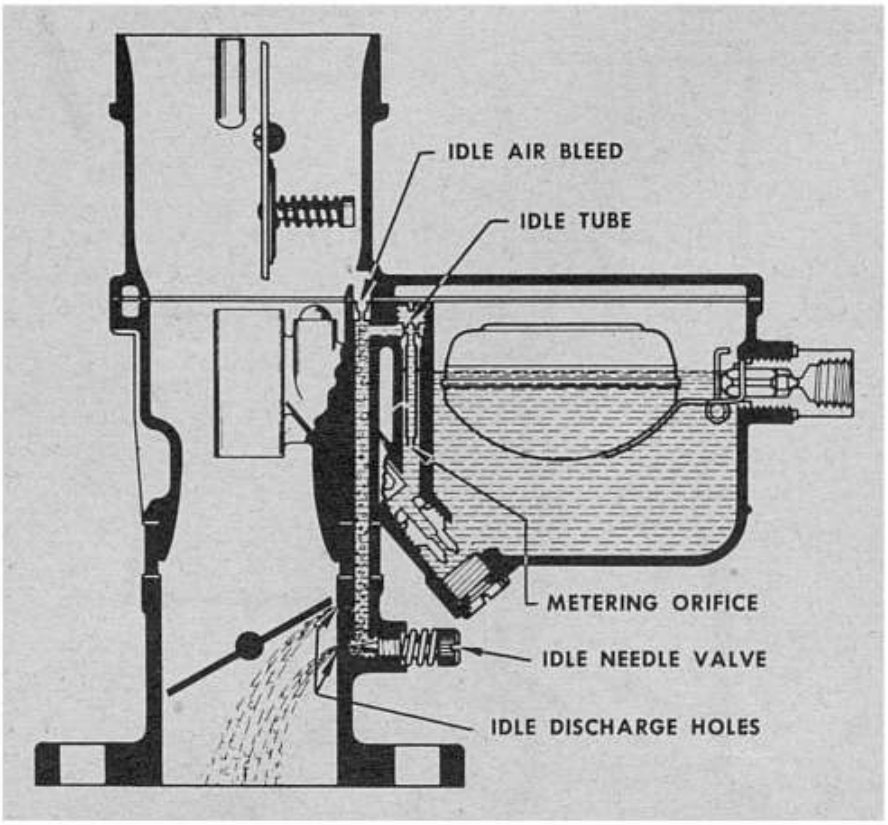

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Figure 3—Idle System (2nd stage)

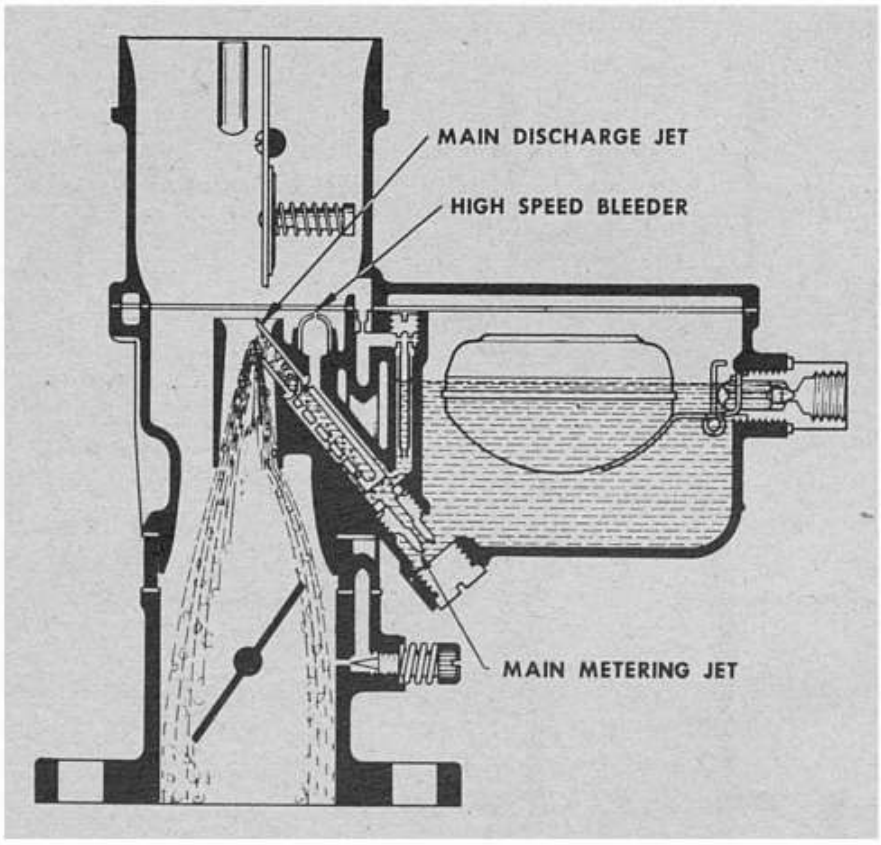

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Figure 4—Main Metering System