

**OPERATORS, ORGANIZATIONAL, DIRECT SUPPORT
AND GENERAL SUPPORT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)**

FOR

**TRUCK, FIRE FIGHTING, 4X4,
MODEL 1350 PKP/200 AFFF
NSN 4210-00-484-5729**

**HEADQUARTERS, DEPARTMENT OF THE ARMY
29 DECEMBER 1986**



**CTS-2311 SERVICE MANUAL
S-SERIES
1978-1979-1980**

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**TRANSMISSION****CTS-MANUAL NO.**

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T-17	4	NEW PROCESS	2433
T-18	4	NEW PROCESS	2433
*T-128	15	FULLER	2420
*T-129	10	FULLER	2420
*T-196	10	FULLER	2699
*T-197	6	FULLER	2705
*T-316	6	FULLER	2705
*T-348	5	FULLER	2701
*T-422	13	FULLER	2706
T-425	4	NEW PROCESS	2584
*T-448	10	FULLER	2702
*T-451	4	ALLISON	2555
*T-454	4	ALLISON	2555
*T-455	7	SPICER	2703
*T-456	7	SPICER	2703
*T-459	13	FULLER	2704
*T-462	13	FULLER	2704
*T-463	6	FULLER	2705
*T-464	5	ALLISON	2629
*T-465	5	ALLISON	2629
*T-467	13	FULLER	2758
*T-468	13	FULLER	2758
*T-470	10	FULLER	2759
*T-471	9	FULLER	2727
T-495	5	IH	2643
T-496	5	IH	2643
*T-672	5	SPICER	2725
*T-673	5	SPICER	2725
*T-674	5	SPICER	2725
*T-683	6	SPICER	2729
*T-696	5	CLARK	27An
*T-697	5	CLARK	2760

*NOT PROVIDED WITH CTS-2311 MANUAL. IF DESIRED, PURCHASE SEPARATELY.

TRANSMISSION AUXILIARY

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AT-523	3	SPICER	2124
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*AT-536	3	SPICER	2707
*AT-552	4	SPICER	2715
*AT-554	4	SPICER	2715
*AT-566	4	SPICER	2709

*NOT PROVIDED WITH CTS-2311 MANUAL.. IF DESIRED, PURCHASE SEPARATELY.

TRANSFER CASE

<u>MODEL</u>	<u>SPEEDS</u>	<u>MANUFACTURE</u>	
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FUEL SYSTEM

GENERAL

Air must be clean if engine is to deliver proper performance throughout its life span. Dirty air introduced into the engine may ruin the carefully engineered close tolerance of the engine.

Air cleaners are designed to supply clean air to the engine; and if not kept clean, the supply of air will become restricted. This will cause loss of power, sluggish performance and poor gas mileage.

Four types of air cleaners are used on International vehicles. They are the modulated dry type, dry type, oil bath type and combination oil bath and dry type.

A description of the operation of each type is given in the following paragraphs.

OPERATION

Due to the many variations in size and shape of air cleaners used on International vehicles, no attempt has been made to accurately illustrate all variations. Thus, all illustrations herein are only typical of the type of air cleaner being represented.

Modulated Dry Type Air Cleaner

The modulated dry type air cleaner (Fig. 1) provides a thermostatically controlled damper connected to an exhaust manifold stove to provide faster engine warm-up in any weather.

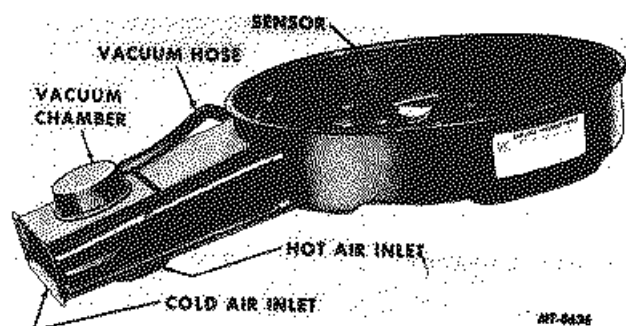


Fig. 1 Typical Modulated Dry Type Air Cleaner (Air cleaner lid and element removed for illustration purposes.)

The air temperature sensor mounted inside air cleaner body and the vacuum chamber mounted on top of inlet tube are factory calibrated units. Operation of the system is completely automatic. The damper, operated by the sensor-controlled vacuum chamber, regulates air entering carburetor to 36-37° C (98-100° F) at all outside temperatures. Hot and cold air conditions are thereby eliminated and better carburetor calibration can be accomplished.

Dry Type Air Cleaner

Dry type air cleaners employ dry type elements sealed within the air cleaner such that all air drawn into the engine must pass through the air cleaner element. The direction of air flow through the element of dry type air cleaners illustrated in Figs. 2 and 3 is from the outside to inside of filter element. This permits excess foreign particles to fall free from outside surface of element prolonging element service life.

The air cleaner in Fig. 3 is equipped with a vacuator valve. Vacuator valves provide a means of escape for foreign particles from the air cleaner without the necessity of air cleaner disassembly.

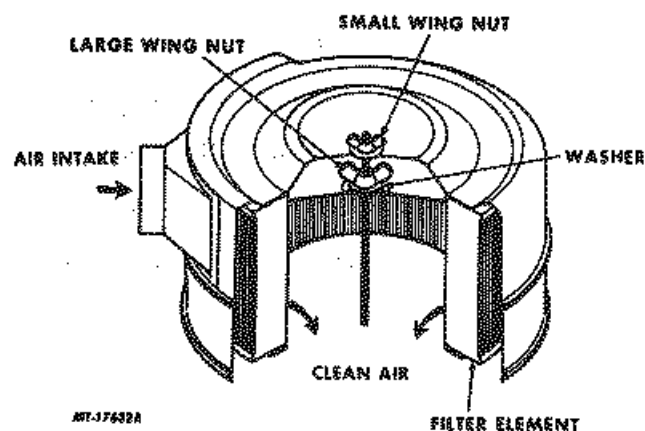


Fig. 2 Typical Dry Type Air Cleaner

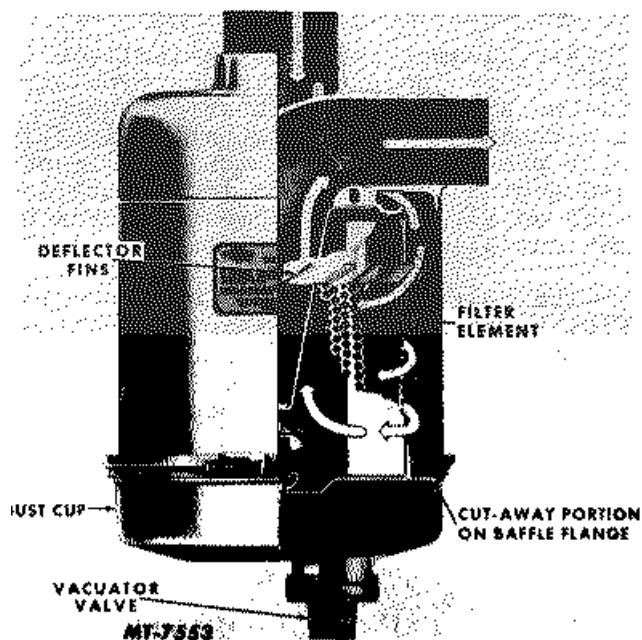
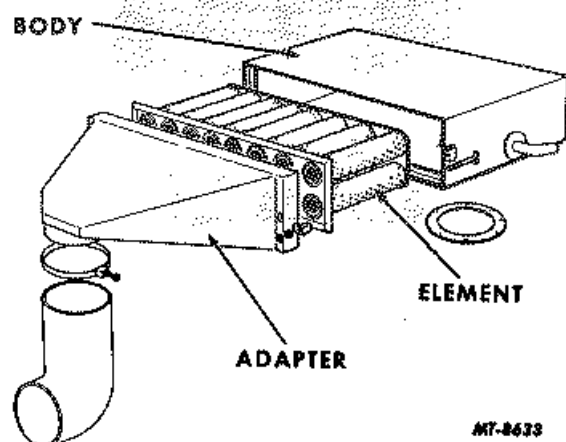


Fig. 3 Typical Dry Type Air Cleaner

Fig. 4 Typical Dry Type Air Cleaner
(Box Type)

The box dry type air cleaner shown in Fig. 4 differs from the other dry type air cleaners illustrated, in that air passes through the air cleaner element from inside to outside (Fig. 5).

Oil Bath Air Cleaner.

All oil bath air cleaners, regardless of size or shape (see Figs. 6 and 7), clean air in the following manner. Uncleaned air is drawn through the upper

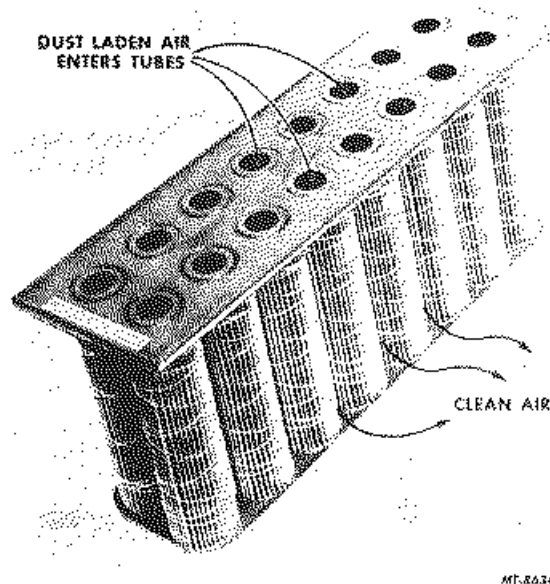


Fig. 5 Box Type Dry Air Cleaner Element

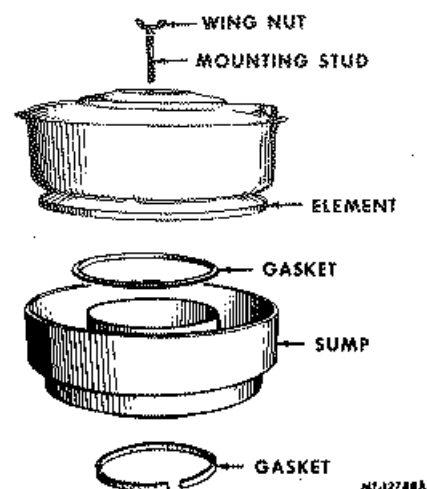


Fig. 6 Typical Oil Bath Air Cleaner

portion of the unit and then downward at high velocity. Just above the oil reservoir, in the bottom of the cleaner, the direction of air travel is suddenly reversed. This reversal of air flow causes the larger particles of dirt to fall into the oil. The partially cleaned air then travels upward through an oil-moistened filtering element where any remaining dirt and dust particles are removed. The cleaned air then enters the carburetor.