8N TRACTOR SERVICE INFORMATION

Bulletin Subject: **New Valves and Adjustable Tappets for the Ford Tractor, Kit No. 8N-6546**

Over the past year, in certain localities, a few owners have encountered some difficulty with tractor engine valves sticking or burning, particularly the exhaust valve. For the purpose of relieving this condition, new valves and adjustable tappets have been developed for service replacement on the Ford Tractor.
The new valve will relieve exhaust valve failure attributable to excessive deposits of the valve seat and/or valve stem. These experiences are local in character, and replacement of the standard valves with the new valves is not subject to warranty or policy adjustment. Please do not submit S.A.R.'s for replacements.

A kit, Part No. 8N-6546, is now being made available. It contains four new valve assemblies and eight adjustable tappets with wrenches. The wrenches are included to hold the tappets while adjustments are being made for length.

In Attachment No. 1, you will find a complete description of the valve as well as a drawing and instructions for proper installation and servicing. Complete instructions for' the installation of the tappets are included in each kit. You will note that tappets are to be used for all eight valves; however, the new valves should be used **only** in the **exhaust** ports.

These kits are available for immediate shipment as announced in "Service Parts Release and Change Notice No. 50-2". Dealers should be advised of the availability of the subject parts, particularly in those areas where sticking or burning valves axe now a problem.

INSTALLATION INSTRUCTIONS FOR NEW VALVE IN THE FORD TRACTOR ENGINE

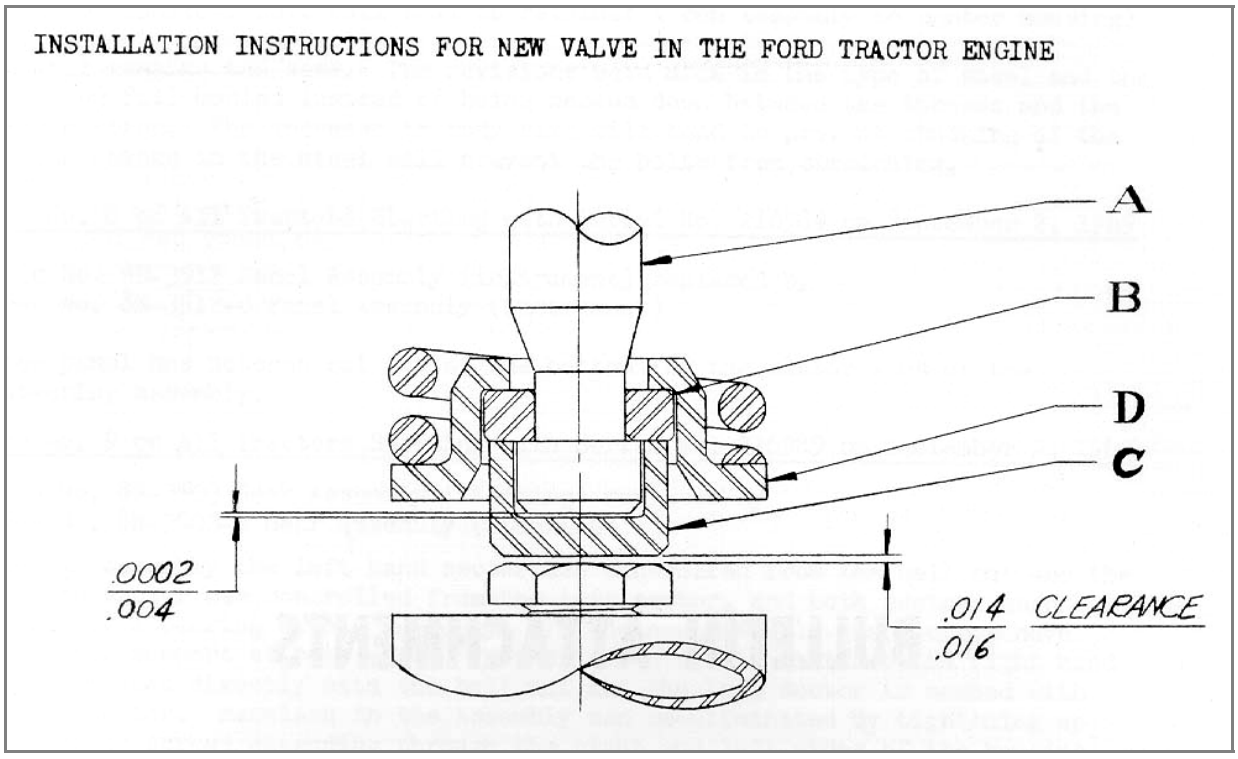


Figure 1

A new type exhaust valve assembly is illustrated and described above. The assembly consists of a valve "A", two keys "B", a cap "C", and a special spring retainer "D"; the standard spring being used with this assembly.

The parts, when correctly assembled, permit the valve to be entirely free of the spring force during the lift portion of the cycle. At the beginning of lift, the tappet lifts the keys through the medium of the cap which, in turn, lifts the spring retainer and spring, thus leaving the valve free of the influence of the spring with respect to cocking and undue side-loading. During the normal travel, the valve can turn, oscillate, or otherwise move in its guide. With this action, the deposits that tend to build up at the head end of the guide and on the stem are constantly scrubbed, thus preventing sufficient build-up to take up the normal clearance. Furthermore, the deposits that occur between the valve face and its mating seat cannot build up excessively or unevenly; the net result being that a much better contact is maintained between the two faces, which insures proper sealing.

INSTALLATION

The successful operation of the new valve assembly depends, to a large extent, on proper installation. The clearance required is controlled by the length between the face of the undercut in the valve and tip end, and the depth of the cap. If the can depth is too shallow, it will not lift the keys and springs and, on the other hand, if the cap is too deep or the length between the groove face and tip is too great, the clearance will be excessive, resulting in a high wear rate and possible valve breakage.

This clearance can readily be checked after the parts are assembled in the engine, by turning the engine over until the valve is free in the lifted position. It should then be free and the actual clearance can be measured by locating an indicator on the valve head and noting the reading then the valve is moved vertically. This clearance can be .0002" providing the valve turns freely, to not over .004" maximum vertical movement.

RECOMMENDED INSTALLATION

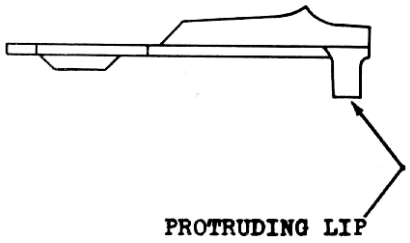
1. Check valve guides after cleaning out the deposits, and if bell-mouthed or worn so that the clearance is 50% over the original factory recommendation, install new guides.
2. Re-face cylinder seats and check with indicator.
3. Inspect valves and seats to be certain that parts have not been nicked in handling.
4. Turn the engine until the valve is lifted and check freedom by turning the valve head.

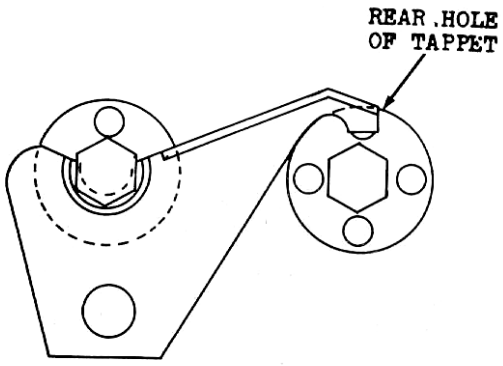
SERVICING

The valve assembly should improve valve life so that, under normal conditions, they do not need to be checked until the engine is ready for overhaul. Normally, the greatest wear will occur on the portion of the key that contacts the valve groove face. If this is excessive, the keys should be discarded.

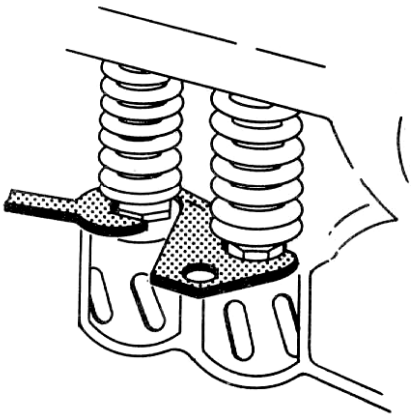
Before reinstalling, check clearance by assembling retainer, keys, and cap to valve. Hold retainer and press on cap. Rotate valve while pressing parts together. The valve should turn freely. If binding occurs, it may be due to nicks, dirt, or cap too shallow. To correct for shallow cap, either use new cap or grind valve tip face.

If valve is free, check clearance by inserting small piece of shim stock .004" thick between valve tip face and cap. Press parts together. If valve does not bind, clearance is too great and should be reduced by polishing the cap open end against a piece of fine emery cloth. Recheck clearance and rework cap until not more than .004" shim stock is required to bind valve.





RIGHT HAND SHOWN



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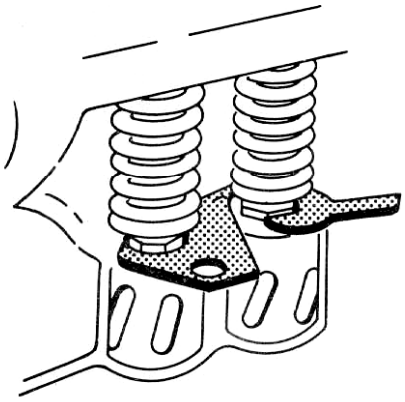
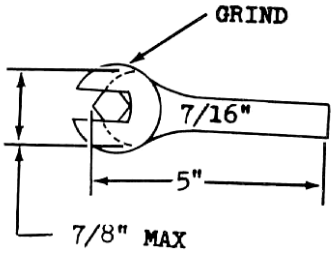
LEFT HAND



8N-17045-A
RIGHT HAND



To adjust a tappet, proceed as follows:

1. Insert the protruding lip of the wrench into the rear hole of the tappet being adjusted.
2. Place the other end under the head of the adjacent tappet as shown.
3. To prevent interference with the tappet retaining wrench, grind the head of your tappet adjusting wrench to the dimension shown.