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**SERVICE
INSTRUCTION**

DATE: June 12, 1970

Service Instruction No. 1193A
(Supersedes Service Instruction No. 1193)
Engineering Aspects are
FAA (DEER) Approved

SUBJECT: Inspection in Event of Valve Failure

TIME OF COMPLIANCE: As required.

In some instances, when a valve or one of its related parts is replaced because of failure, a subsequent failure of the same part is experienced. This is the result of neglecting to determine the cause of failure. For example, the failure of a valve can be caused by installation of a push rod of incorrect length or a collapsed hydraulic plunger. Failure to detect the incorrect push rod will result in further failure of parts in the valve train. Therefore, in the event of a valve failure or any other part of the valve mechanism all of the valve train parts must be checked prior to replacement of the failed part. The following is a description of the various inspections that should be made:

1. Check the inside of the tappet for chipped or badly worn shoulder. Inspect the cam face of the tappet for scuffing, scoring, or chipping. Also, inspect the opposite tappet on the same cam for the same conditions. Indications of distress on either part is sufficient reason for replacing all tappets and camshaft. This will require complete engine tear-down. See applicable overhaul manual for method of checking lifters.
2. It is very important that even though the hydraulic tappet cylinder and plunger assembly appear to be in good condition, do not reuse them. Use a new hydraulic cylinder and plunger assembly when the valve train parts are reassembled.
3. Inspect the piston for damage. Severe damage to the piston indicates the connecting rod may be damaged and should also be checked for parallelism and alignment.
4. If valves are replaced, also replace the valve keys.
5. If inspection proves that the above parts are satisfactory the engine may be reassembled using only such necessary new parts as are required.

CAUTION

Do not hammer on end of exhaust valves in attempting to seat them. Also, select the proper length push rods to obtain correct valve clearance. See overhaul manual for method of selecting correct length rod. Dry tappet clearance (hydraulic tappets) are as follows:

TIO-541, TIGO-541040/.105 Inch
All others028/.080 Inch

14961 - This number for Avco Lycoming reference only.

NOTE: In revision "A" step 2 changed to require replacement of hydraulic plunger assembly. Added valve key replacement.