

service bulletin

M76-8
FAA-DER Approved

13 April 1976

TO: Distributors, Dealers, Engine Overhaul Facilities, Owners and
Operators of Teledyne Continental Motors Aircraft Engines.

SUBJECT: INTAKE VALVE CHANGE

MODELS AFFECTED: C75, C85, C90, O-200, O-300, AND GO-300

Gentlemen:

Engine testing, both in the laboratory and in the field, has shown that with the use of higher leaded fuels, service life of the intake valves can be significantly improved by introducing the following changes:

1. New valve and seat angle for improved sealing.
2. New valve seat material to minimize erosion.

P/N 641792, Intake Valve, and P/N 641793, Intake Valve Seat Insert, are being incorporated into all engines manufactured by Teledyne Continental Motors. The valves may now be procured through TCM distributors.

The valve seat inserts will be installed in production engines beginning approximately May 19, 1976, and will be available from distributors for installation in cylinders approximately May 28, 1976.

It is permissible to install the new valve on the old 45° seat insert after first grinding it to the correct angle as shown in Figure 1. However, installation of the new insert (P/N 641793) is highly desirable and both the new intake valves which supersede P/N 531608 and the new inserts which supersede P/N 3912, should be installed at the next top overhaul or major overhaul, whichever comes first.

Initially, some 531608 valves were reworked to the 30° angle face configuration and were identified by etching the letter "M" after the part number either on the top or the underside of the valve head. This was done as an interim measure and such rework is definitely not authorized in the field. These valves must also be replaced at the next top or major overhaul, whichever comes first. The 30° intake valves were first installed at TCM on the following model and serial numbers.

<u>MODEL</u>	<u>NEW S/N</u>	<u>REMF'D S/N</u>	<u>OVERHAULED S/N</u>
O200A	254178*	6645-R	901140-0
O300A		16092-R	901146-0
O300C		23223-R	
O300D		25560-R	
C90			901169-0

(continued)

*NOTE:.....It is possible that a few O-200-A new engines prior to S/N 254178 were built incorporating 30° face intake valves. Therefore, when servicing any cylinders, check the cylinder part number which is stamped on the base flange before installing the valves.

If you install these new intake valves in cylinders which incorporated valve P/N 531608 (see cylinder part numbers listed under - "old") it is necessary to regrind the intake valve seat insert to 60°, +30' -0', to the valve guide axis to obtain a 0.060" (approx.) seat width. The seat O.D. must be kept within the O.D. of the valve face as per Figure 1. If reducing the O.D. is required, it can be accomplished with a second grind of 75°, +/- 1° as indicated.

It should be pointed out here that this valve design is commonly referred to as a "30° angle valve"; however, the standard design practice is to dimension the valve face angle off of the valve stem centerline and the valve seat insert off of the valve guide centerline; thus, the 60° shown in the sketch.

Reidentify the cylinder assemblies by "X-ing" out the old part number on the base flange and restamping as follows:

"OLD"		"NEW"
P/N A50222	becomes	P/N 641916
P/N 639702	becomes	P/N 641916
P/N 626710	becomes	P/N 641917
P/N 639703	becomes	P/N 641917

Make an entry in the engine log book that this Service Bulletin has been complied with.

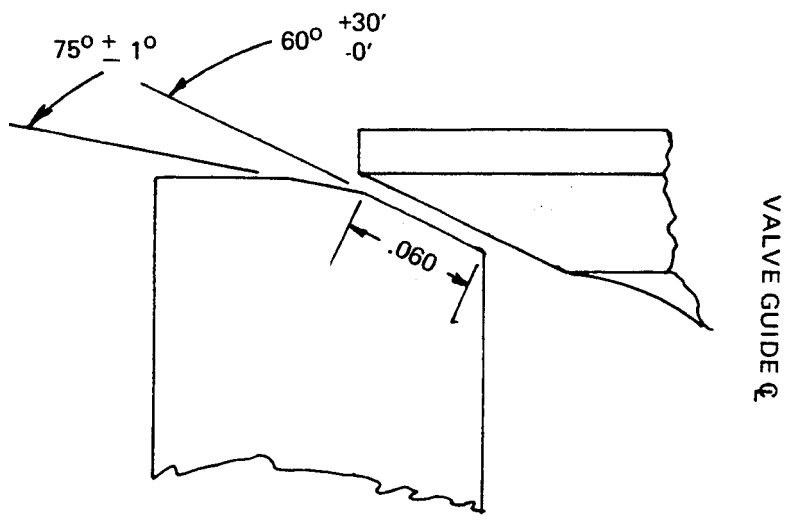


FIGURE 1.