

SUBJECT: CONVERSION OF LYCOMING IO-360-A1B6D TO IO-360-A3B6D

MODELS

AFFECTED: M20J - 24-0002 thru 24-0377

COMPLIANCE: At owner's discretion.

INTRODUCTION: It has been determined that converting the IO-360-A1B6D engine to the IO-360-A3B6D configuration, which is simply a matter of re-indexing the propeller flange bushings, will result in smoother engine operation. This conversion optimizes propeller blade indexing relative to the engine crankshaft and its balancing counterweights which accounts for the smoother operation particularly at high power settings. This conversion does not change the restricted operating range "between 1600 and 1950 RPM with power settings below 15" Hg manifold pressure."

INSTRUCTIONS: To convert an IO-360-A1B6D into an IO-360-A3B6D accomplish the following:

1. Remove four (4) of the original propeller flange bushings as indicated in Figure 1.
NOTE: Do not re-use any of the bushings that are removed.
2. Install new bushings using Avco Lycoming special tool part no. ST-115 in the locations shown in Figure 2. NOTE: The special tool may be purchased through any Avco Lycoming distributor. Re-index spinner backplate to agree with new position. (Torque 50-70 in. -lbs.)
NOTE: Torque prop bolts to 55 to 60 foot-lbs. and safety wire in pairs.
3. Obtain and install a new engine nameplate with new tap in screws in same location as old plate, as called out in Avco Lycoming Service Instruction 1304 (copy enclosed). Request new tap in screws when ordering data plate.
4. Install new Owner's Manual pages per enclosed revision.
5. Make appropriate Log Book entry. Return completed Compliance Card to Mooney Aircraft Corporation.

S. B. Kit
M20-206-1:

72061S Bushing	2 ea.
72062S Bushing	1 ea.
72074S Bushing	1 ea.
Owner's Manual Revision C (pgs. i and ii, vi through viii, 1-3, 2-5, 6-10).	1 ea.
Lycoming Service Instruction 1304	1 ea.

Propeller Flange Bushing Location For IO-360-A1B6D

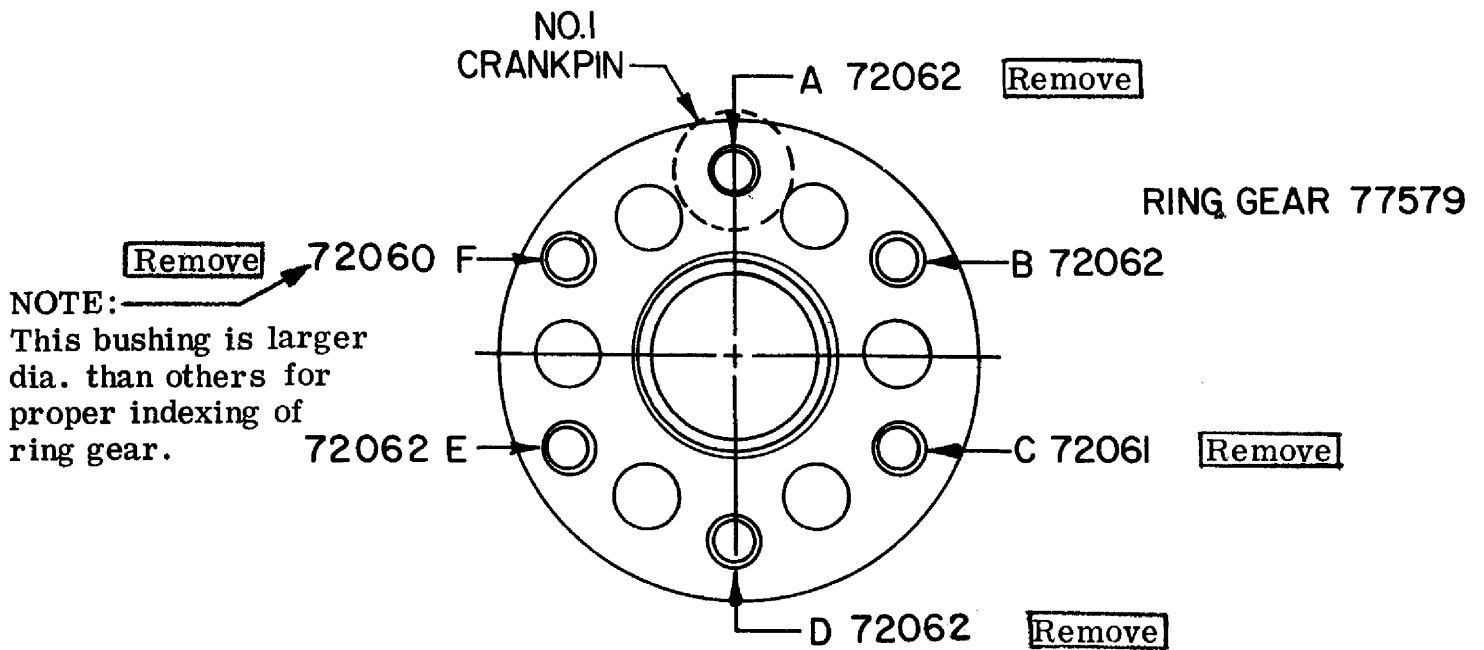


Fig. 1: Propeller Flange Bushing Location For IO-360-A3B6D
(Prop moves 60 degrees against rotation)

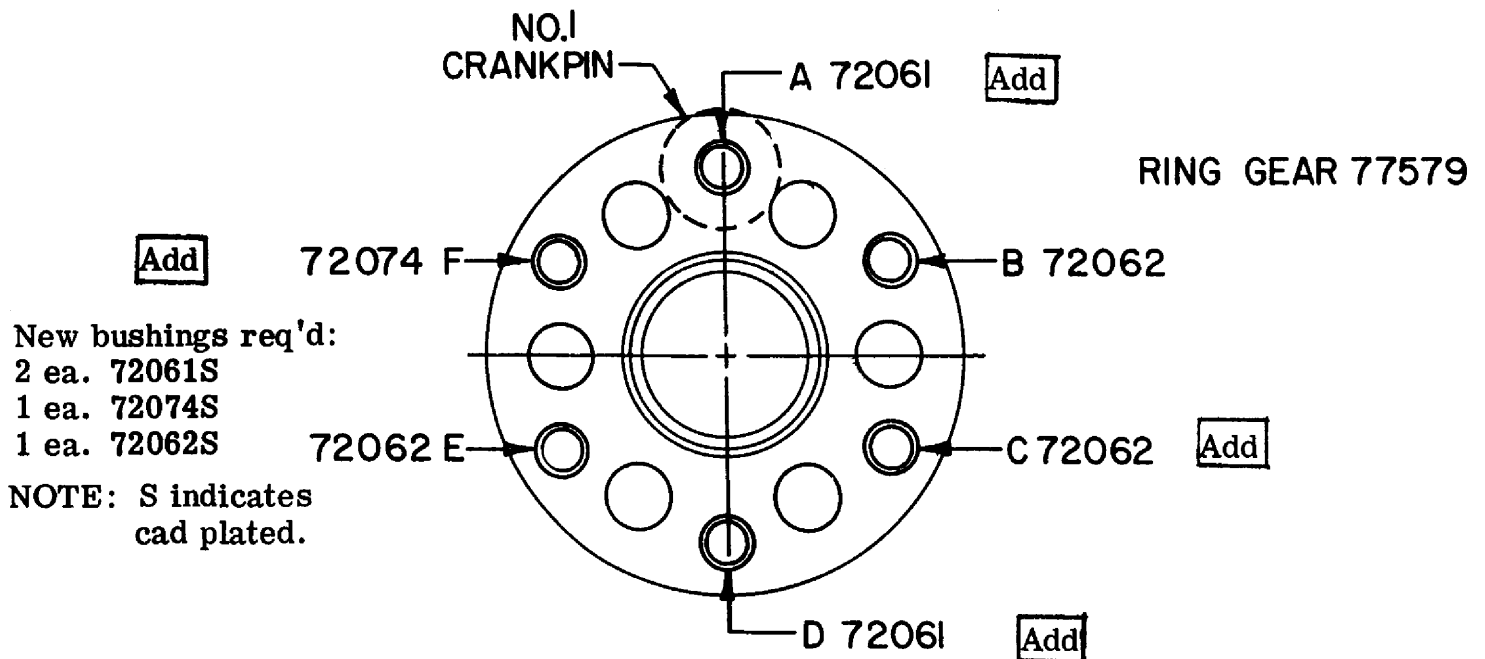


Fig. 2: Tool Needed: ST-115 Install & Remove Prop. Flange Bushing
(Crankshaft viewed from front looking aft.)

AVCO LYCOMING DIVISION
WILLIAMSPORT, PENNSYLVANIA 17701**Service Instruction**

DATE: May 31, 1974 Service Instruction No. 1304
(Supersedes Service Letter No. L164)
Engineering Aspects are
FAA (DEER) Approved

SUBJECT: Engine Data Plate Replacement

MODELS AFFECTED: All Avco Lycoming aircraft engines.

TIME OF COMPLIANCE: At anytime modification affects model designation.

Requests are received at the factory for new engine data plates to be used on engines that have either been converted or modified at field maintenance facilities to a different model engine. In the past we have attempted to cooperate in these matters and furnished new data plates and, in many cases, issued new engine serial numbers on request.

Future policy in this respect will require sending to the factory a completed copy of the FAA 337 form if required and/or a notarized list of all parts used and a description of the conversion or alterations accomplished. A new data plate will then be furnished in accordance with information submitted and there will be a nominal service charge of \$5.00 for the specification plate. A new engine serial number will not be issued. Old data plates are to be returned to the factory.

For all commercial engines in which the basic model has been altered or converted to another model designation, the letter "C" will be added after the suffix on the engine serial number to indicate a change from its original manufacture.

For all military designated engines rebuilt to commercial standards, the letters "MC" will be added after the suffix on the engine serial number to indicate a change from its original manufacture.

It will be solely the obligation of the altering agent to attach necessary service parts information with appropriate FAA 337 forms to the permanent engine records and attest to the Federal Aviation Agency as to the airworthiness of the alteration, conversion, or modifications accomplished.