

**90-04-06 R1 TEXTRON LYCOMING:** Amendment 39-6427 as revised by Amendment 39-6915. Docket No. 89-ANE-21.

Applicability: All Textron Lycoming four cylinder piston engines equipped with a rear mounted propeller governor and external oil line, manufactured prior to January 1, 1990.

Compliance: Required as indicated, unless already accomplished.

To prevent oil line fracture and loss of engine oil, accomplish the following:

(a) Within the next 25 hours time in service or whenever the propeller governor oil line is removed, whichever occurs first, accomplish the following:

(1) Inspect the propeller governor external oil line for abrasions, cracks, and oil leaks along the length of the line and at the end attachment fittings. Inspect to determine that the two cushion type support clamps or clips are properly installed as shown in Figure 1 of Appendix 1 to this AD, and assure that sufficient clearances exist between the oil line and adjacent components.

(2) If any leaks, chafing, or interference condition exists or if the two support clamps or clips are not properly installed, replace the governor oil line and its attachment end fittings with new parts even though the parts show no visible damage. Refer to Figure 1 in Appendix 1 to this AD, for parts identification, line routing, and location of support clamps or clips. The fittings in the engine case and governor must be replaced if they are damaged or are made of aluminum.

(b) At the next engine overhaul or anytime the governor oil line is removed for any reason, whichever occurs first, but no later than May 1, 1992, remove any governor oil line assembly having integral aluminum connecting nuts and reinstall an oil line assembly with corresponding steel connecting nuts. Replace any engine case/governor aluminum fittings with corresponding steel fittings as shown in Figure 1 of Appendix 1 to this AD.

NOTE: The attachment nuts are components of the governor oil line tube assembly and have been changed by Textron Lycoming from aluminum to steel without changing the oil line part number. Aluminum nuts may be identified by their blue colored anodized surface. The attachment nuts as well as the elbow/nipple end fittings may also be identified by using a magnet to differentiate aluminum from steel.

(c) An optional method of compliance with paragraph (a)(2) and (b) is the installation of steel fittings and a fire resistant flexible hose assembly which meets the standards in FAA Technical Standard Order TSO- C53a Type D, and is installed in accordance with Appendix 2 of this AD.

NOTE: Further guidance pertaining to installation can be obtained from FAA Advisory Circular 43.13-1A, Chapter 10, Maintenance Standards.

(d) Aircraft may be ferried in accordance with the provisions of FAR 21.197 and 21.199 to a base where the AD can be accomplished.

(e) Upon submission of substantiating data by an owner or operator through an FAA

Inspector (maintenance, avionics, or operations, as appropriate), an alternate method of compliance with the requirements of this AD or adjustments to the compliance times specified in this AD, may be approved by the Manager, New York Aircraft Certification Office, Engine and Propeller Directorate, Aircraft Certification Service, FAA, 181 South Franklin Avenue, Room 202, Valley Stream, New York 11581.

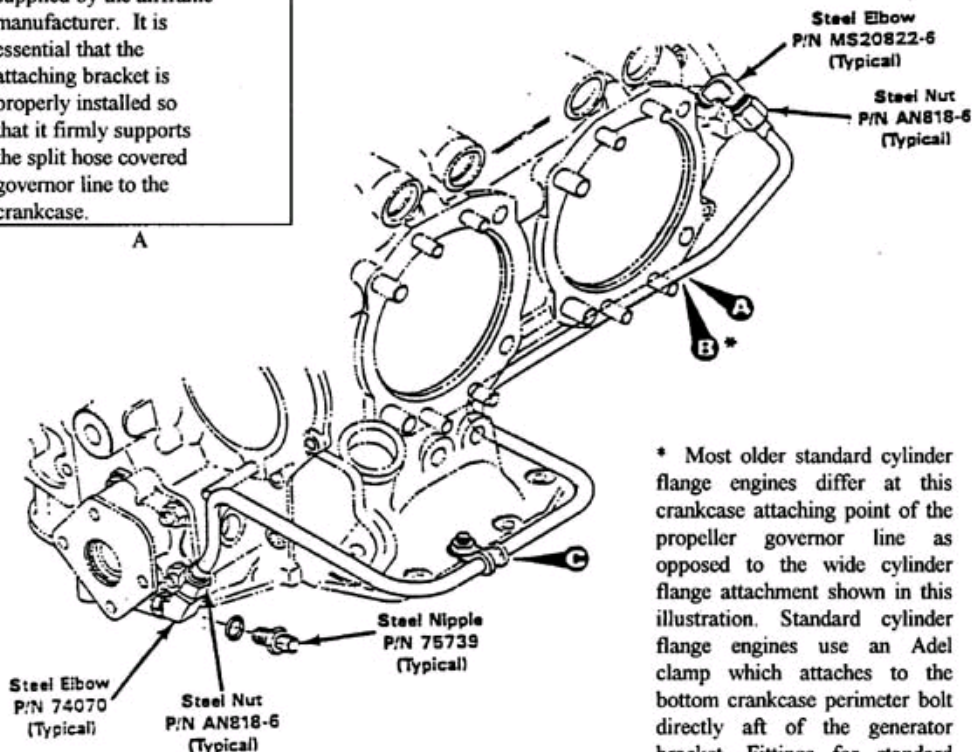
This amendment revises Amendment 39-6427 (55 FR 3577, February 2, 1990) AD **90-04-06**.

This amendment (39-6915, AD **90-04-06** R1) becomes effective on May 28, 1991.

## APPENDIX 1

Textron Lycoming has approved the useage of the Piper Aircraft Corp. air conditioning bracket as a support of the propeller governor line. The split Hose P/N STD-1930 must still be used along with the bracket and hardware supplied by the airframe manufacturer. It is essential that the attaching bracket is properly installed so that it firmly supports the split hose covered governor line to the crankcase.

A



\* Most older standard cylinder flange engines differ at this crankcase attaching point of the propeller governor line as opposed to the wide cylinder flange attachment shown in this illustration. Standard cylinder flange engines use an Adel clamp which attaches to the bottom crankcase perimeter bolt directly aft of the generator bracket. Fittings for standard cylinder flange line may be -5 (5/16") instead of -6 (3/8"). Also, some earlier model propeller governor drives used 1/4" NPT fittings in the prop. governor adapter. If any of these fittings are found, replace with equivalent AN or MS steel fittings.

Figure 1. Propeller Governor Line Support PART 1

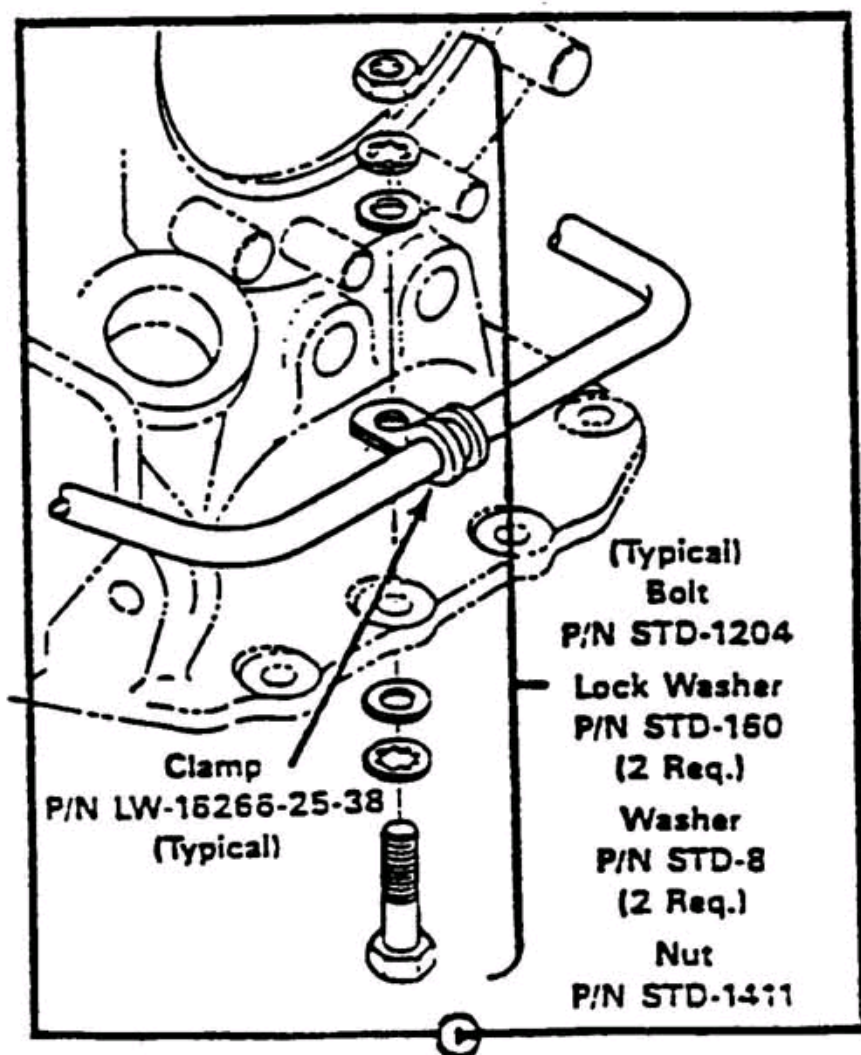
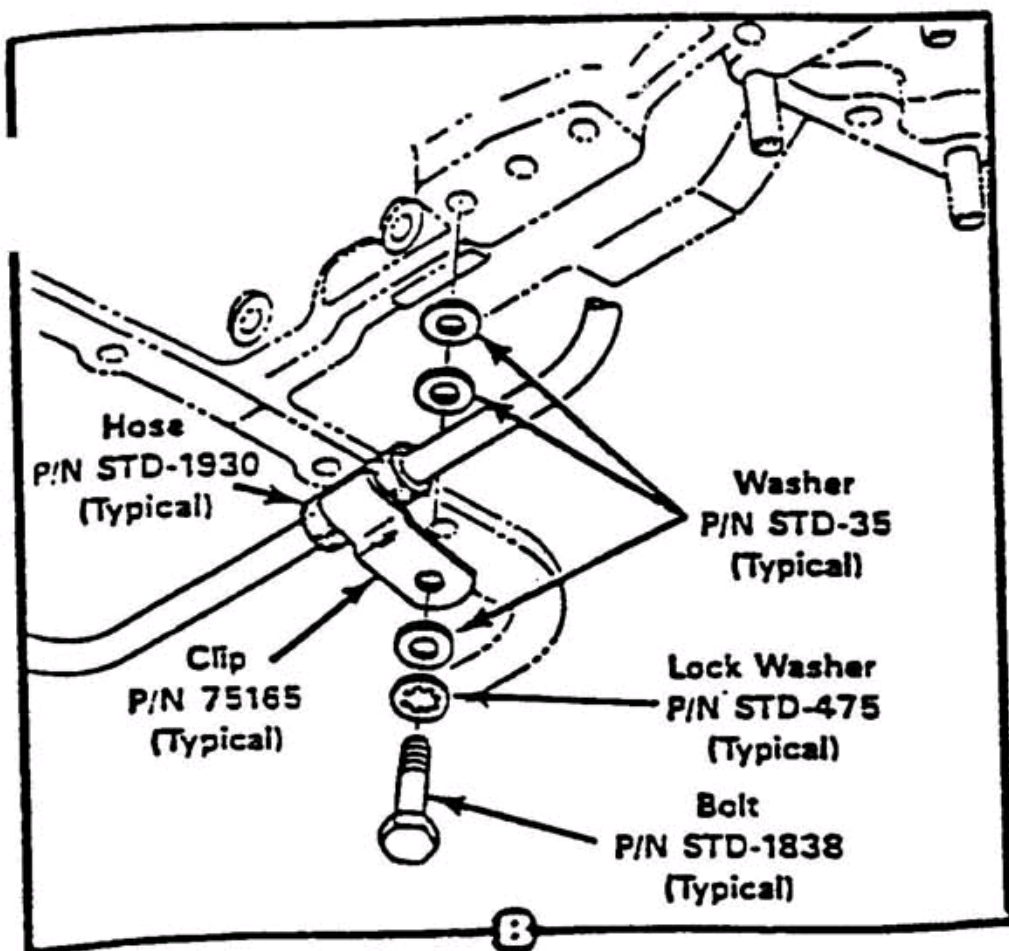


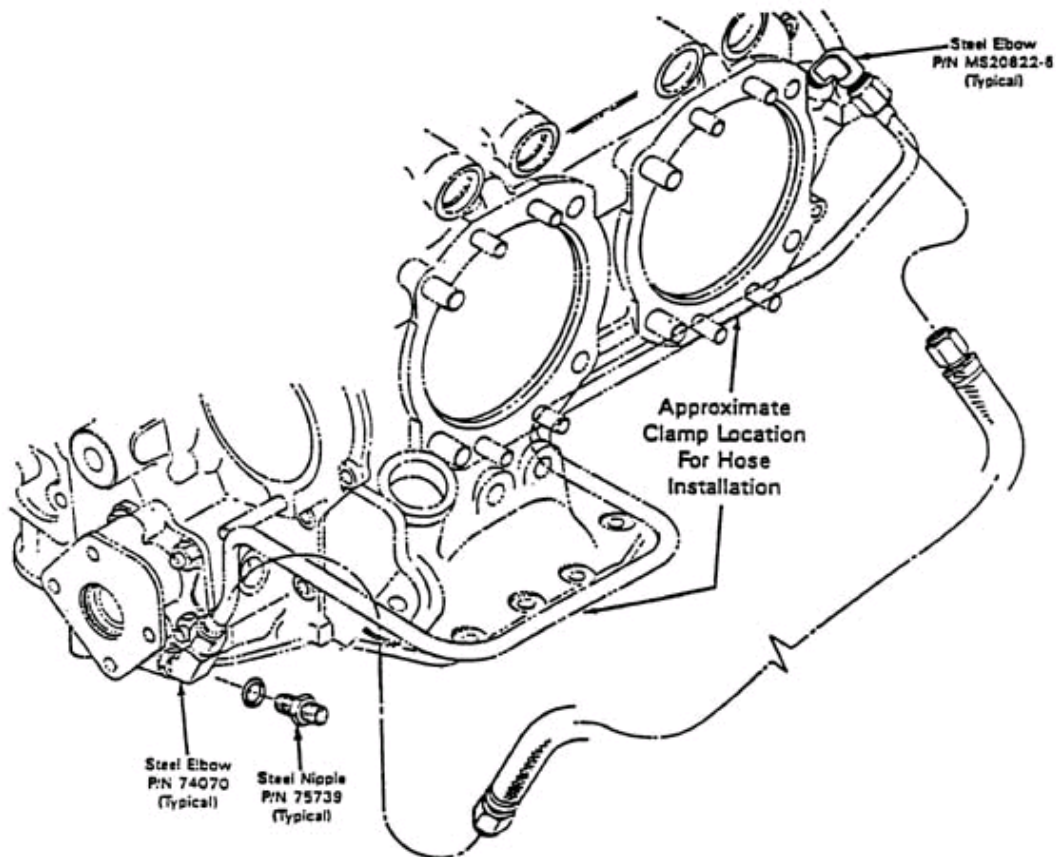
Figure 1. Propeller Governor Line Support PART 2

## APPENDIX 2

If -5 (5/16") fittings have been installed on some standard cylinder flange crankcase model engines, the propeller governor drive fitting and front crankcase fitting must be changed to the appropriate steel fitting to accommodate the new -6 (3/8") line. When re-installing new stainless steel tube assembly, appropriate -5 steel fittings must be re-installed.

### CAUTION

IT IS MANDATORY THAT THIS FLEXIBLE HOSE BE REPLACED AT EACH OVERHAUL.



**Figure 1. Routing, Fittings and Clamping Detail**

When this engine modification is accomplished, Textron Lycoming recommends that a copy of the approved FAA Form 337 - plus the proper logbook entry become a permanent part of the aircraft records.

Installation is as follows:

- a. Determine proper hose length as required for your particular installation.
- b. No sharp bends are permissible. Ascertain that no "kinks" exist while routing and

clamping hose.

c. Hose must not be routed near a heat source, such as any portion of the exhaust system.

d. Hose is to be clamp supported to the engine (not to an airframe component) at a minimum of two locations.

e. No clamping to cylinder head drain back tubes is allowed.

f. After installation is complete, ensure that hose is not pinched. Make certain that engine motion during startup and shutdown does not pull or pinch the hose.