



# AVIATION TECHNICAL BULLETIN

Champion Spark Plug Company

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ROUTE TO	
SERVICE MANAGER	
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## OIL FILTER SYSTEMS

The purpose of this bulletin is to explain the different characteristics between a "Full Flow" filtering system and a "By-Pass" filtering system.

The basic design of the aircraft piston engine lubricating oil system is illustrated in Figure #1. All lube oil is circulated through the "Full Flow" filter element. Hence, the term "Full Flow."

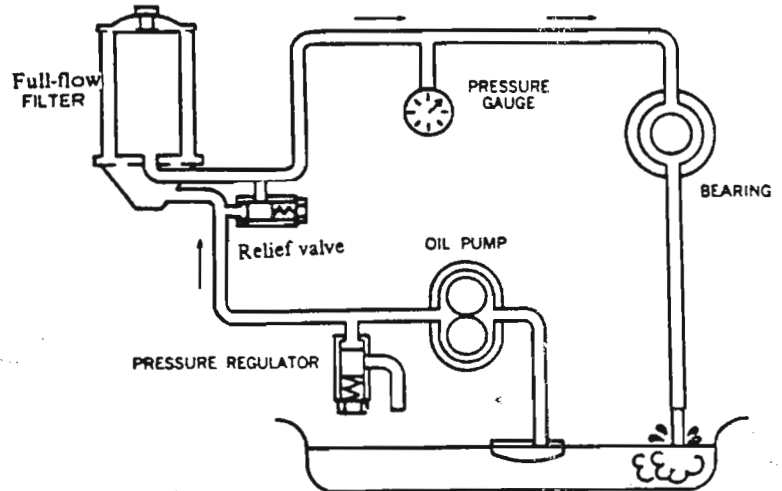


Fig. 1 - Full-flow lubrication system filter

Figure #2 illustrates a lubricating system with a "By-Pass" type filter. Only a portion of the lube oil is circulated through the element.

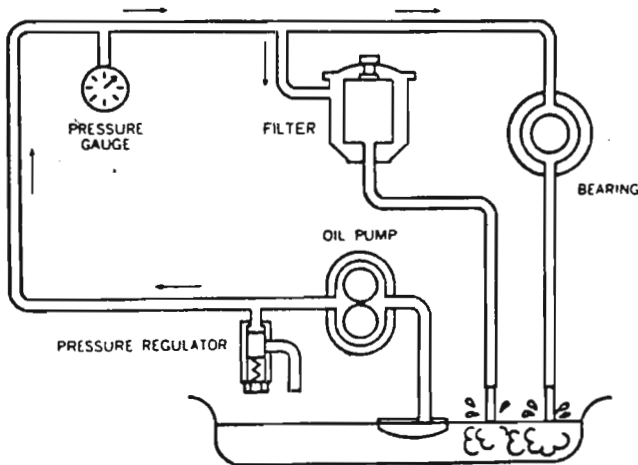


Fig. 2 - By-pass filter system

A "By-Pass" filter adapted to an engine basically would fit into the system as illustrated in Figure #3. The "By-Pass" element filtering a portion of the "Full Flow" filtered oil.

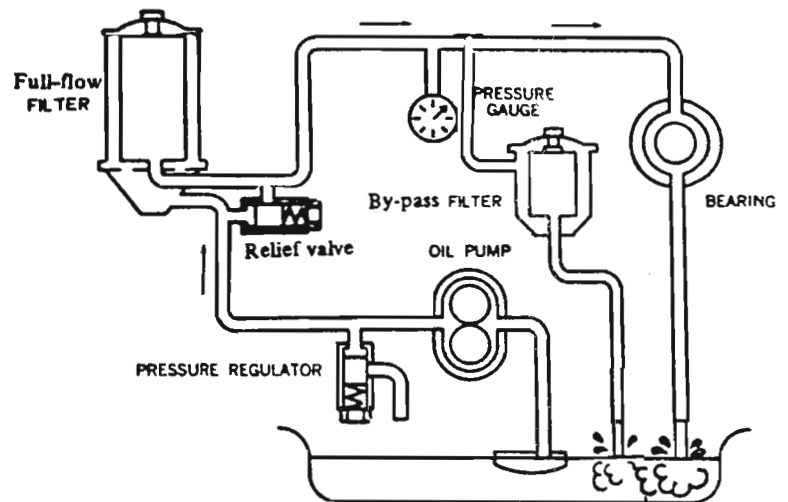


Fig. 3

### NOTE:

Engine environment, length of ground running, and temperature cycles have a great bearing on determining the service life of the filter element. Regular element change periods will help assure you the "Full Flow" element is removing contaminants from the lube oil.

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