

# **RAPCO STANDBY VACUUM SYSTEM OPERATIONAL INFORMATION**

## **SYSTEM OVERVIEW**

The RAPCO standby system is designed to be fully automatic however a manual override is included for pre flight check or as an additional backup. For normal operations the switch on the standby panel should be left in the Auto position. In this mode the standby system is designed to activate any time the primary system vacuum drops below 4 IN.HG. The switch also has a Manual On position. When it is selected the standby system will stay engaged as long as the aircraft master switch is on. This position is used for a pre flight function check, or as a back up in the event the auto feature should fail. There is also a circuit breaker on the standby panel marked Clutch C/B, along with a green light which will illuminate to confirm that the standby system is actually producing vacuum greater than 4 IN.HG.

## **START UP**

In the normal Auto mode, upon activation of the aircrafts master switch, and before the engine has started, the primary system pressure switch will sense vacuum to be less than 4 IN.HG. Therefore it will send current through the normally closed terminal to engage the standby system's electro magnetic clutch. At this point however the green light on the standby panel will not illuminate due to a lack of vacuum to close the contact on the normally open terminal of the standby vacuum switch. The clutch will disengage as the engine starts and the primary systems vacuum rises above 4 IN.HG.

## **PREFLIGHT CHECK**

The following check should be preformed before each flight, especially when flying IFR, or night flight.

1. After starting the engine and before the radios are turned on, momentarily turn off the battery portion of the master switch and observe the suction gauge to confirm that the primary pneumatic system is functioning properly. This will isolate the primary system from the standby system. Return battery master to the on position.
2. Momentarily toggle the switch on the standby system panel from the normal Auto mode to Manual On position while observing the suction gauge display a slight momentary increase in suction. Also confirm that the green light on the standby panel is illuminated. Return the switch to the Auto position for normal flight operations.

## **AUTOMATIC STANDBY SYSTEM OPERATION**

When the aircrafts primary vacuum system fails the backup systems primary vacuum switch will send current through the normally closed terminal to engage the standby clutch. The clutch drives the standby dry air pump providing vacuum to the system. At this point the contact of the normally open terminal on the standby vacuum switch will close and activate the green light on the standby panel. Its purpose is to indicate that the standby system is actually producing a vacuum greater than 4 IN.HG. When the standby system is activated the vacuum gauge of the aircraft should indicate normal. Have system serviced as soon as possible.

## **BACKUP SYSTEM OVERRIDE**

In the event the automatic standby system should fail to operate, activate the override feature by moving the switch on the standby panel from the Auto position to Manual On. If there is still no increase in vacuum, or the green light on the standby panel fails to illuminate, try pressing the circuit breaker on the standby panel marked Clutch C/B. Have system serviced as soon as possible.

## **ENGINE SHUT DOWN**

In the normal Auto mode, as the aircraft engine is coming to a stop the clutch will engage when the primary vacuum switch senses a drop in vacuum below 4 IN.HG. At this point however the light will not illuminate due to the lack of vacuum in the standby system to close the contact on normally open terminal of the standby vacuum switch.