ROTORWAY INTERNATIONAL

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TO ALL EXEC AND EXEC 90 OWNERS

ADVISORY BULLETIN A-33

History: In June of this year an Exec 90 was damaged while attempting to land after the engine quit in flight. The pilot was in a steep descent, the manifold pressure was approximately 15 inches. The rotor RPM had decayed slightly. The pilot responded by increasing throttle, to which there was no response. The pilot executed an autorotation into a field with soft terrain. The soft ground did not allow the aircraft to slide on its skids, and the aircraft nosed over. The pilot was not hurt in this accident.

The weather conditions were reported as overcast with a 1400 ft. ceiling, air temperature of 42 degrees Fahrenheit, and a dew point of 36 degrees Fahrenheit. The relative humidity at the time of the accident was approximately 81 percent. According to a carburetor icing data chart, the aircraft was operating in the category of "SERIOUS ICING - ANY POWER."

Action: Whenever the aircraft is operated in known icing conditions, the carburetor heat valve which allows engine coolant to flow through the intake manifold at the base of the carburetor should be turned on. (A push-pull cable may be added so that the valve can be turned on from inside the cabin. See diagram below.) If coolant temperatures cannot be maintained in the green or if the carburetor temperature gauge indicates other than normal operating range, other steps in controlling engine temperatures are required. Lower power requirement or lower throttle positions may affect the coolant temperatures and will allow icing to occur. The following steps may be required in addition to having the carburetor heat valve turned on:

1. Installation of a thermostat to maintain water temperature above 160 degrees Fahrenheit.

2. Blocking off various body scoops to prevent outside cooler air from flowing through the radiator or being made available to the carburetor.

Testing of the carburetor heat system should be accomplished to determine the amount of increase in temperature that occurs from the valve being in the off position to the on position. A restriction in water flow may not allow the temperature to increase enough for proper prevention of ice formation.