ACHIEVING FULL CONTROL OF FLIGHT FOR THE V-22 TILTROTORS

A design concept

It was shown in some of the last **posts** that V-22s in helicopter mode fly with established VRS on their proprotors – regularly, by design. Many experts know that flying with VRS can potentially cause crash. (Attached is a short summary **table**.)

Real life has shown when partial blade stall and VRS are present on the proprotors, conditions of flight are (must be) limited anyway. Even when proprotors develop useful thrust, and the aircraft operates normally, certain limitations - not typical for helicopters – concerning vertical takeoff/landing, hover etc. must remain in force.

To achieve full control of flight for the V-22 tiltrotors these limitations shall be removed. The engineering solution that is capable of it, does exist. It is called adaptive technology that can be applied to the proprotor blades. (The **www.stallfreepropellers.com** website has been dedicated to the adaptive rotor/propeller technology.)

Recently, in the United States a really important, high-level report has been published on the projected developments of the V-22:

CRSV22Ospreyreport | DocumentCloud

Unfortunately, in explicit form it doesn't contain the application of the adaptive technology. Optimally, in the list of the "Selected V-22 Upgrade Plans" the following item could be introduced:

PROTOTYPING A NEW PROPROTOR WITH BLADES UPGRADED TO ADAPTIVE TECHNOLOGY