

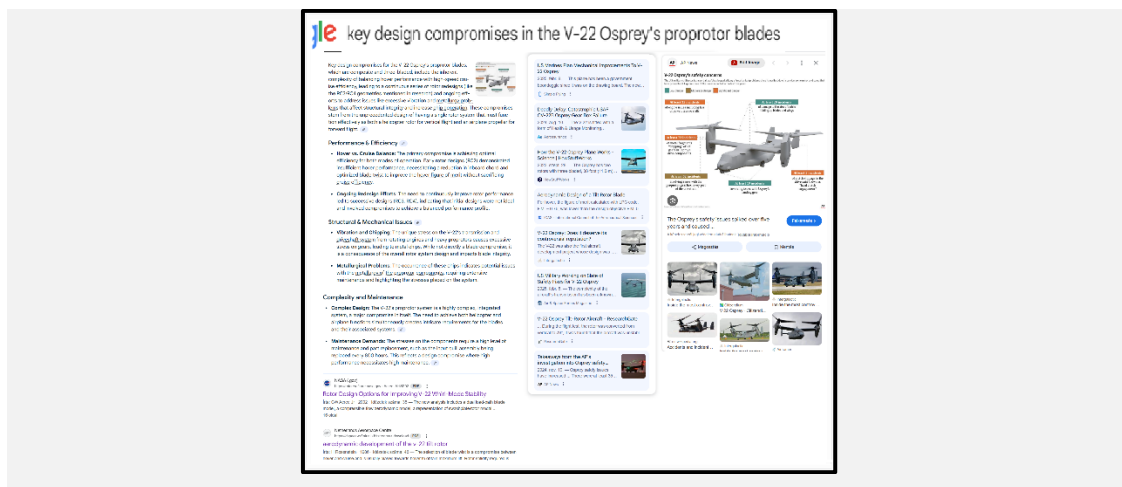
Bell Boeing V-22 and Bell MV-75 tiltrotors have the potential of becoming a NATO standard

These tiltrotors have a globally unmatched flexibility and capacity to move around troops. In this respect neither planes nor helicopters can compete with them.

Mobility is precious, because high mobility of troops often means the same military task can be completed with a lower number of soldiers. That is why, potentially, military of each country will prefer these tiltrotors over other aircrafts made even by local competitors of Bell and Boeing.

Presently, the main obstacle to achieving optimal business success for the V-22 is a damaged reputation, and an infamous nickname widely known in the aviation community. Ongoing limitations and uncertainties concerning safety, hover, and low speed maneuverability, are complicit to the hardships.

In reality to get rid of all these drawbacks is easier than one would think. All of them have a common root. It is nothing but the **application of high (maximal?) engine power to proprotors operating with extreme blade stall**. It is not even a secret. Many research details have been published, and now are legally out on the Internet. (See the "Proprotor Compromises" poster in the attachment.)



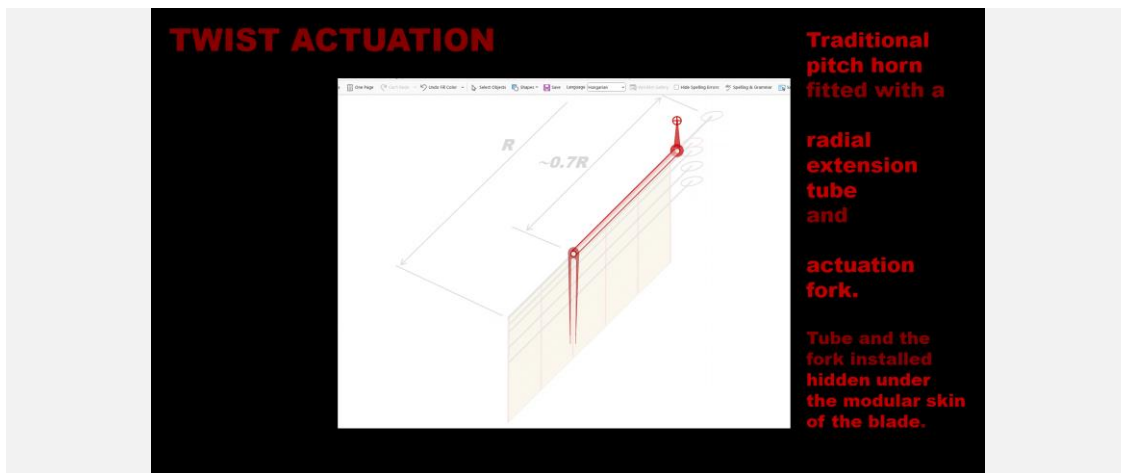
Hence it is quite straightforward that mitigation of all the above problems is possible by **removing propotor blade stall** from the equations. The following rewards are quaranteed:

1. Murderous bubble of turbulent air during hover is turned into normal helicopter downwash;
2. Deafening noise during low speed, vertical takeoff, landing, and hover, is reduced to normal helicopter sound;
3. Extreme fuel consumption during low speed, vertical takeoff, landing, and hover, is reduced to the normal level of helicopter fuel consumption;
4. Extreme vibrations during low speed, vertical takeoff, landing, and hover, is reduced to the normal level of helicopter vibrations. Present abnormal **part failures** stop happening;

5. Present limitations imposed on low speed maneuvers, vertical takeoff, landing, and hover, can be lifted (normal helicopter rules will apply);
6. Stability of flight (including **safety** and security) during low speed, vertical takeoff, landing, and hover, will greatly be improved, and will be increased to the level of flight stability of normal helicopters;
7. **Top cruising speed** of the tiltrotor will be increased to a value near 0.8 Mach.

Good news, the concept of a feasible (!) solution is given. Last [report](#) with a description of **adaptive** proprotors, was posted at the VFS Forum on 31 August 2025. (A shorter [extract](#) from it too is attached to this post.)

The below animation is showing a sketch of the proposed adaptive proprotor blades with actuation based on the traditional pitch control solution of helicopters. The GIF also has a hint to a way the mechanical upgrade of the rotor blades can be accomplished.



It is known NATO - though it promotes interoperability – presently does not have universally standard weapons. Due to their special technical superiority however V-22 and MV-75 tiltrotors can even bring about a quasy standardization within the alliance. (In this category only.)

Producers of these aircraft are to benefit greatly, anyway. Of course – potentially.

12 September 2025