

Conquest I and II Product Roundup – What’s Hot!

A lot of our Conquest I and II customers ask about new products in terms of “What are the other Conquest operators installing on their aircraft these days?” Conventional wisdom can be a useful tool to help decide whether to invest in a certain product. With that in mind, here are a few upgrades that our Conquest I and II customers are currently installing at West Star. Some of these products were developed by West Star and some were developed by other companies, but all of them can be purchased and installed at any of our four maintenance locations in Grand Junction, Dallas, East Alton, and Columbia.

High Intensity Discharge (HID) Xenon Landing Light System. Available for Conquest I and II aircraft, the benefits of this system include vastly improved night vision, removal of costly-to-maintain retractable landing lights, no time/airspeed/temperature limits for operation, reduced electrical load, they can be used for landing lights or recognition lights, and they come with a five year warranty from Royal Atlantic Aviation, developer and supplier of the upgrade kit. If your Conquest has the longer outboard wing de-ice boots installed that reach almost to the wingtip, they will need to be replaced with the shorter boots to allow a clear area in the wingtip to install these HID lights. Operators can also add an HID taxi light option installed on the nose gear for dramatically improved night vision during taxi operations.

LED Anti-Collision and Position Lights. Conquest I and II operators can now make a quantum improvement in the “be seen” part of “see and be seen” with improved anti-collision and position lights using the much brighter LED lights offered by leading light manufacturer Whelen. Lighting options depend on your existing lighting configuration, type of wingtip installed, etc. Wingtip, tail strobe, and belly beacons are all available for retrofit, and the dramatic improvement in light intensity can’t help but make you more recognizable in a crowd or in minimum visibility situations.

Aft Body Strakes. Aft Body Strakes developed by Aircraft Performance Modifications are still a hot seller for both the Conquest I and Conquest II airframes. These strakes improve the efficiency of the airflow over the aircraft’s surface and add significantly to the stability of the aircraft, especially in turbulent air. According to the Aircraft Performance Modifications folks, the improved efficiency in airflow results in a 4-6 knot average increase in max cruise airspeed, and they increase the margin of safety with reduced stall speeds and better response in the event of an engine failure, as well as improved stability in single engine operation.

Auto Ignition. The head of a leading Conquest II flight training organization once said: “Every Conquest II should have auto ignition”. Fact is, fewer than half the U.S. Conquest II fleet has it installed. This West Star STC’d improvement provides instant activation of the engine igniters when it detects a loss of torque in an engine due to a flame-out or other engine failure. This system, recommended by Honeywell (the engine manufacturer) and incorporated into all new TPE331 OEM engine applications, is fully automatic with a test switch to verify proper operation before flight and igniter monitor lights that tell the pilot when igniters are firing. And, operators still have the option of

using the original OEM-installed ignition override function with auto ignition installed if they so desire.

Conquest II Dual Master Warning System. West Star's Dual Master Warning system is a safety enhancement feature that incorporates a large red annunciator light on the pilot and co-pilot panels to alert the busy pilot that one of the smaller annunciator lights is illuminated and a potential problem needs to be addressed. This is virtually the same system that was incorporated on all Conquest II's by the factory in serial number 441-0260 and on, and it is recommended by all the leading Conquest flight training facilities.

Conquest II Stainless Steel Exhaust Fairings. Over time, the original fiberglass composite exhaust fairings installed on Conquest II's tend to deteriorate due to constant exposure to extreme temperatures. West Star's stainless steel fairings are custom-fabricated to the aircraft and far exceed the original factory versions in performance and design. Polished to a mirror finish, these fairings will provide operators with years of trouble free service and will enhance the overall appearance of the aircraft.

Conquest II Engine Diagnostic System. Developed by Royal Atlantic Aviation, this "Engine Saver" system consists of a module of four annunciator lights (LH and RH Oil Bypass Lights and LH and RH Chip Detector Lights) that will advise the pilot of certain potential abnormal operating conditions for either engine. The system is designed to provide indications of both ferrous and non-ferrous particles that may be the first indication of a potential engine problem. The oil filter bypass lights illuminate to indicate that the respective oil filter has bypassed, as detected through a sensor mounted on the side of each engine. The chip detector annunciator lights are illuminated if a fine metallic part is drawn to an engine-mounted magnetic sensor. These products not only enhance the safety of flight, but could also result in significant maintenance savings if a potential problem is detected and addressed early.

Conquest II Gross Weight Increase. Many Conquest II operators have increased the gross weight of their aircraft from the original factory-certified gross weight of 9,850 pounds to a maximum of 10,340 pounds (maximum weight gain of 490 pounds) through the incorporation of two STC'd kits offered by Aeronautical Testing Service. The first kit includes the installation of vortex generators installed on the top of the inboard wings, and affords the operator a weight increase of 315 pounds. Installation of the second kit incorporates new main landing gear metering pins, and offers the operator an additional gross weight increase of 175 pounds. The combination of both kits affords the operator a total gross weight increase of 490 pounds.

Conquest II Windshield Deice Control Valve. This modification developed by Royal Atlantic offers Conquest II operators a manual pilot-controlled cutoff valve in the event of a windshield overheat situation. If an overheat condition exists, the pilot will receive a red visual warning light. If the light stays on, it is an indication that the normal shutoff system has failed. The system offers a manual cut-off to give the pilot control over this potential overheat condition.

Conquest I Blackhawk XP135A Engine Conversion. Conquest I operators can increase your rate of climb dramatically and increase cruise speeds by up to 30 knots by having West Star install factory new PT6A-135A engines from Blackhawk Modifications, Inc. They also offer credit for every hour remaining until overhaul on your original PT6A-112 trade-in engines, which can make the Blackhawk XP135A upgrade option attractive even if you are not coming up on overhaul on your original engines. Blackhawk also offers the most cost effective electronic torque indicating system for the Conquest I, and you can install it on the original PT6A-112 engines or on new Blackhawk PT6A-135A engines.

Conquest II RVSM Solutions. Approximately 30% of the Conquest II fleet has an RVSM solution installed allowing them to operate in RVSM airspace at FL290 and above. West Star can provide an RVSM solution for Conquest II's with any type of autopilot installed. We own RVSM STC's for Conquests with the Collins APS-65 and Meggitt 2100 autopilots installed, and have access to RVSM solutions for Conquest II's with the ARC1000 and Sperry SPZ-500 autopilots installed.

Garmin G600. The current most popular display technology for our Conquest I and II customers is the Garmin G600 system. Operators typically install this system with other Garmin equipment such as the GNS 430 and GNS 530 GPS units, Garmin transponders, and audio panel. At a relatively inexpensive price, the G600 system offers as standard equipment features such as synthetic vision (3-D depiction of the landscape, water features, airports, towers and other obstacles, and traffic), FliteCharts, SafeTaxi, and WAAS capability. Optional features include Chartview (which shows the aircraft position over Jeppesen charts), radar interface, XM weather and radio, traffic and terrain interfaces, and winds aloft data. For Conquest II operators with the Collins APS-65 autopilot installed, West Star is in the process of amending our RVSM STC to include Conquests with the G600 system installed. (See related article in the Avionics section of this issue).

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Interestingly, many of the most popular upgrade products today help improve the safety of your Conquest I and II operations. And in the grand scheme of things, they are relatively inexpensive for the great benefits they offer.

Contact Dave Girard at West Star's Grand Junction facility for more information at 800-255-4193 or direct at 970-248-5250 , or e-mail Dave at dgirard@wsa.aero.

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