Applies To:

All RamAirs

Items Provided By Wills Wing For This Retrofit:

QTY	ID	DESCRIPTION	RETAIL
1	20P-1233	PULLEY HARKN TRIPLE BLOCK BCKT	$30.69
1	20P-1231	PULLEY HARKN CHEEK BLOCK VG	$12.00
1	20P-1211	PULLEY HARKN SINGLE W/SHACKLE	$12.50
2	10L-1061	SCREW PAN 3/16 MS35207-263	$ 0.14
2	10N-1730	CLINCH NUT 3/16 MS20142-3	$ 0.31
1	45K-1503	VG ROPE - RAM 14:1 LOWER	$14.25
8 FT	30J-3101	4MM ACCESSORY CORD - NO TWIST	$ 1.32
1	78-E02	DOCUMENT-XC VG ASSEMBLY DRAWING	N/C
1	NPLATE.DWG	DOCUMENT-EXTENDED NOSEPLATE DRAWING	N/C
		TOTAL:	$71.21

Tools Required For the Installation:

Drill with 3/16" bit. 7/16" wrench 5/16" wrench 1/4" wrench Phillips screwdriver

Background:

The RamAir uses many of the same VG components as are used on the Cross Country, but there is an extra 2:1 reduction in the Cross Country VG system which doubles the amount of rope which has to be pulled but almost halves the required force. The extra 2:1 reduction can be installed on the RamAir using the above listed parts and the installation procedure below. This is an entirely optional retro-fit - it does not alter the glider's performance.

Installation Procedure:

With the glider folded up, untie the the sail mount leech line at the nose. Remove the two root sail battens, and slide the nose of the sail back exposing the noseplates. Remove the top nose plate. Using the included noseplate drawing as a template, mark and drill two 3/16" holes - as indicated in the XC VG ASSEMBLY drawing (see XC owners manual or Dealer Service Manual—XC Assembly Diagrams) - on the right side of the top noseplate. Using the screws and nuts provided, mount the cheek block pulley to the top of the top noseplate as shown. Re-install the noseplate on the glider, installing the Lower VG Rope tang to the left noseplate bolt in the process as shown in the drawing.

Set the glider up, taking care when spreading the wings that the sail slides forward around the nose. If you spread the wings without working the sail forward, you may tear the sail apart at the nose.

With the glider fully set up, re-tie the sail mount leech line at the nose so there is slight slack in the leech line. The leech line should be adjusted so that it goes snug as the wings fold in past the halfway point. Re-install the root battens, taking care to engage both of the keel pocket webbing straps and all segments of the batten pockets in the rear keel area on each batten as it is installed.

De-tension the crossbar, and fold the wings in part way. Unzip the center zipper. Remove the rear triple block from the two sweep wires and replace it with the included triple block with becket. Remove the VG activation rope and discard. Using the XC VG ASSEMBLY drawing as a guide, install the upper VG rope, starting at the becket on the new rear triple block. Tension the crossbar, and attach the single pulley as shown to the free end of the upper VG rope. This pulley should lie above the centerline of the keel, below the crossbar center, and be just at or just aft of the crossbar center when all the slack in the upper VG rope is taken up. Thread the Lower VG Rope through the single pulley as shown, forward through the Cheek Block Pulley as shown, and then rearward to the keel mounted Cheek Block. This rope should lie above the keel and pass inside of the crossbar hole down strap and the front keel pocket on its way aft to the keel mounted Cheek Block. The remainder of the routing is as before: forward from the Cheek Block around the control bar top pulley, down the back cavity of the downtube, around the base bracket pulley and out past the knife cleat. Tie a not in the lower rope near the cleat so that you don't lose the rope into the downtube. The installation should now be complete. Check the VG for proper operation.

It is very important to pre-flight the VG system each time you set up the glider. The lower VG rope will tend to become trapped between the bottom of the keel and the crossbar hold down strap during breakdown and subsequent set-up, rendering the VG inoperable if not corrected. Once the xbar is tensioned and the rope is properly routed, it will remain free.

If you have any questions about the installation, please call Wills Wing.