

Composite Frame Care Kestrel KM40 Airfoil

Congratulations on your Kestrel purchase! The carbon fiber composite of your Kestrel frame is significantly lighter and stronger than metals and barring accident, will stand up to a lifetime of the hardest training and racing. But composite frames require slightly different care than metal ones. Even if you've been working on bikes for years, please take a few minutes to read the following guidelines.

General

Repair stands. The mechanical action of a repair stand concentrates enormous loads in a small area. As with any fine bicycle, clamp your Kestrel by the seatpost only to avoid damage to the frame.

Dropout spacing. Your Kestrel KM40 is molded with 130.0mm dropout spacing to accept 130mm hubs. Do not stretch or compress your frame's dropout spacing more than three (3) millimeters. As it is impossible to bend the carbon composite of your Kestrel frame, do not attempt to cold set (bend) the frame.

Assembly

Seatpost. Seatpost size is 27.2mm. Maximum seatpost insertion is 100mm (3.9 inches). The metal seat tube insert extends only this far into the frame. Inserting the seatpost beyond this depth will put pressure on the composite walls of the frame, potentially damaging it. Seatposts may easily be cut down if a lower seat height is desired, and of course this method offers a small weight savings as well. As with any frame, grease seat tube and seat post before insertion and regularly thereafter.

Headset. Kestrels have normal size headtubes, and headsets are a press fit. As with any fine bicycle grease the insides and faces of the head tube where the cups go in, and the crown race, seat on these models. Cups should be professionally installed with a headset press that maintains correct alignment of the head cups during assembly.

Grease bottom bracket threads and faces before installing the bottom bracket cups. Recommended torque on the fixed cup and lockring is 300in/lbs.

Caution: do not use Loctite or other thread locking compounds on the bottom bracket threads! Loctited cups require additional torque to remove, which may exceed the torque limit on the bottom bracket of your Kestrel frame. With excessively high torque it is possible to damage the threads of the aluminum bottom bracket shell on the epoxy bond which holds it in place.

Brake cable housing. Your Kestrel frame comes with a disposable length of cable housing threaded through the top tube. Insert your cable through the disposable housing, then remove the housing, leaving your cable threaded through the top tube. Your own housing may then be fitted back over the cable.

Note: if you already removed the disposable housing before reading this section, don't panic! This is how we install the housing at the factory:

Put a 15-20 degree kink about two inches from the end of a piece of stiff wire (brazing rod if you have it, although a thin wire coat hanger will work) and thread it into the top tube just far enough to reach the far cable port in the top tube. Twist the wire until you can see it line up with the port, then push it through. Then thread your housing over the wire.

Derailleur cables. Your Kestrel KM40 Airfoil has internal derailleur cable routing through the down tube. The cables pass through the wall of the down tube through a short (one inch or so) length of stainless steel tubing. Use new cables (the soldered ends help keep the cables from catching on the interior wall of the frame) and wiggle and twist them until they pop out through the access hole under the bottom bracket area near the chainstays.

The bottom bracket cable guides for the front and rear derailleur cables are two short pieces of stainless "macaroni" tubing bonded to the frame with their mounting plates. Check to be sure the two cables do not cross each other or get tangled together, then proceed with front and rear routing as follows:

Front derailleur cable. The guide for the front derailleur cable is bonded to the topside of the down tube under the fin. Put a small bend in the end of the cable and route it up through the cable guide. Connect the cable to the front derailleur. Peek inside to be sure the cable rests in the curve of the guide and has not jumped out of place.

Rear derailleur cable. The guide for the rear derailleur cable is bonded to the underside of the frame at the edge of the access hole. Thread the cable through the macaroni tube and rearward toward the chainstay cable stop. The cable must pass through the macaroni tube. If it runs on the edge of the access hole it will eventually wear through structural layers of composite material.

Front derailleur mounting bracket. Grease the threads of the mounting bolts before installation and make sure they are tight enough to keep the bracket from moving during front derailleur shifts. The bolts are threaded into metal inserts, so be careful not to strip the threads.

Paint

Caution: any paint stripper which will remove polyurethane paint will damage the epoxy resin matrix which holds your frame together. Do not use any paint stripper on your Kestrel frame. If you decide to have your Kestrel repainted, we recommend hand sanding to remove the decals and scuff the topcoat. Do not bake over 150 degrees F. Do not sand away any composite material. Do not sandblast, beadblast, plastic media blast, blast with walnut shells or any other media. Blasting may remove structural composite material and may weaken your Kestrel.

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