

Composite Frame Care Kestrel 500 Series

Congratulations on your Kestrel purchase! The carbon fiber/Spectra hybrid 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 500 series is molded with 128.5 dropout spacing to accept 126mm through 130mm hubs. Do not stretch or compress your frame's dropout spacing more than (3) millimeters. As it is impossible to bend the carbon/Spectra composite of your Kestrel frame, do not attempt to cold set (bend) the frame.

Assembly

Seatpost. Seatpost size is 27.2mm. Maximum seat post insertion is 100mm (3.9 inches). The metal seat tube insert extends only this far into the frame. Inserting the seatpost beyond this depth may 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. As with any frame, grease seat tube and seat post before insertion and regularly thereafter.

Facing tools. Caution: Kestrel's carbon fiber/Spectra hybrid is fairly abrasive and over time may dull facing tools. Since all Kestrel frames are faced at the factory before paint, it is not necessary to face Kestrel frames again before assembly.

Headset. As with any fine bicycle, grease the insides and faces of the head tube where the cups go in, and the crown race seat. Grease acts as an insulator against galvanic reaction between the carbon frame and aluminum head cups. Cups should be professionally installed with a headset press that maintains correct alignment of the head cups during assembly. Headset cup diameter is Campy standard 30.2mm. Crown race diameter is Campy standard 26.4mm.

Grease bottom bracket threads and faces before installing the bottom bracket cups. Recommended torque on the fixed cup and lockring is 300 in/lbs. Recommended chainline is 43.5mm to 47mm.

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. While the aluminum bottom bracket shell is molded integrally into the frame, with high torque it is possible to break the epoxy bond which holds it in place.

Mavic bottom brackets. You may chamfer the edge of the aluminum bottom bracket shell which is molded into your Kestrel. Be sure to cut only aluminum. Chamfering beyond the depth of the aluminum bottom bracket shell will cut into the composite fibers which hold the shell in place.

Brake cable housing. Your Kestrel frame comes with a disposable length of 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 45 degree kink about three inches from the end of a piece of stiff wire (brazing rod if you have it, although a 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 500 has internal derailleur cable routing through the down tube. The cables pass through the wall of the down tube through a short (one inch) length of stainless steel tubing. Use new cables (the soldered ends help keep the cables from catching on the interior wall of the frame) 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 the front and rear routing as follows:

Front derailleur cable. The guide for the front derailleur cable is bonded to the topside of the downtube 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. Look 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 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 aluminum rivnuts, so be careful not to strip the threads. Some adjustment of the bracket position is possible by loosening the two mounting bolts and shifting the bracket relative to the frame.

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 with any other media. Blasting can remove structural composite material and could make your Kestrel unsafe.

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