



HAPPY-TRAIL.COM
Dual Sport & Adventure Touring Specialists

Thank you for purchasing Happy Trails products. Our products are proudly hand made in Boise Idaho, USA. If you have any questions or concerns about the installation of this product, please contact us directly at 1-800-444-8770 or e-mail installation@happy-trail.com.

Before you begin, place the bike on a hard level surface where you have room to work. Lay out the parts included in this kit and compare to the parts list on the last page of these instructions. If any parts or hardware are missing, contact us immediately at the number listed above.

IMPORTANT!!!

When installing Happy Trails accessories, leave all bolt connections loose until everything is mounted and fitted and then tighten as indicated in these instructions.

“A” model 1987-2007, “E” model 2008-present

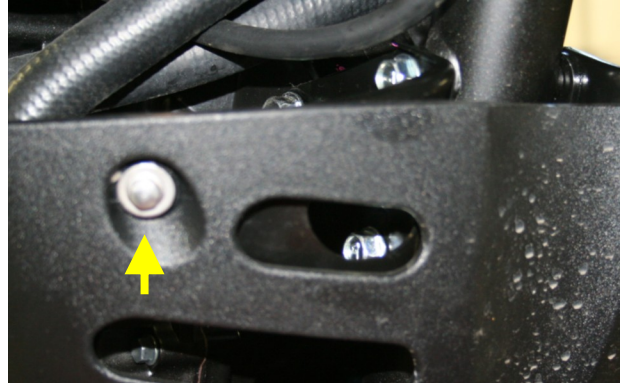
Step 1: Remove Old Skid Plate

Using an 8mm socket (10mm for “A” Model KLR), remove the 4 bolts (3 for “A” Model) from the bottom and front of the stock plastic skid plate. See Figures 1A and 1B. You will NOT need any of this hardware for the installation of the new skid plate.

Figure 1A



Figure 1B

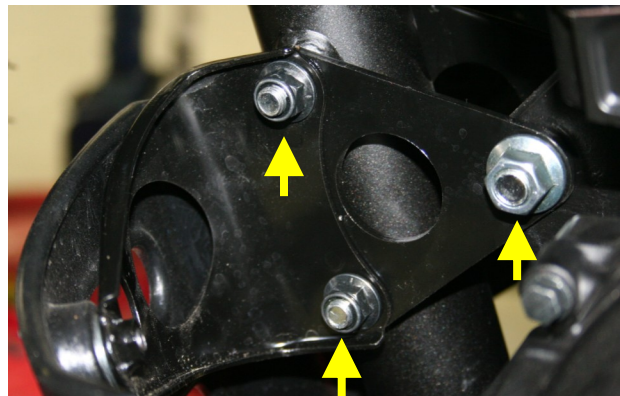


Step 2: Remove Stock Engine Mounts (Note this step is not needed on “A” Model KLRs)

Using a 14mm Socket with extension and 14mm wrench, remove the front engine mount bolt. Using a 12mm socket with extension and 12mm wrench, remove remaining two frame bolts.

Note: You will reuse these engine mount bolts and nuts but NOT the “Bat Wing” Triangle Mounts.

Figure 2



Step 3: Install New Engine Mounts (Note this step is not needed on "A" Model KLRs)

Install the new Engine Triangle Mounts as shown in Figure 3 and reuse the bolts and nuts removed in Step 2. Tighten to manufacturers specified torque. (18 ft-lbs for 12mm nut, 32 ft-lbs for 14mm nut)

Tip: We recommend the use of a removable strength liquid thread locking compound such as blue Loctite on engine mount bolts.

Figure 3

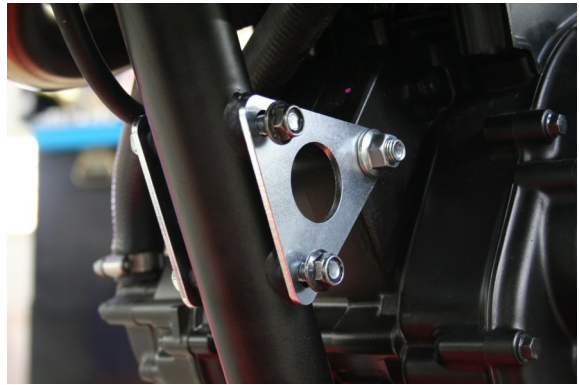
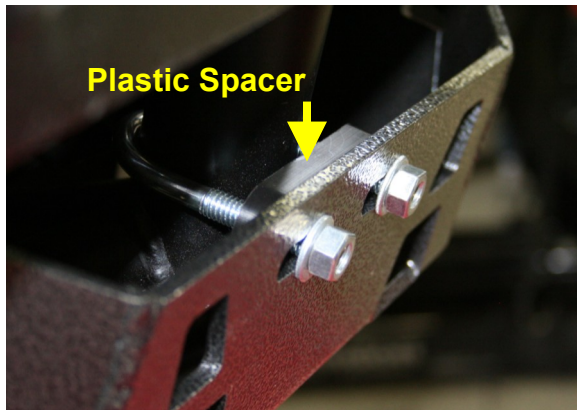


Figure 4



Step 4: Install Front U Bolt and Skid Plate

Discard the nuts and steel strap that are packaged with the U bolt. They will not be needed. Slide the U bolt around the frame downtube. Slip on the black plastic spacer as indicated in Figure 4, then slide through the front center holes on the skid plate. And finally, install the two washers and nylock nuts as shown in the figure. *Tip: A "third hand" or some tape helps keep the U bolt and plastic spacer in place while sliding on the skid plate*

NOTE: For "A" Model KLR, the black spacer is NOT NEEDED as it has a steel mount already welded to the down tube from the OEM skid plate.

Step 5: Install Rear U Shaped Frame Clamps

Place a flat washer on an M8x20 bolt and set within easy reach. Take one frame clamp and position around bottom frame rail as shown in Figures 6D while holding the skid plate up against the bottom of the rails as shown in Figure 5. With your free hand, place the bolt with washer through the bottom hole of the skid plate and screw into the frame clamp. **Note clamp contains Uni-torque self lock nuts. The lock forms when the nut is tightened onto the bolt, deforming the threads.** Do not fully tighten this clamp yet.

Tip: Use index and middle finger to hold clamp while you insert the bolt (Figure 5)

Figure 5



Tip: Place a few drops of oil or anti seize lube on top threads of the clamp bolts to make future removal easier from Uni-torque locking nut.

Step 6: Align Skid Plate and Tighten Bolts

Once all 5 clamps are installed, tighten all bolts **until just shy of being tight** so you can still move the skid plate for final alignment.

Center the skid plate left and right such that you have the same clearance between the left engine cover (Figure 6A) and right water pump housing area (Figure 6B) .

The back areas of the skid plate will typically have more showing on the left side of the bike vs. the right side due to the disproportionate left and right engine cases.

Once the skid plate is where you want it, tighten the front U bolt . **Do not over tighten this clamp**. There should only be 1 or 2 threads showing beyond the nut.

Now tighten the bottom frame clamps making sure the U clamps are not touching the foot peg welds. See Figures 6C and 6D. The clamps contain Unitorque self locking nuts and will require 18 ft-lbs to ensure the clamp is tight. **NOTE: Be sure the hex key wrench is fully inserted in the head of the bolt as the head can be stripped**

Congratulations, You're Done. Time to RIDE!!!

Figure 6A—Left Side

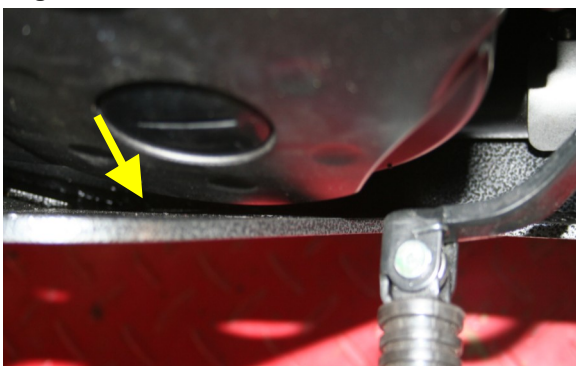


Figure 6B—Right Side

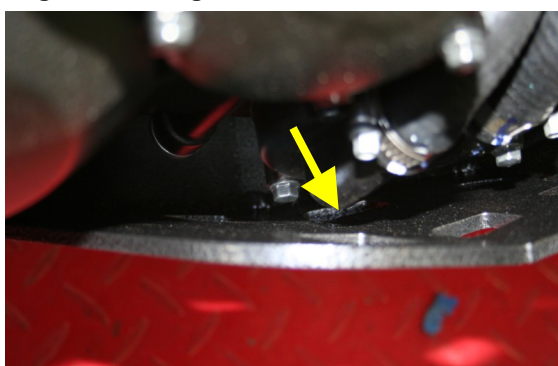


Figure 6C—Left Side

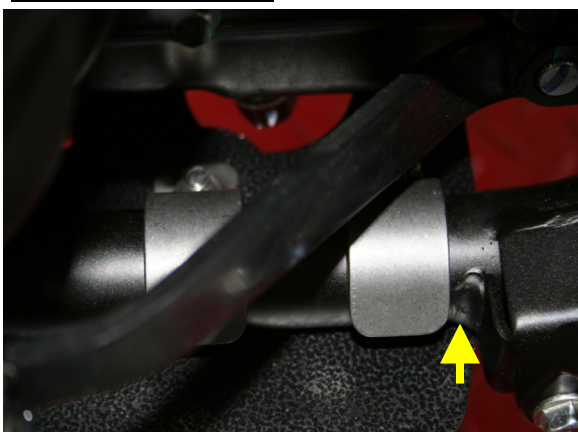
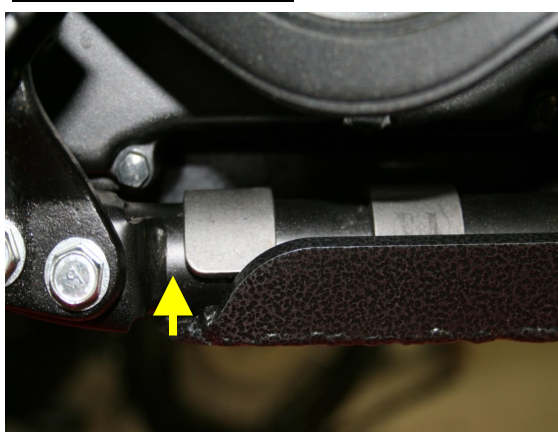


Figure 6D—Right Side



Tools Required:

12mm and 14mm Sockets
10mm Socket or Wrench ("A" Model)
8mm Socket ("E" Model)
Ratchet with 6" Extension
12mm, 13mm, 14mm Wrench
5mm Hex Key (Allen Wrench)
Torque Wrench Recommended

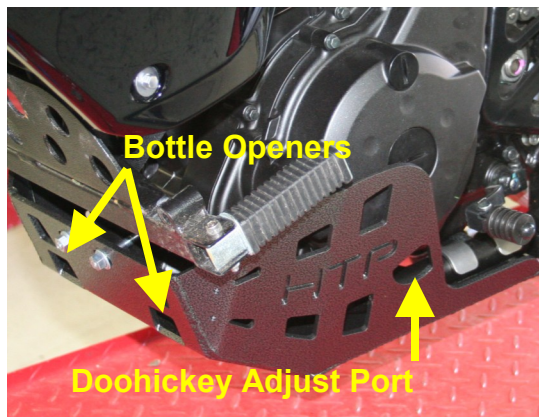
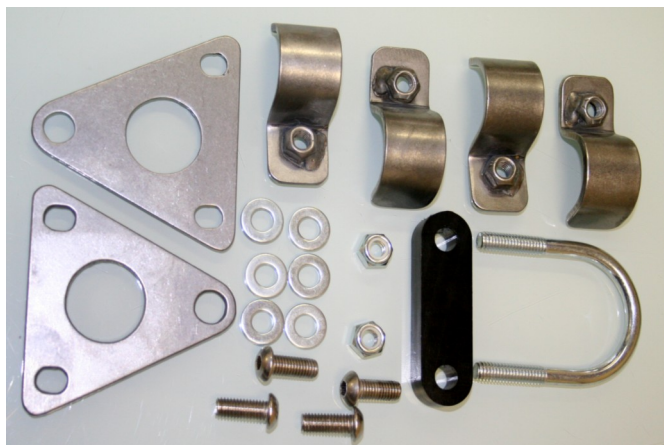


Bolt Kit List:

4 M8x20 Hardened 12.9 BHCS
6 8MM Flat Washer
2 5/16" Nylock Nut
2 Engine Mount Triangle
1 Front Black Plastic Spacer
1 Front U Bolt
4 Rear Frame U Clamp

Hardware List:

1 Skid Plate
1 Bolt Kit
1 Instructions



Installed Skid Plate



Note: "A" Model KLR built from 1987-2007
"E" Model KLR built from 2008 to present.

7/17/15
Rev. 1.3, JE