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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 1-208-377-8771 or e-mail support@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.

Follow the instructions below, or scan the QR code on the last page to watch our installation video!

Step 1: Remove Old Skid Plate

Using an 8mm socket and a 10mm end wrench or socket, remove the 4 bolts 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. **(If you have stock engine guards, you will need to remove the rear-most bolts using a 12mm socket as well)**

Figure 1A



Figure 1B

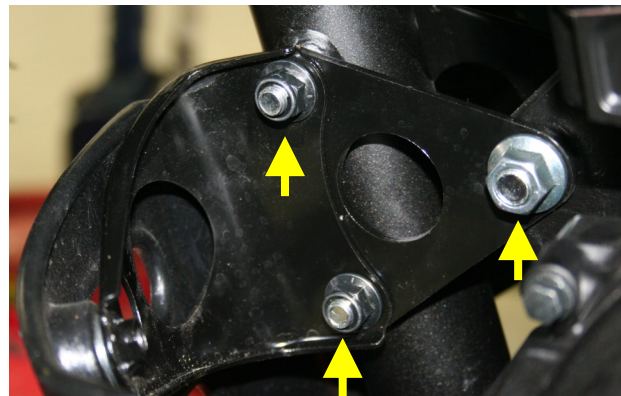


Step 2: Remove Stock Engine Mounts

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. See Figure 2.

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

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

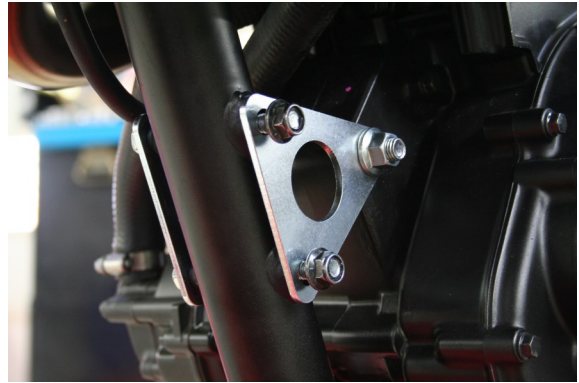
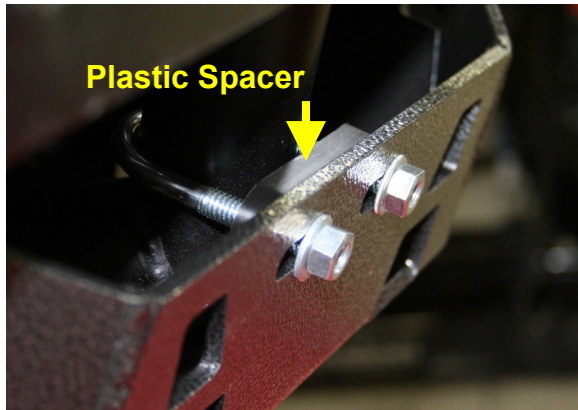


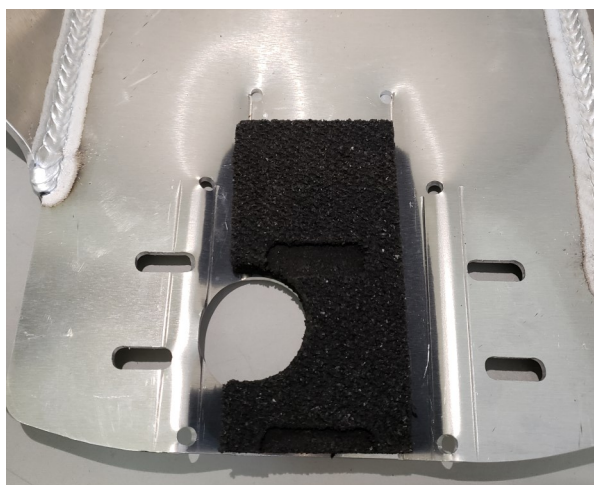
Figure 4



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. Finally, install the two washers and nylock nuts until hand tight. *Tip: A "third hand" or some tape helps keep the U bolt and plastic spacer in place while sliding on the skid plate*

Figure 5



(Optional Step): Install rubber isolator

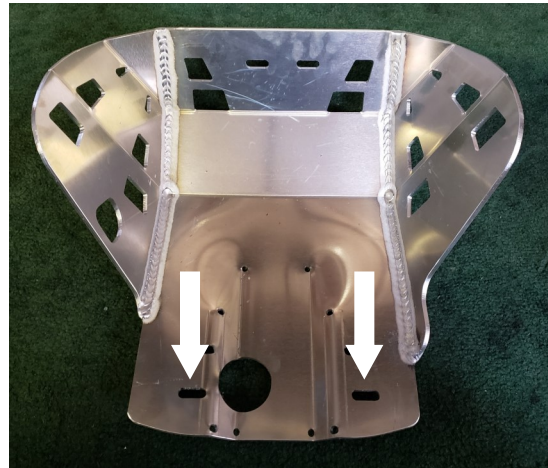
If purchased, place the rubber isolator with the milled slots facing up and the half circle cut-out matching with the oil filter cut-out on the skid plate. See Figure 5. Double sided tape can be used to hold the rubber pad in place.

Step 5: Install Rear Bolts

NOTE: We recommend using blue thread lock for this step. Using two 8mm flat washers and two 8x25 BH bolts, thread the bolts through the rear-most slots on the bottom of the skid plate into the mount points on the bike frame using a 5mm Allen wrench. See figure 6. Leave these bolts loose enough for adjustment of the plate.

NOTE: If you do not have engine guards installed on your bike, you will need to use the two aluminum spacers provided in the hardware kit. These are placed between the skid plate and the bike frame.

Figure 6



Step 6: Align Skid Plate and Tighten Bolts

Now tighten all bolts **until just shy of being completely 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 using a 1/2" wrench or socket. **Do not over tighten this clamp.** There should only be 1 or 2 threads showing beyond the nut.

Finally, finish tightening the two rear bolts down, and you're done!

Congratulations! Time to RIDE!!!

Figure 6A—Left Side

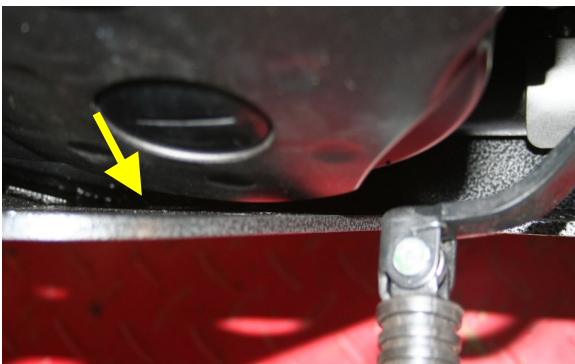
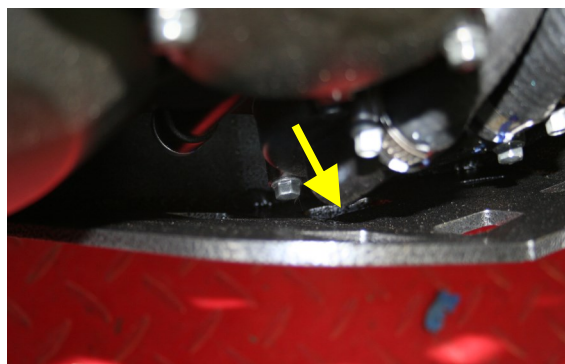


Figure 6B—Right Side

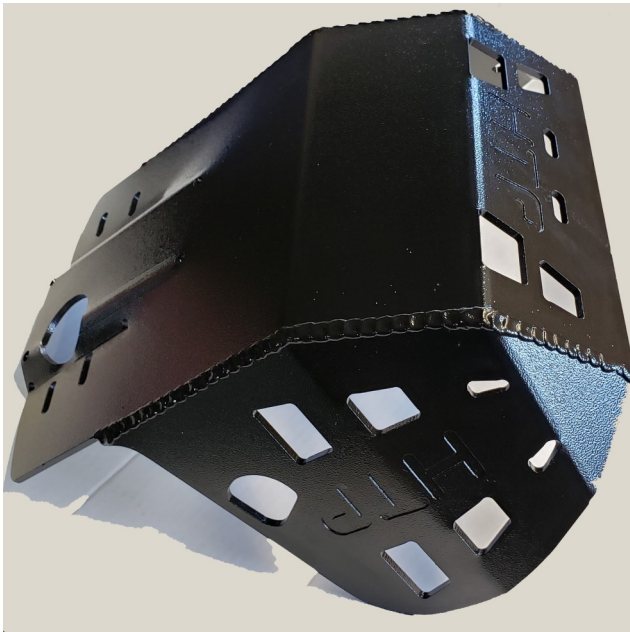


Tools Required:

- 12mm and 14mm Sockets
- 12mm and 14mm Wrenches
- 10mm Socket or Wrench
- 5mm Allen Wrench
- 1/2" Socket or Wrench
- Ratchet with 6" Extension
- Torque Wrench Recommended

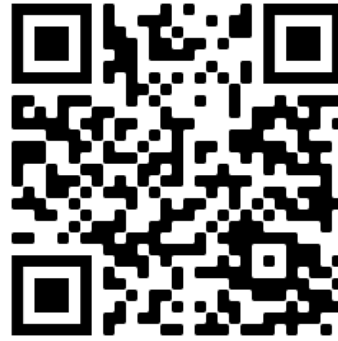
Bolt Kit List:

- 2 M8x25 Hardened 12.9 BHCS
- 4 8MM Flat Washer
- 2 5/16" Nylock Nut
- 1 Front Black Plastic Spacer
- 1 Front U Bolt
- 2 Steel triangle mounts
- 2 Aluminum spacers



Hardware List:

- 1 Skid Plate
- 1 Bolt Kit
- 1 Instructions



Scan the code to watch
our installation video!

Aluminum Spacers



10/27/2021
Rev 1
JH