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Mtn. Tamer Back Suspension System [TSP-1813](#) Installation Instructions for: [Yamaha FX Phazer-mtx](#)

Things you should know about this kit before you start:

- Read the entire installation instructions and tuning sheet before starting so that you will be prepared and will know your suspension set-up. Note: pictures below are taken from older model kits; some details will have a different appearance on newer style kits.
- When installing do not alter any of the given measurements. Use Sharpie ultra fine tip marker or ball point ink-pen to accurately make your measurement marks.
- Use very sharp drill-bits so that they do not walk to the side or cut elongated holes. It is recommended that you always center-punch your marks and also drill 1/8" pilot hole first.
- All bolts that thread into aluminum cross-shafts will need to have blue Loctite on the threads and will need to be torqued to 40 foot pounds.

Tear Down:

1. Loosen the track and remove the back 2 suspension bolts first, and then remove the front bolts. Lift the back of the sled up high enough so that you can remove the back suspension from the track.
2. It is optional to remove all the small unnecessary idler wheels from the slide rails. We recommend that you do this for maximum weight loss. Running ice scratchers in their place is mandatory.
3. Remove the front and back portion of the suspension from the rails. These 2 assemblies can be removed as a complete unit; you do not need to disassemble them.

Modifying the Slide Rail:

4. This step is not necessary to install the Mtn. Tamer kit. Modifying the rail is simply to make the suspension look cleaner.
5. Use a ruler to draw straight lines as shown in. [See Fig. 1](#) You will also need to utilize the bolt hole in the rail to make rounded inside radius corners. Cut your markings out with a jigsaw. Use a new and sharp 3" long by 14 teeth per inch jig saw blade. [See Fig. 2](#)
6. Use a side head grinder with an 80 grit laird sanding disc to clean the cut portion of the slide rail.

Installing the Front Arm:

7. Remove and discard limiter straps and cross-shaft assemble. Install the new limiter straps with the 3 new provided aluminum strap guide spacers onto the new provided cross-shaft. Longest spacer will go in the middle.
8. Install the new front suspension arm onto the slide rails using new 3/8"x1/4" long bolts with lock washers only.
9. **Drilling new bolt holes in the slide rails to mount the front shock. Hole Location:** Use a small ruler and draw a line straight down from the center of the front arm bolt hole. Measure 4-1/2" straight forward from this point and mark the lower portion of the slide rails. Then place a provided 3/8" flat washer on the bottom slot of the slide rail; place it up against the lip that sticks out. Mark the center of the hole and put a good center-punch on your mark, drill the holes using a 25/64" drill bit. [See Fig. 3](#)
10. **IMPORTANT!** Identifying the front and back shock. The 2 shocks are the same length, but they do not have the same internal valving. Each shock has a number located at the top of the black air body.

[Front Shock # 951-99-071 / Back Shock # 952-99-071.](#)

11. **Installing the front shock.** First insert the provided shock bushings into the bottom end of the shock. Use a rubber hammer to knock them in. Grease the inside of the bushing and the new provided shock cross-shafts. Install the shaft into the shock bushing. Note: one of the shock alignment collars has an "X" on it; this collar is pre-set in the right location so that the shock is centered on the shaft. Slide the other collar on and squeeze the two together with your fingers with the shock in the middle. Tighten the set-screw down tight enough so that you can feel the end of the set-screw sink into the aluminum shaft. Use red Loctite on the set-screw threads.
12. Place the shock assembly in the slide rails and into the mounting holes using new 3/8"x1/4" long bolt and lock washer only.

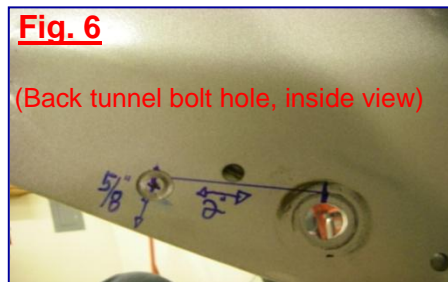
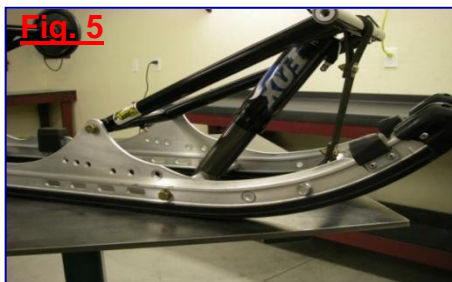
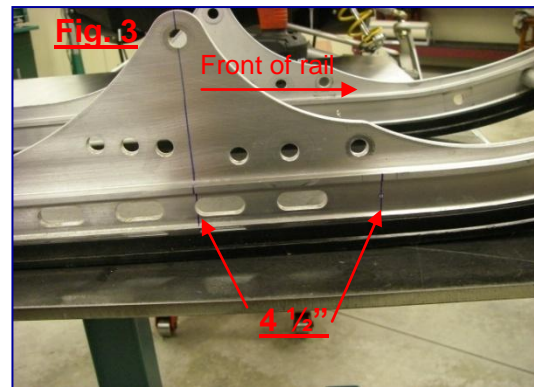
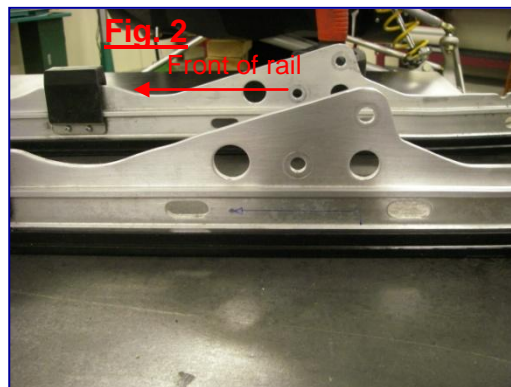
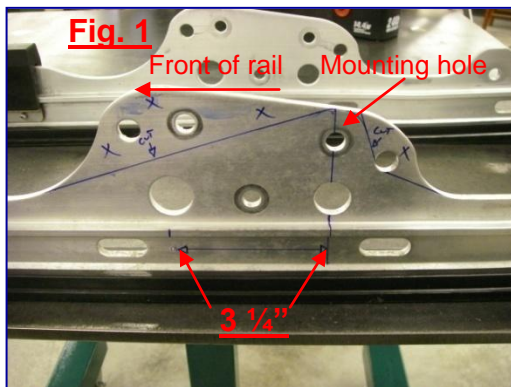
- Place rubber O-rings and Heim reducers into the top side of the shock, then attach it to the suspension arm using the new 3/8"x 2" long bolt and nylock nut (no washer needed). Note: the air body will go on top with air valve facing the front.
- If your sled is stock the recommended starting point is, standard end hole in 3rd adjustment hole down on limiter strap with 90 psi in front shock. Note: there is no need for more or less air pressure for heavy or light riders.

Installing the Back Arm:

- Mount back arm to the back / upper OEM hole in the slide rail. [See Fig. 1](#)
- Drill new bolt hole in the slide rails for mounting the back shock in the same sequence as you did for the front arm shock. **Hole Location:** Measure and mark 3-1/4" straight forward. Drill holes with 25/64 drill bit. [See Fig. 1](#)
- Install the back arm and shock in the same sequence as you did with the front arm and shock with air valve facing the front. Note: it is recommended that you only put 40 PSI in the back shock at this time; this will make it easier for installing it into the sled.
- Install the 2 provided 5-5/8" upper idler wheels onto the back arm cross-shaft. Use a rubber hammer to knock them on if they do not go on freely. Secure the wheels with the provided snap-ring. Due to the taper on the end of the shaft you can simply push the snap-ring on with your fingers without having to use any tools. Note: if you are using aftermarket idler wheels in this spot, they must be no less than 5-1/2" diameter. If they are any smaller, the track will rub the top of the back shock when the suspension is compressed and will permanently damage it.

Installing the Suspension:

- First you will need to drill a new bolt hole in the tunnel for the back suspension arm. **Hole Location:** Take a small ruler and measure 2" back from stock suspension bolt hole and 5/8" up from bottom edge. Mark this point and put a good center-punch mark and drill the hole using a 25/64 drill bit. [See Fig. 6](#)
- With the sled lifted up high enough so that the tunnel will clear the suspension, slide the suspension into the track.
- Bolt the front arm in first using new 3/8"x1 1/4" long bolts with flat washers and lock washers. Note: getting the front bolts started can be tough sometimes. It works best to lift the back of the sled higher than needed, then put a floor-jack under the front of the track and jack it up until the bolt holes come into alignment.
- To bolt in the back arm you will need to pull the back arm down to bring it into alignment with the drop bracket bolt holes. Use 3/8"x1 1/4" long bolts with flat washers and lock washers.
- Back arm set-up.** The back shock air pressure will depend on rider weight, and rider style. Riders under 200 pounds start at 145 psi. Riders 250 pounds start at 165 psi.
- Use a hand-operated grease gun with quality water-proof bearing grease and pump each grease zerk full until you see it coming out of both ends of the cross shafts. Push up and down on the suspension a few times then re-grease all zerks again.
- Readjust the track to the factory specs.



Should you have any problems during installation, please call (208) 255-5644

Y. Phazer Suspension Adjustments:

Understand How the Mtn. Tamer Suspension Works:

The biggest benefits of the Mtn. Tamer design is that it puts even pressure on the snow between the front and back portion of the suspension. This is achieved by our rear arm slide mechanism and the mounting position of the shocks. The slide mechanism couples the back portion of the suspension to the front at a specific spot in the range of travel. At this point the suspension will travel straight up into the tunnel, reduce the track angle and applying the sleds weight toward the front, pulling it on top of the snow.

Knowing the 2 Adjustment Points on the Suspension:

1st Limiter Straps: The limiter straps are only adjustable from one end (the top). The lower end must be fastened around the limiter strap cross shaft and in-between the 3 alignment spacers with no free slack on the shaft. The strap has 10 adjustment holes in the middle of the strap. At the top end of the strap there are 2 other holes to choose from that will be looped back to the 10 middle adjustment holes. The hole that is closest to the end of the strap is the standard adjusting hole. The hole that is 3" down from the end of the strap is an optional hole that will give the strap 10 coarser adjustments (works well on high-horse power sleds).

2nd Float Shock Air Pressure: Note: In your installation instructions are recommended air pressure set-ups for each sled brand and rider weight. Your kit includes an air pump to adjust the spring rate of the shock. To do this you will need to lift up the back end of the sled, remove the silver air valve-cap (be very careful that you do not get any moisture inside the air valve). Thread the pump onto the valve-stem until you feel the pump pressure up, you will be able to see the pressure on the gauge. Also keep in mind that when the pump pressures up the shock loses 4 psi. When you unthread the pump you will hear it release air but will not affect the exact pressure you gave it. When tuning your suspension it is best to change air pressure in increments of 10 psi at a time. The Mtn. Tamer shocks have specific air pressure ranges that they must run in so that you do not damage the suspension or shock. **Shock Pressure Ranges: Front shock, 70 to 100 psi Back shock, 120 to 175 psi**

Warning: If your suspension is bottoming out you need to stop and readjust. If you are unable to make the shocks perform properly you need to stop riding and contact us for assistance. Damage will occur if you ignore the problem.

Back Arm Slide Mechanism: The FX Phazer-mtx Mtn. Tamer back arm slide mechanism is not adjustable do to the unusual mounting points of the arms. **Warning:** Never install a slide shim into the back arm, Damage will occur if you do.

Suspension Maintenance:

- Check shock air pressure once a month.
- Grease all zerks 3 times per year using quality water-proof bearing grease.
- Re-tighten all bolts after first ride and each year.
- Re-tighten inner air-valve needle after 5 rides (special tool needed, Can be purchase at any hardware store)
- Shock oil change and service is recommended every 2000 miles.

Warranty:

Timbersled Products inc. warranty's all products of its own manufacture against defects in materials and workmanship for a period of one (1) year from the date of purchase. Replacement and / or repair warranty is valid only if all terms and conditions are met.

1st Timbersled Products inc. requires notification prior to replacement of any part under this warranty.

2nd Replacement and / or repaired parts will be supplied upon receipt of defective parts.

3rd Timbersled Products inc. shall have no obligation under this warranty if:

- Buyer fails to notify Timbersled Products inc. of any possible defect.
- Product is improperly installed.
- Product is used in an application other than its original intent.
- Buyer continues to use product after product malfunction.

The obligation of Timbersled Products inc. is limited to replacement and / or repair of defective products only for the period of time as stated above. Timbersled Products inc. has no other obligation or liability for any other injury or damage resulting there from.