

MRS instructions

Congratulations to you in your purchase of Raid designs Mini Rally System MRS.

Before you start.

MRS is a light-weight module based rally system, designed for any navigation equipment on your offroad motorcycle. The whole idea of the MRS is to be modified to your needs. Cut, weld, add, drill or modify in any way. We supply the basic platform, and you build your own customied system.

General instructions.

Use this instruction with common sense. Your bike may look different, and you need to decide for yourself on how to approach the installation. If you run into problems, take at minute to think about it, and don't hesitate to contact us. All screws must be locked with tread lock, and not overtightened.

Raid designs takes no responsebility for your installation.

Instructions.

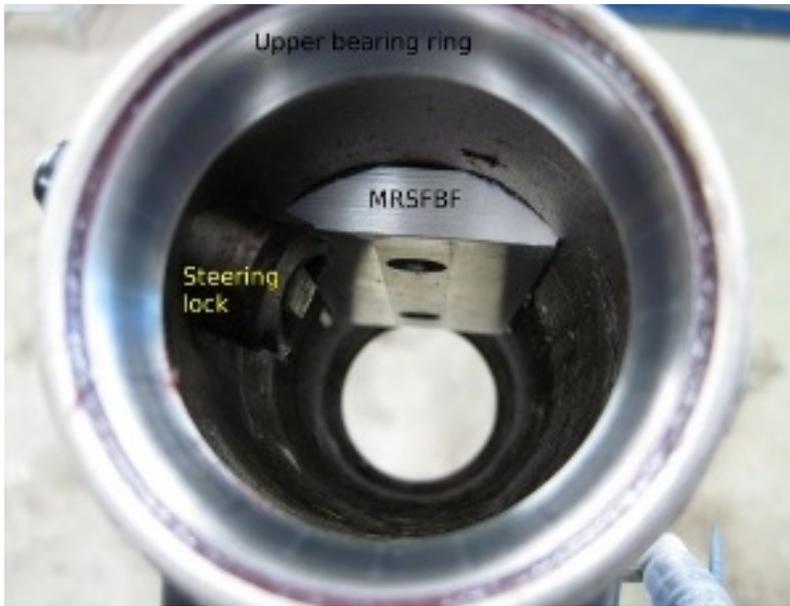
1: Place your bike upright on a bike stand or eq.



2: Remove the headlight, ODO-meter and everything in front of the triple clamps.

3: Remove the front wheel, brake and forks.

4: Remove the triple clamp, and inner bearings. You should now have a clean frame and be able to see right through. Clean the grease of the outer bearing and the frame.



5: Now you need to mark for holes, so mask the frame with tape. Hold the inner frame bracket inside, and make sure it clears the steering lock.



Measure from the inner frame bracket to the edge of the steering tube. Remove the bracket.



Use this measurement for placing the outer frame bracket edge. Now do this again from the bottom to be sure.



6: Mark where the holes goes. From the edge of the brackets to the holes is 16 mm, so at least 16 mm from your marked line. You can use the plate (MRSP) to extend the frame bracket. In the picture, I screwed a longer bar to clearly see where “straight” is. Measure this carefully, and mark two small dots in the center of the holes.



Use a center punch, and drill small holes, then widen them to 10 mm. The 2 extra mm is for adjusting, and also if you crash this will work as play.

Don't worry about the holes, this is much better than welding around the bearings.

File the edges smooth.



7: Install the inner frame bracket together with the outer one, creating a sandwich with the frame between. You can "glue" the inner to the frame with silicon. That way you can later remove the outer frame bracket with the inner one still attached. You should end up with a complete frame bracket. Check that the bracket is straight several times and tighten the screws with 30 Nm.

8: Clean the grease of the bearing and all other parts around the triple clamps. Grease it up again with new grease, and reinstall the triple clamps, front fender, front brake and handle bars. You need all these parts to adjust the MRS later.

The frame bracket is the base of the MRS. From here on you install whatever you want, but the guide continues with an example of roadbook holder, ODO-meter, light and fairing. From here on, just hand tighten all screws. They are all tightened at the end.

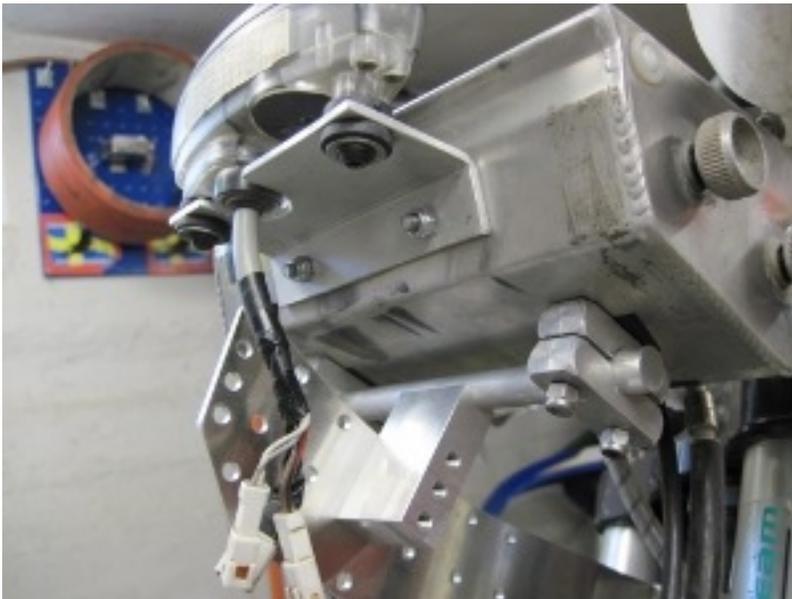


9: Install the right plate (MRSP) with 3 M6x16.

All stuff you add to the MRS, fasten them to the right plate only for now. That way, later you have easy access to the wiring by removing the left plate.



10: Roadbook holder. Tilt the steering to one side, and roughly measure where you want the roadbook holder. Take a bracket with suitable length (MRSBxx) and install the bar (MRSB) using two M5x20.



Fit the bar to your roadbook holder and loosely tighten it, so you still can adjust it. Make sure the handle bar clears everything.

Screw the bracket to the plate using two M5x16 allen heads. All brackets is fastened this way.

Since the roadbook holder is the heaviest part, the MRS has a two holes for every bracket.

11: ODO-meter (Tripp master).

The ODO-meter you can install in several different ways. You can skrew the stock bracket to a MRS-bracket, or directly to your roadbook holder, or as I did here; on a bracket directly to the roadbook holder. When you're happy, tighten the bracket to 8 Nm and your other stuff so it feels steady.

12: Light.

When this manual is printed, Raid designs uses the 60mm LED as stock headlight. You can use any suitable light(s), HID, no lights etc.



First, screw the M5x40 from the right and tighten with one nut. Install the first ear of the LED holder with two nuts between. Adjust angle and tighten the second one from the right.

The angle of the light is tricky to adjust after your system is complete, so if you can, adjust it now with you on the bike off the stand.

When you're satisfied, lock two nuts to the left ear (picture only shows one)

As you may have noticed, it's possible to have different lights, or several, or none. With different light you need to make your own holes in the fairing, and of course this is possible.



12: Fairing:

Begin by hold the fairing to where you like it and measure by eye the bracket length. Skrew down the fairing plate to your bracket using the two M5 x 16 screws and tighten them.



Screw that plate to the fairing using two M5x16 allen heads with washers on the outside and plastic spacer between, in this order:

Screw
washer
fairing
spacer
plate
nut



Tighten it so the metal plate meets the fairing, but not too much, glass fibre cracks if you're not careful. Then attach the brackets to your MRS plates and adjust, so the light lines up with the fairing hole.

If you have ordered the fairing without holes, fit this as you please.

A tip before drilling in glass-fibre: Use a 2 mm drill bit first as guide holes. Then 6 mm for the M5, and a suitable for the light hole. Drill on highest rev and no pressure. Clean the edges with a metal file or sand paper.

That's pretty much it for hardware. Now test so everything feels ok and adjust if you need.

13: Electrical

This part is very different from one bike to another, so you have to make the best of your own wiring harness, but there are some general ideas. It might be easier to remove the fairing again.

First of all, you bring the wiring harness in under, over and through a hole in the right plate and then attach everything. KTM and Husaberg has a plate holding the wiring connectors. Get rid of that and sort out your cables. Don't hesitate to drill to attach stuff on the plates.



Here's the wiring harness on my bike. It goes under and up inside the two plates.



Install everything you need on the handlebars; ODO-meter remote, roadbook-remote, starter, kill switch etc. Try to bring them together in the middle, and down. That way, when you turn the handlebar, the cables don't stretch.

The light is connected to the stock wiring harness.

KTM uses brown as earth and connects to RD's black cable. Plus on the LED is white and connects to blue (high beam) or green (low beam). If you have an AC-system you have to take a new plus from the battery with the light switch between. (not described in this instruction).

14: When done with the electrical, install the fairing and left plate.

General building tips, you can find on raiddesigns.com.

Feel free to discuss anything about your build on facebook. Please post pictures and tell us (and the world) about your project. See you there.

IMPORTANT!

If you need to remove the MRS, you can leave the inner frame bracket inside the frame tube, but if so, skrew it down with two M10 x 10, just to be sure it can't wedge inside.

Thank you for supporting Raid designs

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