

# Installation of Force Radiator Guards on the 2007 GasGas EC250

Written by Matt Roessle (MattR)  
February 20, 2008

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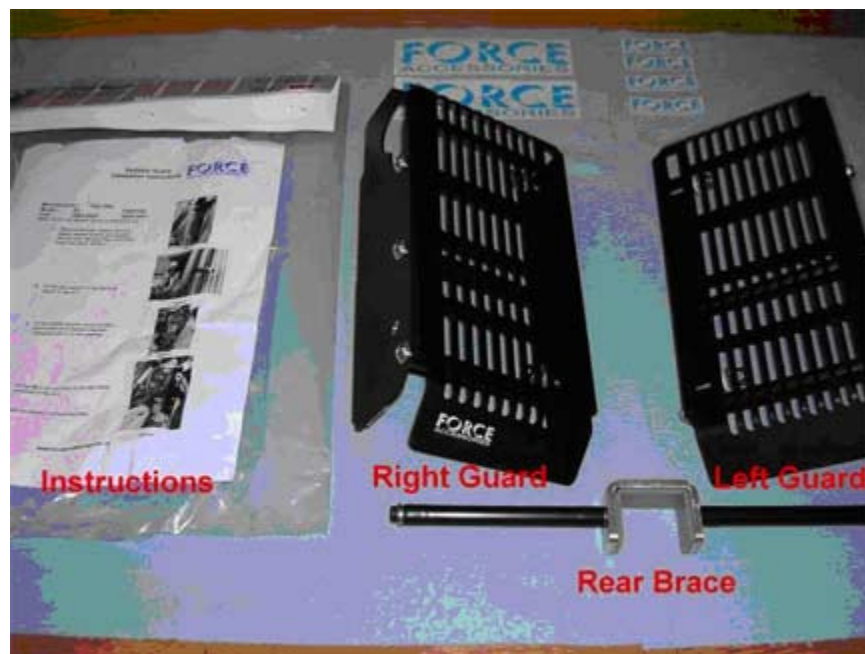
Radiator Guards made by Force Accessories  
Website: [www.forceaccessories.com.au](http://www.forceaccessories.com.au)

Manufacturer's Note: The guards shown in this tech article fit 2003-2007 EC and 2005-2007 FSE/FSR bikes. The 2003-2004 FSE bikes require a different brace.

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## Product Review:

This product review will be based on my first impressions of the Force radiator guards. Five categories will be used for evaluation purposes. Each category will be scored (up to 100 points) along with some brief remarks regarding my evaluation.



Here are all components (as-shipped)

*Special Note: On the following pages, I have provided numerous pictures that show close-ups of the different product features.*

Category	Score	Remarks
Fit	90	The guards had nice features such as foam gaskets to prevent metal-to-metal contact. The fit to the bike was very good with no modifications required. There was good clearance between the radiator and inside of guard (approximately 35mm). My score of 90 was due to the very close clearance between the bottom of the guard and the exhaust pipe (see photos after installation). Also, I would have like better triangulation of the rear brace. The rear brace fits fine, but I would have preferred more overlap of the frame clevis or using the lower engine mount for stronger attachment.
Finish	100	The black anodize coating had good uniform color. The guards were individually wrapped to prevent scratches during shipment. The guards were laser cut (very nice!). There was good choice of fasteners used. Also, I liked the nut inserts for the rear brace and lower shroud bolt.
Durability*	100	The guards are approximately 2mm thick (rocks should no longer be a worry). The thickness provides good structural stiffness for side impacts. There are also 3 cross braces per guard (excellent!) As mentioned above, I would have preferred better triangulation of the rear brace. However, the current setup appears strong since both guards are tied together and anchored to the frame. I was also happy to see that all bolts were Class 8.8 grade fasteners. My only concern is the nut inserts in the rear brace. While tightening, it feels like you could over-torque them and strip the threads if you are not careful.
Installation	80	The instructions included with the guards was brief, but adequate to get the job done. My score of 80 was due to guess work needed to figure out the best method for bolting them on. Hopefully, my installation procedure will eliminate any future confusions. For example, when you hold up the guards to their mounting locations, it was not initially clear how you should get a wrench onto the bolts (no access from top or bottom of guard). As it is shown later, you must fully seat the bolts prior to installation and insert a wrench through the slots for access.
Value	90	These guards are more expensive than many others on the market. The cost can be justified when you look at the quality, attention to details, and robustness of these guards. My score of 90 was due to the higher cost for North American riders. Hopefully, if a USA distributor becomes available, the cost could be reduced due to a larger volume purchase. In any case, I believe these guards are priced competitively with other billet-style of guards.
Overall Score	92	<b>I am very pleased with these guards and would highly recommend them to GasGas riders. The workmanship and design features are excellent. I have no doubt that these guards can take tons of abuse. I'm a happy rider knowing my bike is now better protected (and looks better too)!</b>

\* Since I have not field tested these radiator guards yet, my evaluation of durability will based on the thickness of materials, type of construction, design features, and materials used.

**Close-Up Photos of the Product Features:**



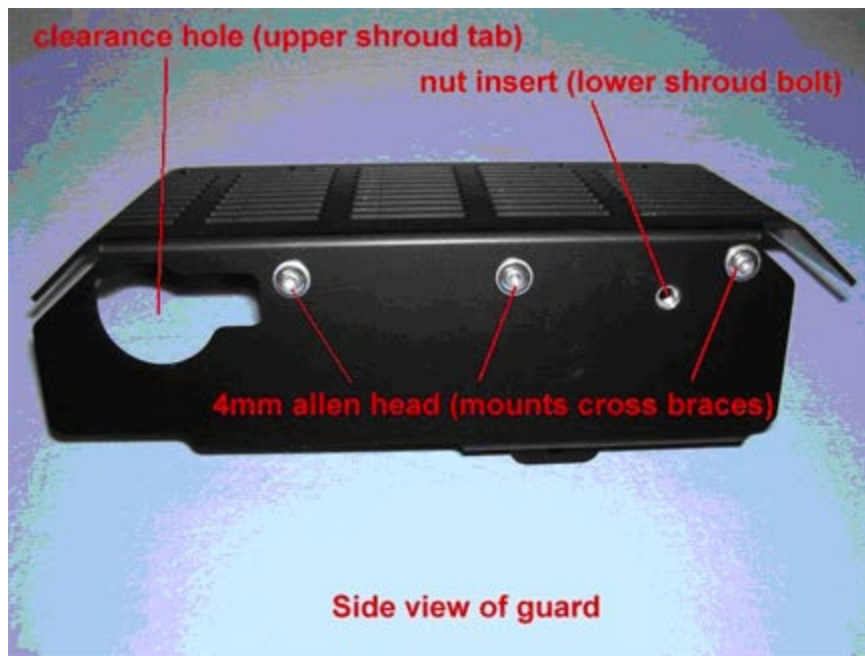
**Close-up of right guard**

Close-up of right guard

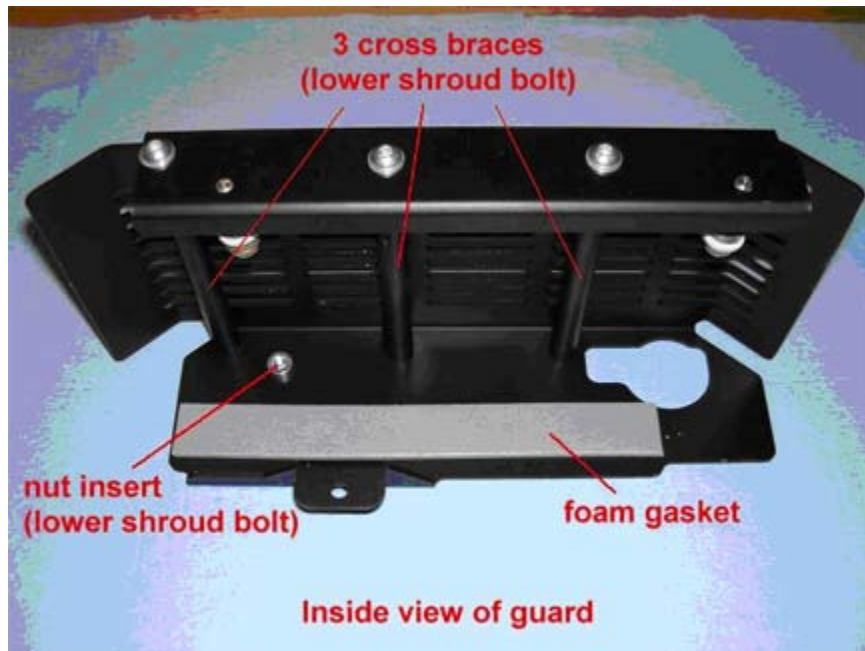


**front view of guard**

Front view of guard



Side view of guard

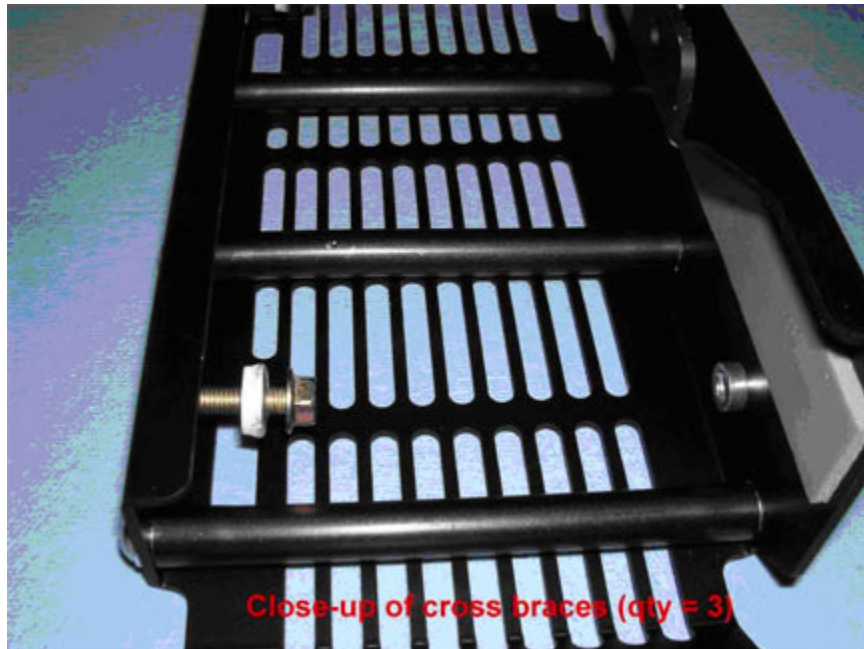


Inside view of guard

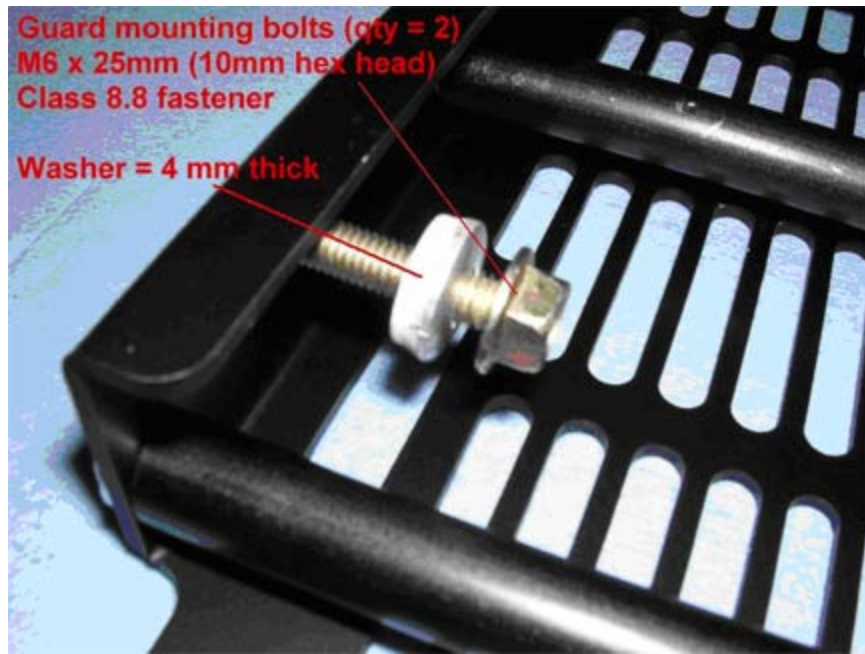




Close-up of inside



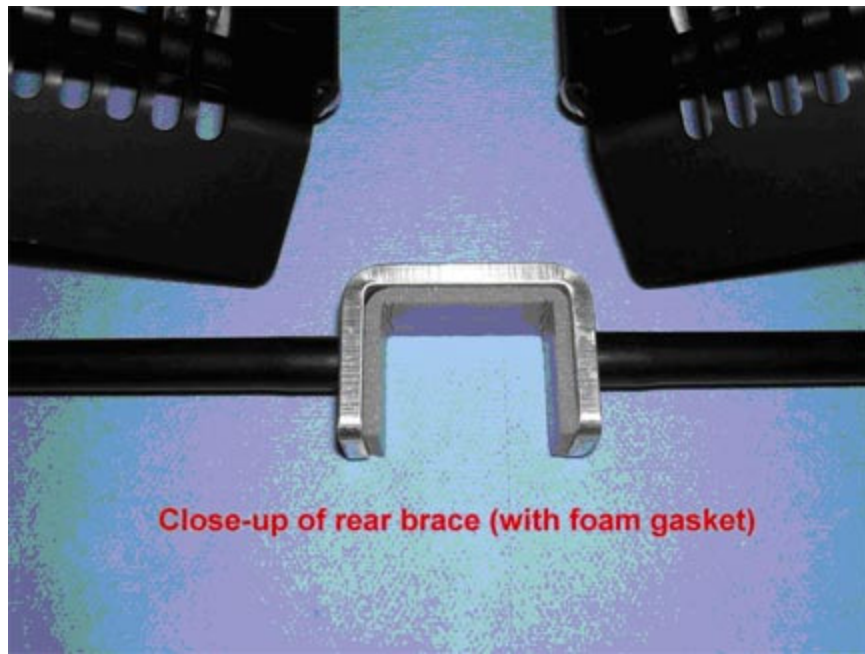
Close-up of cross braces (qty = 3 per guard)



Guard mounting bolts and washers (qty = 2 per guard)



Lower shroud mounting nut



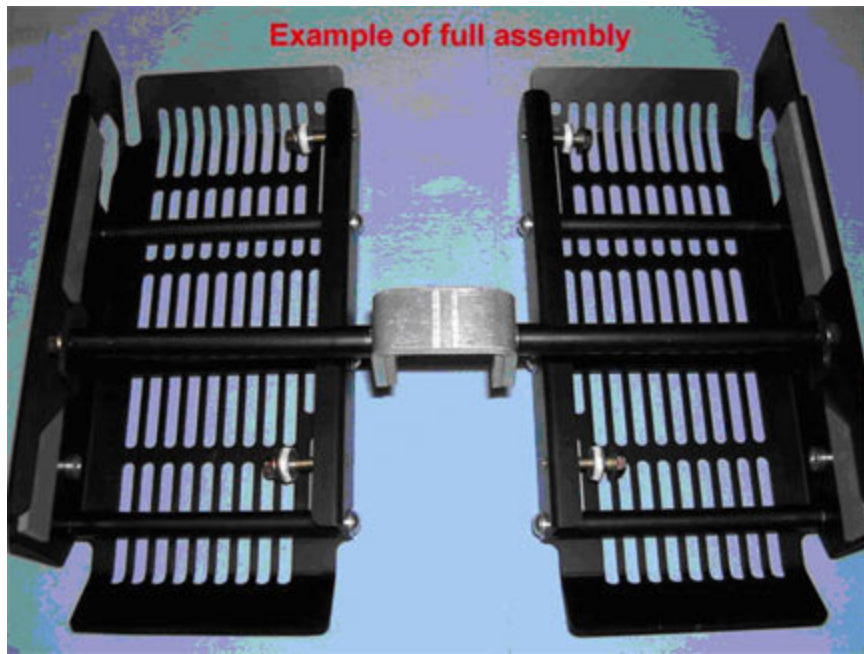
Close-up of rear brace (with foam gasket)

Close-up of rear brace (note: foam gasket installed)



**Rear Brace Mounting Bolts:**  
Size = M6 x 16mm (with 10mm hex head)  
Class 8.8 fastener

Rear brace mounting bolts (qty = 2)



Example of full assembly



## Tools Required:

- 10mm open-end wrench (for radiator guard mounting bolts)
  - 8mm socket or wrench (for lower shroud bolt)
  - Phillips screw driver (for shroud screws in tank & seat bolt)
  - 4mm allen wrench (for cross brace bolts)
  - 5mm allen wrench (for OE radiator mounting bolts)
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## Installation of Radiator Guards:

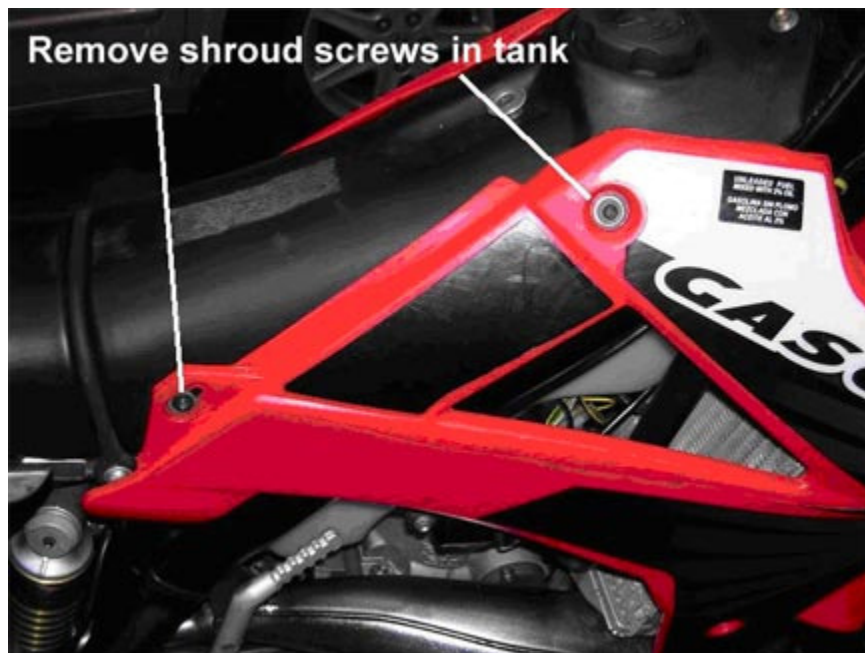
The following pages provide a detailed procedure for the installation process. I have also provided special notes throughout which highlight design features and important reminders. I hope you will enjoy this “pictorial guide” for installing the Force radiator guards.



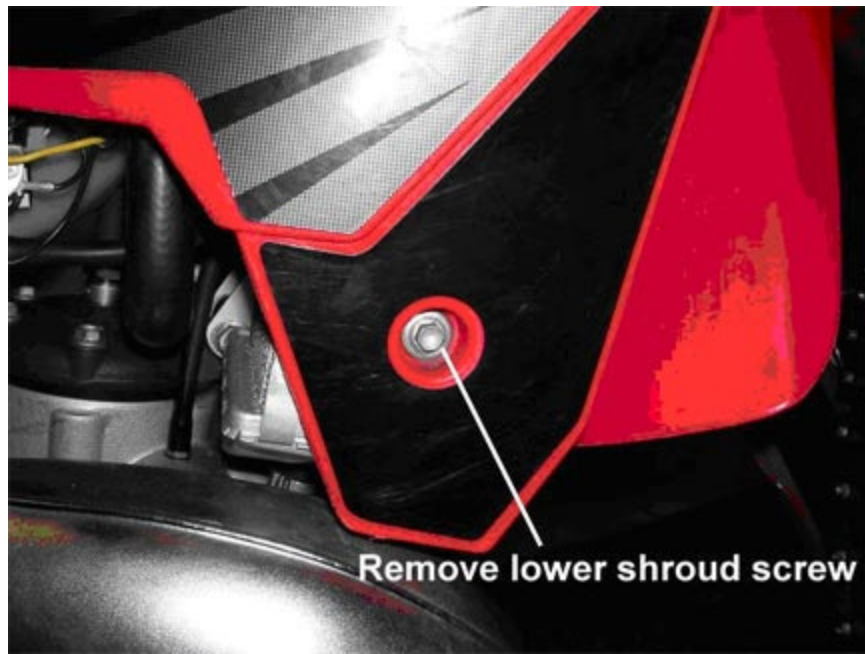
View of bike without guards



Remove seat (using Phillips screw driver)



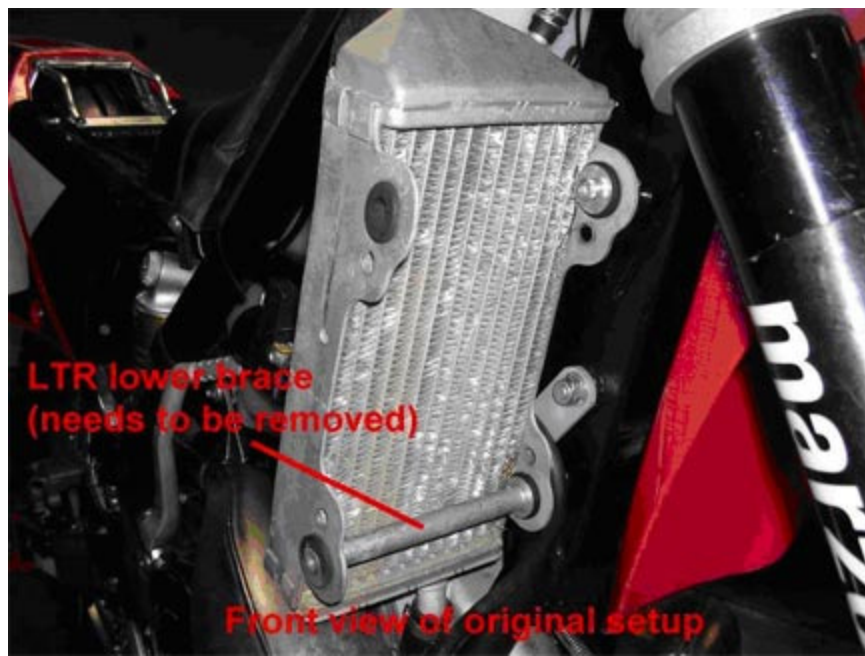
Remove shroud screws in tank (using Phillips screw driver)



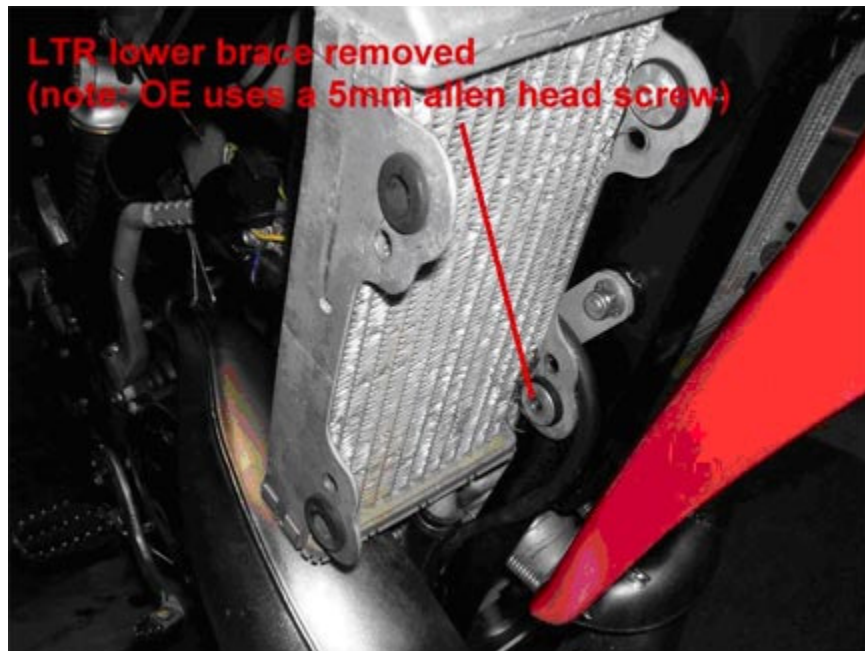
Remove lower shroud screw (using 8mm socket or wrench)



View of radiators (after removing shrouds)



Note: my bike has a LTR lower brace that will need to be removed.

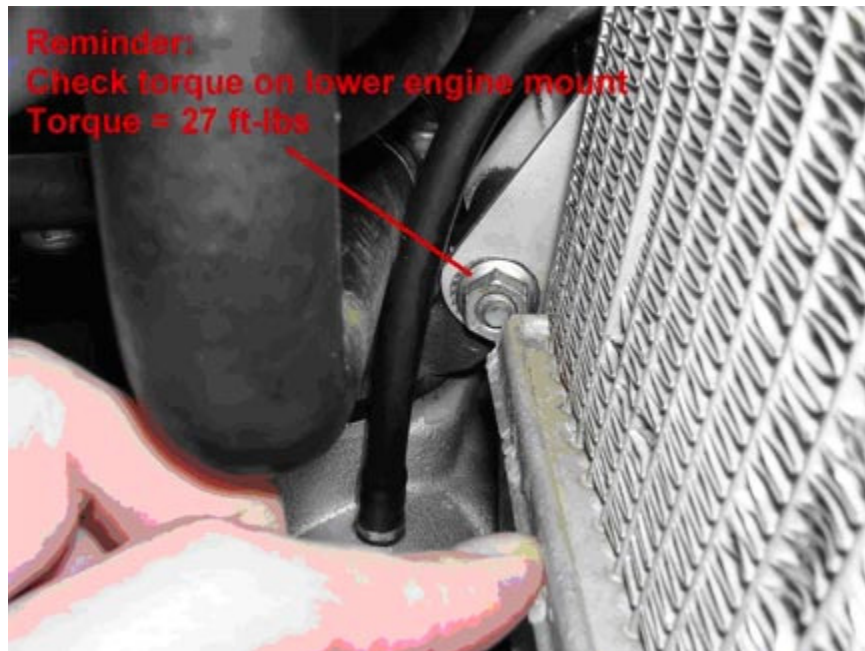


Note: the OE mounting bolt is removed with 5mm allen wrench.

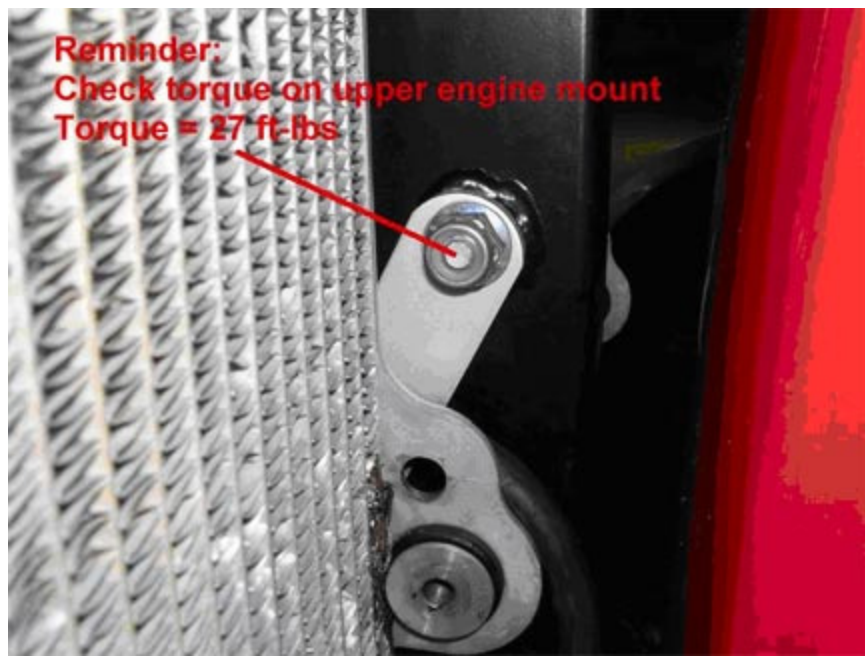




Remove OE upper mounting bolt with 5mm allen wrench



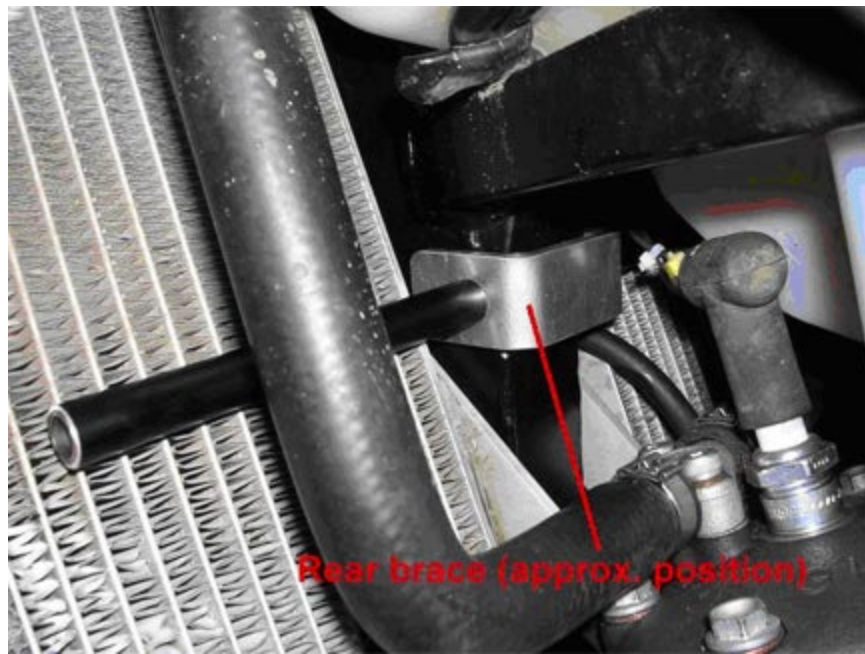
*Reminder: Check the torque on the lower engine mount.  
Torque spec = 27 ft-lbs (use 13mm socket).  
(Since the radiators are loose, it is easy to reach this lower nut)*



*Reminder: Check the torque on the upper engine mount.  
Torque spec = 27 ft-lbs (use 13mm socket).*



Insert rear brace from the left side of bike (more clearance available)



Mount the rear brace in the approximate position shown.  
This will get you close, then fine-tune the position later.



On each guard, screw-in both mounting bolts completely.  
Make sure the bolts rotate freely after they are fully seated.

*Special Note: a couple threads are removed on the bolts (below the washer). This allows the bolts to rotate without moving/falling out (this is very useful as you will soon find out!)*

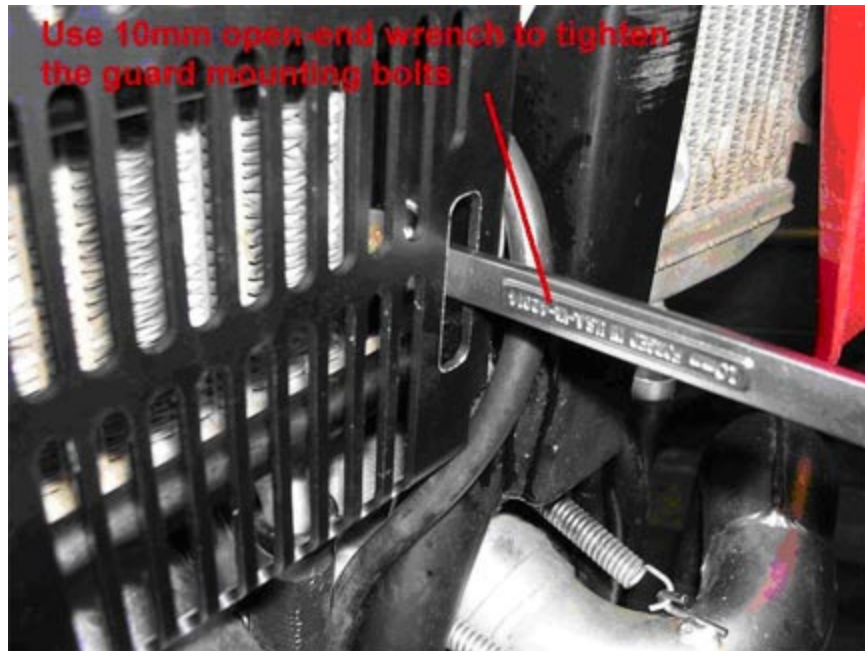




**Close-up of mounting bolt  
(note: 4mm washer aligns head of bolt with slot)**

Close-up of the mounting bolt.

*Special Note: the 4mm thick washer aligns the head of the bolt within the slot  
(this is very useful as you will soon find out!)*



**Use 10mm open-end wrench to tighten  
the guard mounting bolts**

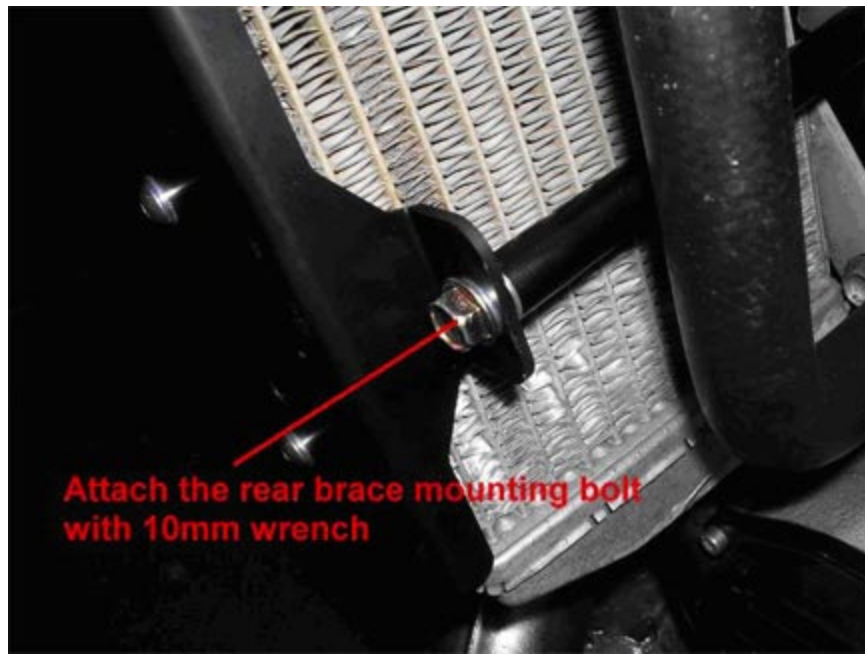
Use a 10mm open-end wrench to tighten the guard mounting bolts.

*This is why they did it! As you initially tighten the bolts, you will appreciate the bolts “locked” in place by their shanks and the washer spacing the bolt head within the slot (very nice!).*





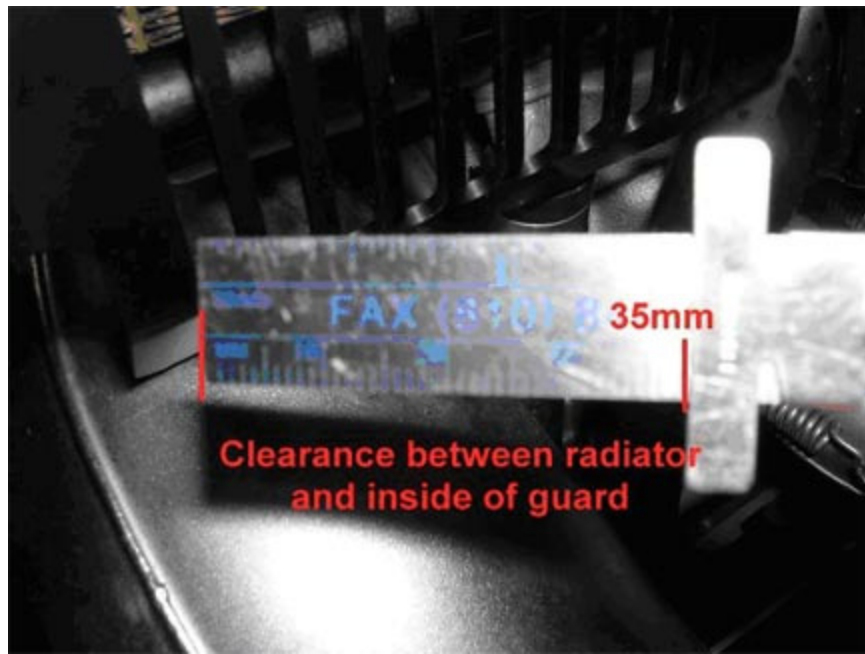
Nice!!! Someone did their homework. The slots in the guards are long enough to allow the bolt head to index fully. This eliminates you having to flip the wrench over to grab the hex again.



Attach the rear brace mounting bolts (using a 10mm wrench).  
*Special Note: Be careful not to over-torque these mounting bolts in the rear brace. The threads in the nut inserts could strip.*



Here is the final position of the rear brace support.  
*Special Note: It helps to have all bolts slightly loose until everything is fully mounted. Then, you can fine-tune the rear brace support and finish tightening all bolts.*

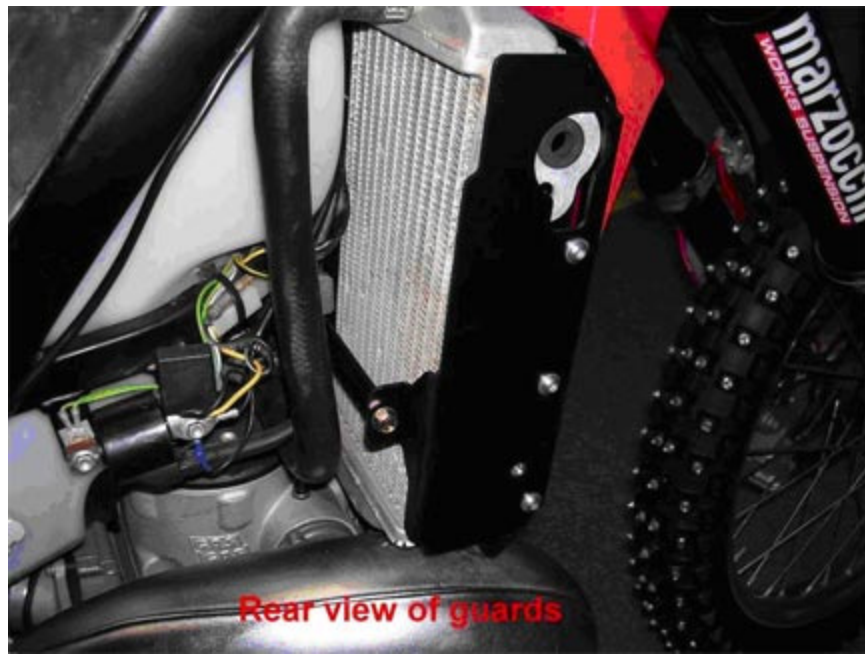


In case you were curious, the clearance between the radiator surface and inside of guard is approximately 35mm. The clearances at top and bottom of guard is very similar.

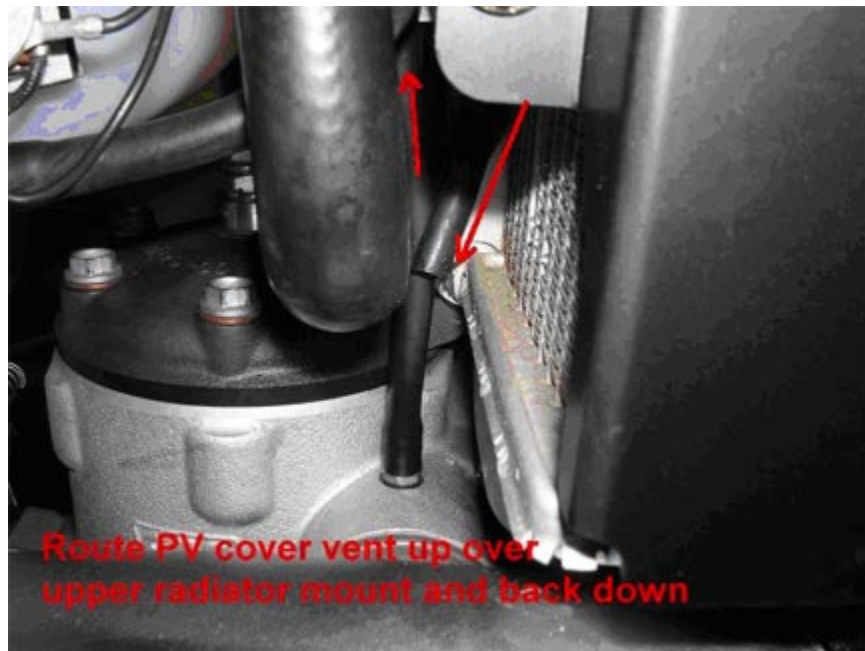


*Special Note: The clearance between the exhaust pipe and bottom of guard is very close. Check for contact during the first couple rides. You may need to remove some guard material if contact does occur.*



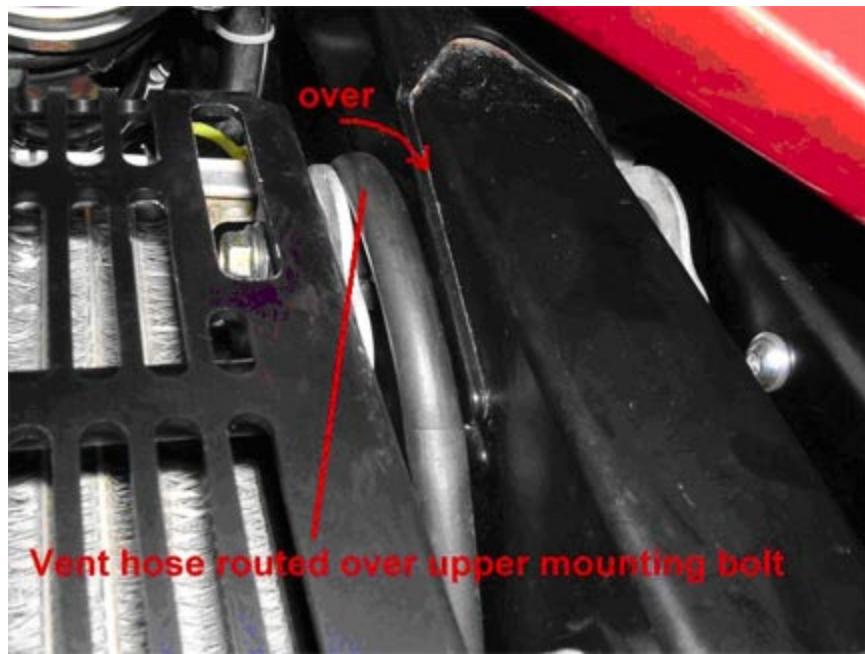


Rear view of guards (after installation)

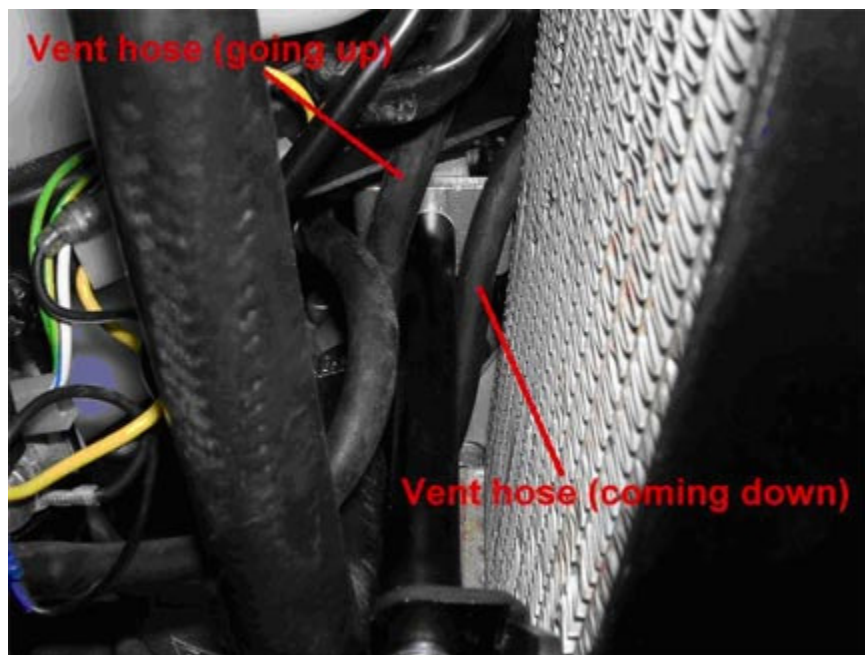


*Special Note: After mounting the radiator guards, you may want to route the right side PV cover vent hose over the upper radiator mount and back down (see next photos for routing).*





*Continued: Route the vent hose over the upper mounting bolt. Then, tuck the hose between the guard and frame.*



*Continued: The vent hose can be guided on the inside of the rear brace. If the hose is long enough, the bottom of the hose ends up near the bottom of the radiator (see first photo).*



Front view of guards (right side)



Front view of guards (left side)



Rear view of guards



Side view of bike with guards installed.

The black guards look great with frame and fork color!

*Special Note: The camera flash made it easier to see into the guard slots.*

*Normally, the radiator is hard to see behind the black guards.*





### **Conclusion:**

I am very pleased with these radiator guards by Force Accessories. I would highly recommend them to GasGas riders. The workmanship and design features are excellent. I have no doubt that these guards can take tons of abuse. If you are looking for a great-looking, strong set of radiator guards, then look no further... this product definitely stands above the rest.

*For more information on these radiator guards:*

**Force Accessories**  
P.O. Box 6014  
Dandenong, Victoria 3175

Ask for Brian Finn  
Phone: (03) 9792 9599  
Fax: (03) 9792 9676

Visit their website: [www.forceaccessories.com.au](http://www.forceaccessories.com.au)