



NOSE CONE

Installation Instructions



Congratulations on your purchase of the Nizpro Marine nose cone, please follow the instructions below carefully to achieve the best possible results.

Kit Contents:

- Nizpro Cast alloy high-efficiency nose cone extension
- Black anodized 16mm x 1.5 mm oil drain plug cap
- Carbon Fibre Reinforced Plastic oil drain guide
- 2 x JB Weld Original Cold Weld Formula Steel Reinforced Epoxy Twin Tube, 56g
- 2 x GPI White Plastic Body Filler Applicators
- CAD-developed skeg cutting template.
- Installation instructions

To complete the installation, you will need to **source the following locally**, as international shipping of these items becomes costly:

- Yamaha etch primer
- Yamaha colour aerosol paint
- Yamaha clear-coat paint
- Automotive body filler
- Acetone (Nail polish remover)
- Wax and grease remover
- Silicone
- Masking tape

Tools required:

- Hacksaw
- New 24tpi (or higher) blade
- Metal file
- Soft (plastic or rubber) hammer
- Fine-tip permanent marker
- 24-Grit sandpaper
- 240-Grit sandpaper

Installation:

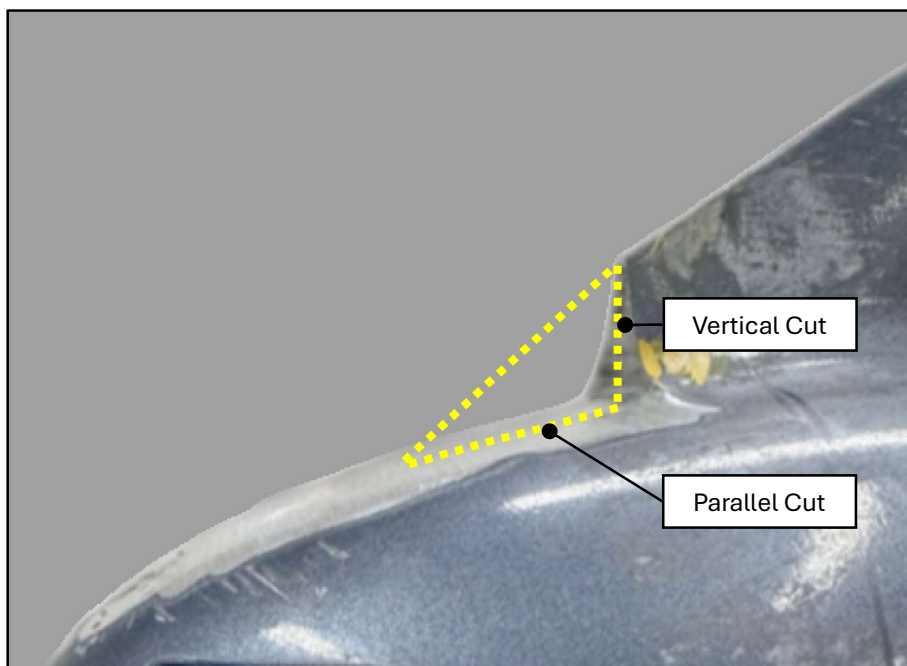
1. Using the Skeg Cutting Template provided, place it at the very front of the skeg/fin and slide it backwards until it sits flat on the round gearcase. Ensure the template is as far back as you can go before it starts to lift away from the gearcase.



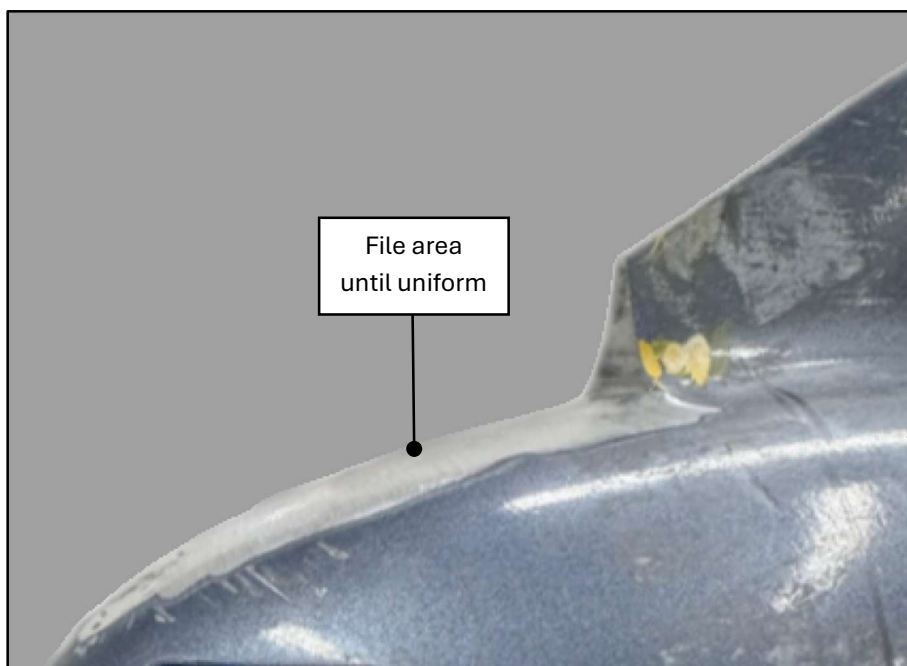
2. Mark the skeg/fin using a fine-tip permanent marker, ensuring the template remains firmly in position.



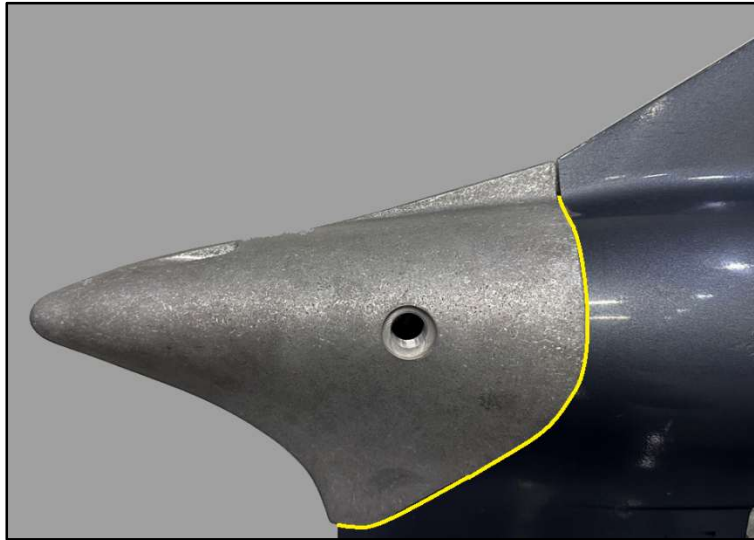
3. Remove the template and make a vertical cut using a hacksaw with a 24tpi (or higher) saw blade.
4. Using the same hacksaw and blade now cut the skeg/fin parallel from the front of the skeg/fin back towards the vertical cut you just made until the triangular piece of skeg/fin is removed.



5. Using a metal file, file back the remaining skeg/fin until you have a uniform, round, lower section. This needs to be round and smooth so that the nose cone will slide all the way back and meet up with the skeg/fin that you just cut. After fin removal and filing, your gearbox should look as pictured.



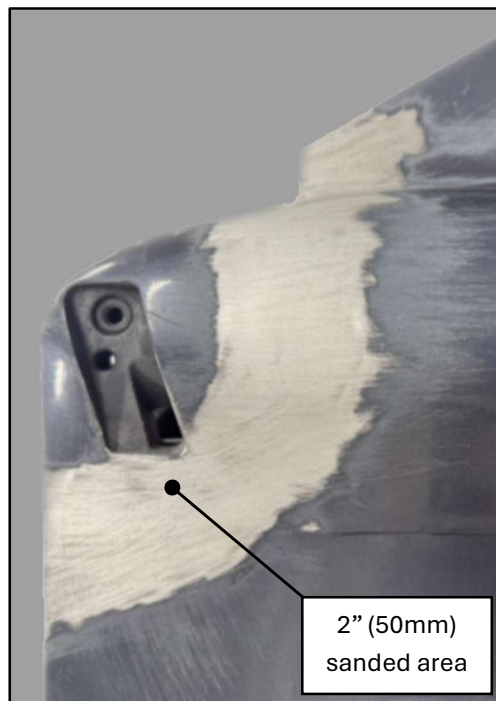
6. Slide the nose cone on and lightly tap with a soft hammer using a piece of wood between the nose cone tip and the hammer. Continue tapping until the nose cone fin joins up to the cut section of the original skeg/fin.
7. Using your fine-tip permanent marker, mark all the way around where the nose cone joins the lower unit.



8. Remove the nose cone and now mark 25mm (1 inch) both sides of the line you created in step 7. This 50mm (2 inch) 'strip' is the area that needs to be sanded to achieve a correct bonding surface.



9. Sand the 50mm (2 inch) section until there is no remaining paint on the lower unit. Use 24-Grit sandpaper and sand in multiple directions so that the scratched surface is correctly etched. Your finished work should appear similar to that in the image.



10. Take the nose cone and look inside, you will see a mark in the casting approximately 25mm (1 inch) in from the outer edge. The area between the outer edge and this mark represents the nose cone bonding surface.
11. Take the 24-Grit sandpaper and, just like on the lower unit, sand this 25mm (1inch) area until all the original casting finish is removed and the sandpaper marks are in all directions.



12. Test fit the nose cone again, as per the method in step 6, and remark the join again with your permanent marker. This is so you will know where the epoxy needs to be placed on the lower unit.
13. Take the Plastic oil drain guide and place a small dab of silicon on the underside where the locating peg is and place it in position. This is simply to hold it in position while you are installing the nose cone.



Offshore

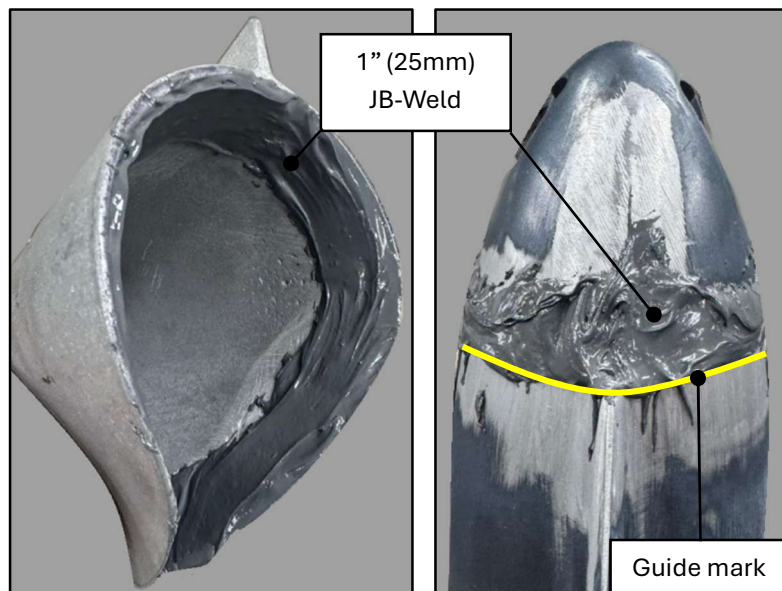


SHO

14. Take a clean rag and use acetone (nail polish remover) to clean/wipe the lower unit and inside of the nose cone that has been sanded. **Do not touch these areas by hand again.**
15. There are two tube sets of JB Weld Original Cold Weld Formula Steel Reinforced Epoxy supplied. You will use roughly One twin pack for the inside of the nose cone and the other twin pack for the outside of the lower unit. The epoxy is applied this way so both the inner surface of the nose cone and the outer surface of the lower unit have a fully coated bonding surface, ensuring there are no "dry" areas.
16. Mix up the JB Weld Original Cold Weld Formula Steel Reinforced Epoxy from **both** twin packs at once. We recommend doing this on some clean cardboard, with each twin pack mixed on a separate piece. This will help you get the correct amount on both inner and outer surfaces.

MAKE SURE THE Plastic oil drain guide IS IN POSITION. You do not get another chance at putting this in.

17. Using a supplied spatula, apply an even amount of epoxy on the inner surface of the nose cone. Apply it up to the edge of the sand marks (25mm/1" from outer surface). Apply it to the outer surface of the lower unit also, up to 25mm (1 inch) forward of the mark you made in step 12. Make sure you apply the epoxy as evenly as possible all the way around.



18. Push nose cone onto the lower unit making sure the **Plastic oil drain guide** is still in its correct position as the nose cone goes on.
19. Tap the nose cone on again using the piece of wood and soft hammer until the nose cone fin and lower unit skeg/fin touch each other. The nose cone should hold itself on and should not require any assistance staying on, however, we recommend having the lower unit secured on a bench or in a vice, with the cone pointing up (prop shaft facing down).



20. At this point you will have a large amount of excess epoxy squeezed out of the joint line. Taking your provided spatula's blend the epoxy to smooth out the joining seam. You can do this back to the painted edge on the lower unit, approximately 25mm (1 inch) from the join line. You will not achieve a perfect blend, but you will get it very close.



21. Once you have finished the blending work from step 20, carefully turn the complete lower unit over so that the nose cone is pointing down and touching your bench (or the ground) and the prop shaft is facing upwards. Support the lower unit so it does not fall over and **ensure the nose cone is not mis-aligned during this process.**

Note: The reason you want the nose cone facing downwards while the epoxy is curing is because in the first hour or so while it's curing it will sag away from the joint line if the nose is facing upwards. When facing down the epoxy will sag into the joint giving it a better seal.

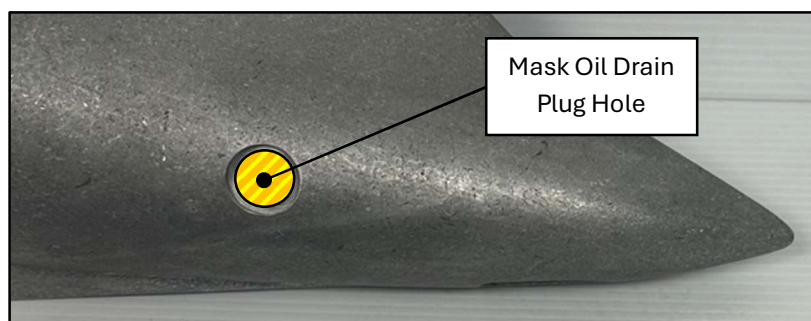
22. Wait **TWENTY-FOUR HOURS** for the epoxy to cure.
23. The epoxy is now ready to be sanded, to smooth the joint line and restore the lower gearcase shape.

24. Once sanded, you will need to add automotive putty into any remaining low spots on the joint and blend lines. If you have done a great job when smoothing the epoxy, you will achieve this with one application of automotive filler, but if you have not worked with body filler before this may take you one or two extra applications.

Remember, it's the preparation time that gives the best results once the paint goes on, so simply get it right at this stage.

25. The automotive filler should be sanded back in the final stages with 240-grit sandpaper ready for undercoating.

26. Using a small piece of masking tape, cover the oil drain hole to prevent paint built up in the threads during the painting process. Cover the hole only, to ensure you achieve a good paint finish in this area.



27. Wipe down the entire area to be painted with a clean rag and some wax and grease remover.

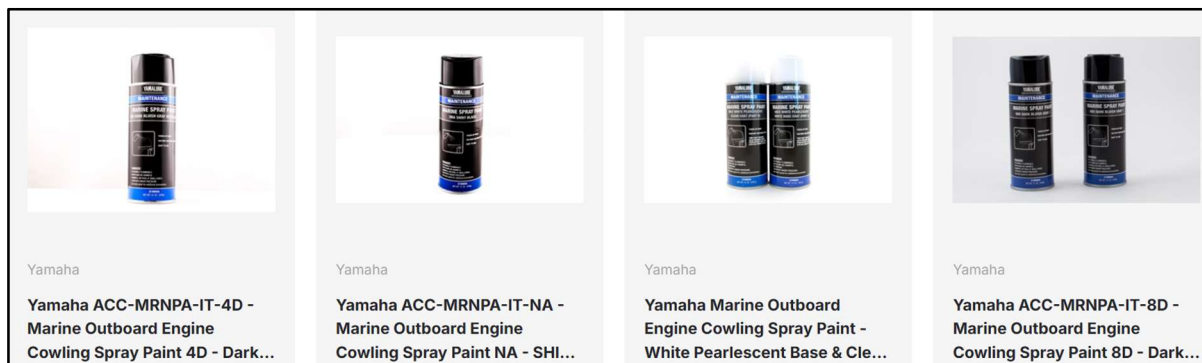
28. Use Yamaha Etch Primer 300CC and apply as directed.



29. While at your local Yamaha dealer get the appropriate color and also the clear-coat "spray on" paint to suit your engine.

Ask your Yamaha parts representative for the correct colour for your engine year and model.

30. Apply color and clear coats as directed.



31. To complete the installation, once the paint has dried, remove any masking tape applied during step 26 and fit the supplied Black anodized 16mm x 1.5 mm oil drain-plug cap.

32. If you have a SHO variant engine, this completes the installation process. Enjoy! If you have an Offshore engine variant, please read the 'Additional recommended steps' section that follows.

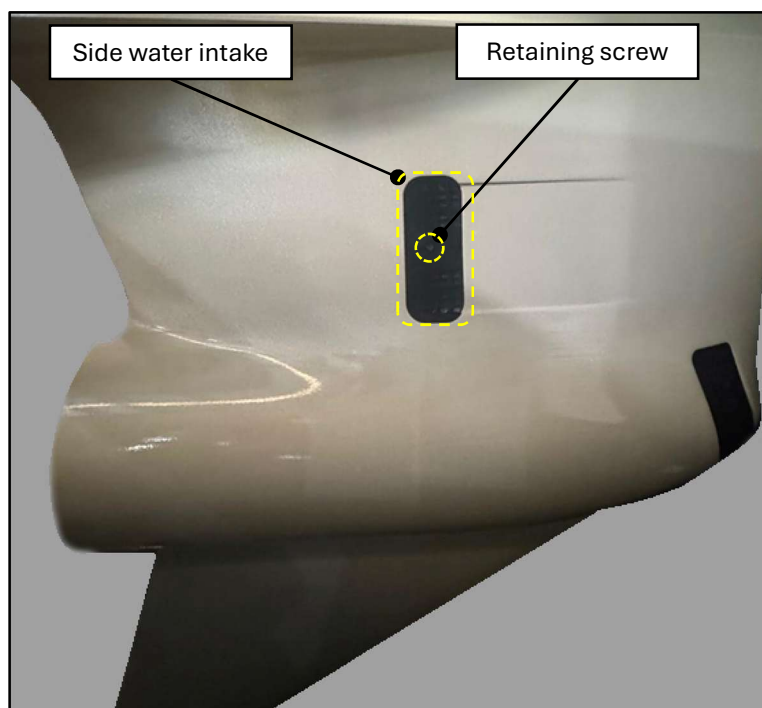


Additional recommended steps (Offshore engines only):

An optional (and highly recommended) step is to block off the side water intakes that the offshore engine variant has. This is to ensure that a consistent body of water flows through to the water pump when running the engine in a high trim position. In this position, part or all of the side intakes may be above water level, resulting in a lower pressure head to the water pump from the front intake, and an increase in the likelihood of water aeration throughout the cooling system.

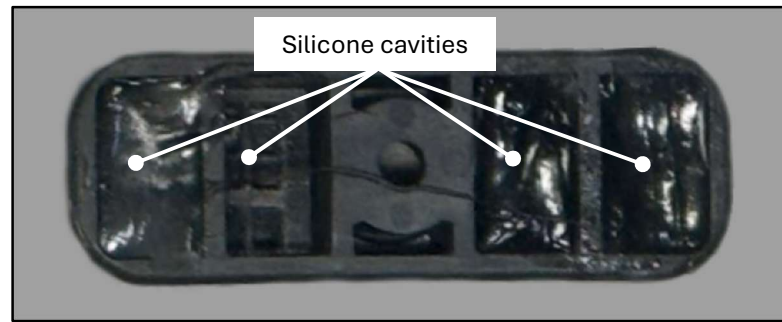
To prevent the above, and to ensure maximum efficiency of the system, follow these steps to seal the side intakes.

1. Locate and remove the side intakes by removing the single Philips head screw holding each in place.



2. Place masking tape over the external face, and sit both intake grills tape-down on the bench to give easy access to the back side of the grills.

- Using black silicone, fill the cavities to block off the holes. The example picture shows 3 of 4 filled; our recommendation is to fill all four cavities.



- Once the silicone has dried, remove the tape.
- Refit the intake grills using the screws removed in step 1.