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Self-Engaged Launch Assist (SELA) Installation Instructions

Thank you for purchasing ProTaper’s revolutionary Self-Engaged Launch Assist (SELA). Please visit www.protaper.com/sela to view a video walkthrough of the installation process. This video is not a substitute for the written instructions, but it serves as a useful guide and may assist you in answering some common questions. If you have any questions that go beyond the scope of the video, please feel free to email us at info@protaper.com or give us a call at 951-736-5369.

These instructions apply to the following motorcycles:

Make	Model	Year(s)
Yamaha	YZ125	2015–2020
Yamaha	YZ250	2015–2020
Yamaha	YZ250F	2010–2020
Yamaha	YZ450F	2010–2020

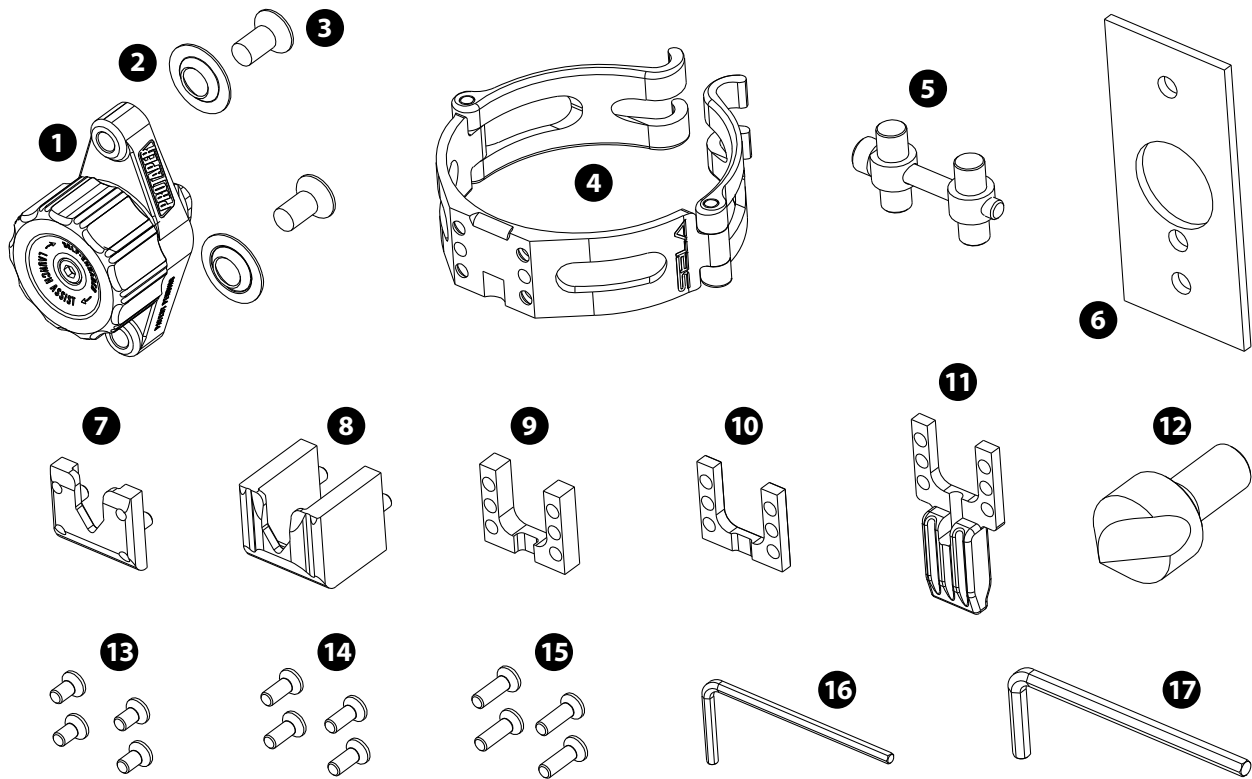
If your motorcycle is listed above, proceed with the installation using these instructions.

If your motorcycle is not listed above, do not use these instructions. You can download the correct instructions on our website at www.protaper.com/sela. Once there, enter your make, model, and year in the drop-down menus. The appropriate instructions and templates will then be available for download under the “Instructions & Templates” tab.

Please pay special attention to statements preceded by the following words:

- **⚠ WARNING** indicates a strong possibility of severe personal injury or death if instructions are not followed.
- **⚠ CAUTION** indicates a possibility of personal injury or equipment damage if instructions are not followed.
- **NOTE** gives helpful information.

Included Parts



Item	Description	Qty
1	SELA Mechanism	1
2	Backing Washer	2
3	Mounting Screw	2
4	Fork Ring	1
5	Fastening System	1
6	Aluminum Drill Guide	1
7	Receiver A	1
8	Receiver B	1
9	4.5-millimeter Spacer	1

Item	Description	Qty
10	2.5-millimeter Spacer	1
11	KTM/HSQ Spacer	1
12	19-millimeter Drill Bit	1
13	Screw Set A	1
14	Screw Set B	1
15	Screw Set C	1
16	2-millimeter Hex Wrench	1
17	3-millimeter Hex Wrench	1
18	Thread-Locking Fluid	1

⚠ WARNING: Installing these parts improperly can result in a crash, serious injury, or death.

Before you begin the installation, carefully read these instructions and those found in the OEM Service Manual for your motorcycle. If you are not sure that you can follow the instructions, ProTaper strongly recommends hiring a qualified, properly equipped motorcycle mechanic or service center to perform the installation for you. Refer to your OEM Service Manual for proper torque values. Keep all of your OEM parts.

Do not attempt to perform the installation without following these instructions. Proper assembly, alignment, and installation of the device is critical to its safe and reliable operation. Do not modify the product or its individual components in any way. Failure to correctly install SELA can result in damage to the device and the motorcycle itself, as well as serious injury or death to the user.

Required Tools & Supplies:

- Power Drill
- 3/16" Drill Bit
- 19-millimeter Drill Bit (Supplied)
- 2-millimeter Hex Wrench (Supplied)
- 3-millimeter Hex Wrench (Supplied)
- #2 Phillips-Head Screwdriver
- 3/4" Masking Tape
- Precision Knife or Scissors
- Razor Blade
- Thread-Locking Fluid (Supplied)

⚠ CAUTION: SELA is designed for use with OEM plastic fork guards. We recommend using a new fork guard when installing SELA. Do not install SELA on a fork guard that was previously used with another type of start device.

⚠ CAUTION: Before you begin the installation, be sure that you are wearing eye protection.

SELA Mechanism Installation

1. Remove the fork guard on the right side of the motorcycle. Depending on your application, you may need to remove the front wheel in order to access all of the fork guard bolts. Refer to your OEM Service Manual for instructions on this process.

⚠ CAUTION: If your fork guard has a graphic, remove it before proceeding with the following steps. The added thickness of a graphic can reduce the accuracy of the mounting template. You may trim and replace the graphic later in the installation process.

2. Choose your mounting template. There are three options, each with a different mounting depth. This refers to the height at which the SELA mechanism sits on the fork guard. Each option offers its own advantages, depending on terrain conditions.
 - a. 100 millimeters: lower traction conditions (concrete, hard-packed soil)
 - b. 110 millimeters: medium traction conditions (intermediate soil)
 - c. 120 millimeters: higher traction conditions (grates, tacky soil)

⚠ CAUTION: Verify that you have printed your mounting template at 100% scale. You can do this by performing the scale check in the upper left corner of the template. Each of the two

red lines should measure 50 millimeters in length. If either of these red lines do not pass the scale check, reprint the template, making sure that the proper print settings have been selected, and perform the scale check again.

3. Carefully cut out your chosen mounting template along the black line, making relief cuts as indicated. We recommend using a precision knife and cutting mat for the best result. If you do not have these tools, you can also use a sharp pair of scissors.
4. With your template neatly cut out, line it up along the top and outside edges of the fork guard, making sure that it fits the profile of the fork guard accurately. The template should run all the way to the edge of the plastic. Next, using a few pieces of masking tape, secure the outside edge of the template to the fork guard.
5. With the outside edge secured, pull the template tightly across the fork guard to line it up with the inside edge, being careful not to rip the paper. Once again, make sure that the template fits the profile of the fork guard accurately. It should run all the way to the edge of the plastic. Secure the inside edge of the template to the fork guard with a few pieces of masking tape.
6. With both edges of the template secured, perform a final check. The template should accurately fit the profile of the fork guard all the way around. If you need to make adjustments, carefully lift the tape and reposition the template. After confirming the proper alignment, finish with a few more pieces of tape around the perimeter of the template to prevent it from moving.
7. Carefully align the supplied aluminum drill guide with the mounting template as indicated by the green lines. Once in place, tightly secure it on all four sides with masking tape.

⚠ CAUTION: It is critical that the mounting template and drill guide are both properly aligned and firmly secured in place. This will ensure that SELA is mounted as precisely as possible, and that it will function as intended.

8. Using your 3/16" drill bit, drill through each of the three small holes in the drill guide, passing completely through the fork guard.
9. Remove the two Phillips-head mounting screws from the back side of SELA mechanism. Thread these screws into the top and bottom holes on the drill guide and lightly tighten them until seated. These screws will provide added security for the drill guide as you drill the large hole.
10. Using the supplied 19-millimeter drill bit, drill the large hole, going all the way through the fork guard. Use caution here and be sure to start your drilling directly in the center.

11. Remove the drill guide and the mounting template from the fork guard. You may notice some burrs in the plastic as a result of drilling the holes. Carefully clean these up with a razor blade.
12. Using a sharp hand tool, carefully cut away the fork guard material between the large hole and the smaller one right below it. This will allow water and other debris to drain out of the SELA mechanism.

⚠ CAUTION: The following step should be done by hand. Do not use power tools.

13. Using the supplied 19-millimeter drill bit by hand, carefully carve a countersink into the top and bottom holes on the back side of the fork guard. It is very important that you do this by hand to avoid taking away too much material or making a larger hole. You may have to adjust the angle of the tool toward the top and bottom of the fork guard to achieve a nice, round countersink. Remove just enough material to allow the backing washers to sit flush with the back side of the fork guard.
14. Before you install the SELA mechanism, perform a visual test fit by positioning it on the front side of the fork guard and lining up the holes. The writing on the front of the mechanism should be oriented upright with the fork guard. Make sure that the lip on the back side of the mechanism seats properly within the large hole.

NOTE: If you do not plan to use a graphic on this fork guard, proceed directly to step 15.

⚠ CAUTION: If you plan to use a graphic on this fork guard, you will need to perform the following extra steps to ensure that the graphic does not interfere with the SELA mechanism and its operation. When you have completed them, proceed to step 15.

- 14.1. Apply the graphic to the fork guard as normal, covering the drilled holes.
- 14.2. Place a few strips of masking tape on top of the graphic in the area where the SELA mechanism will be mounted. Use enough tape to cover its footprint.
- 14.3. Using a sharp tool, puncture the graphic and the masking tape through the mounting holes on the back side of the fork guard.
- 14.4. Using the backing washers and Phillips-head mounting screws, temporarily mount the SELA mechanism to the fork guard. Once mounted, its footprint should be contained within the boundaries of the masking tape.
- 14.5. Using a fine-point permanent marker or pen, carefully trace the outline of the SELA mechanism onto the masking tape.
- 14.6. Unmount the SELA mechanism.

- 14.7. Using a precision knife or razor blade, carefully cut through the masking tape and the graphic, following the traced outline all the way around. Take care not to cut into the fork guard.
- 14.8. Remove all of the masking tape and the cut-out portion of the graphic.
- 15. Apply a drop of the provided thread-locking fluid to each of the two Phillips-head mounting screws. Using a #2 Phillips-head screwdriver, mount the SELA mechanism to the fork guard. Before fully tightening the screws, check once again that the lip on the back side of the mechanism is properly seated. Tighten the screws until they, along with the backing washers, are firmly in place and flush with the back side of the fork guard.

⚠ CAUTION: Before reinstalling the fork guard on your bike, make sure that the SELA mechanism operates freely and retracts fully.

- 16. Reinstall the fork guard. We recommend lightly tightening the fork guard bolts at first. Make sure that the fork guard is properly positioned, then slowly and evenly bring each of the bolts up to the correct torque specification. If you had to remove your front wheel earlier, refer to your OEM Service Manual for instructions on reinstalling it.

Fork Ring Assembly & Installation

SELA is designed to be compatible with a wide range of full-size motocross models. For this reason, it is packaged as a kit with all of the necessary parts and hardware included. Before the fork ring can be installed, it must first be assembled using the correct receiver, spacer, and screw set for your application.

The following table shows the applications covered in these instructions, along with the necessary parts for each.

Make	Model	Year(s)	Receiver	Spacer	Screw Set
Yamaha	YZ125	2015–2020	A	2.5	B
Yamaha	YZ250	2015–2020	A	2.5	B
Yamaha	YZ250F	2010–2020	A	2.5	B
Yamaha	YZ450F	2010–2018	A	2.5	B

- 17. Using the table above, select the correct parts for your application.
- 18. Loosen the bolt on the back side of the fork ring and remove the fastening system. Avoid completely removing the bolt, as the anodized hardware can be easily lost.

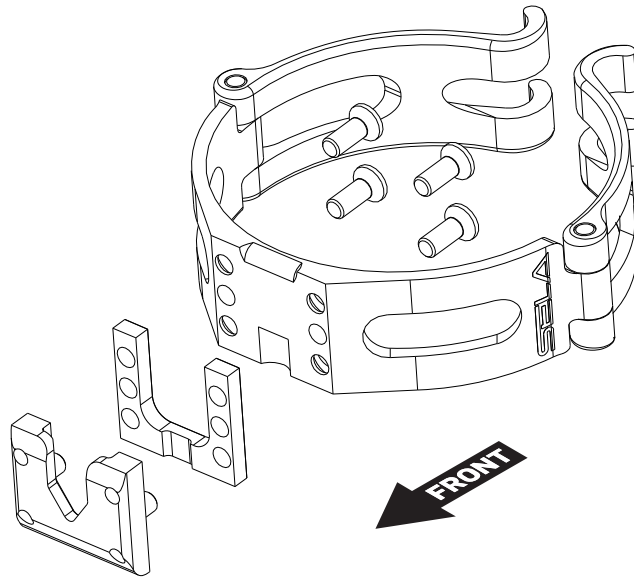


Figure 1: Exploded view of fork ring assembly showing correct part orientation.

19. Mate the receiver to the spacer. Note that both parts have a small notch on one side. These notches interface with one another when the two parts are combined, forming a drainage hole.
20. Mate the receiver/spacer combination to the fork ring. Note the radiused edge on the front side of the fork ring. This edge should point in the same direction as the v-grooved end of the receiver/spacer combination (see **Figure 1** above).

NOTE: Each of these parts has a marking on its back side. You can check that the parts are oriented correctly by verifying that all markings read upright.

⚠ CAUTION: It is critical that the receiver, spacer, and fork ring are all oriented correctly before proceeding to the next step.

21. Apply a drop of the provided thread-locking fluid to all four screws. With the receiver/spacer combination properly mated to the fork ring, install the screws. Using the provided 2-millimeter hex wrench, evenly tighten them in an “X” pattern until they are very snug.

⚠ CAUTION: If your fork tube has a graphic or protector installed, you may need to remove it before proceeding with the following steps. Any thickness added to the fork tube can potentially interfere with the operation of the device. If necessary, you can trim and replace the graphic or protector once the installation is complete.

22. With the fork ring assembled, position it low on the right fork tube, just above where the tubing begins to expand outward.

23. Reinstall the fastening system. The bolt head should be facing out toward you. Lightly snug the bolt by hand for now. This will allow you to make small adjustments to the ring without it rotating freely on the fork.

⚠ CAUTION: Precisely aligning the fork ring with the SELA mechanism is critical to the safe and reliable function of the system. Take care to achieve the proper alignment.

24. Remove the front number plate. This will help you gain a clear line of sight down the right fork tube from above, making the alignment process easier.
25. From directly above the right fork tube, sight down the length of the fork. As you do so, focus your attention on the following:
 - a. The lowest part of the v-groove on the fork ring receiver
 - b. The laser-etched line on the highest part of the SELA mechanism
26. Using **(b)** as your point of reference, fine-tune the position of the fork ring to bring **(a)** into alignment with **(b)**. After each small adjustment to the fork ring, sight down the fork tube to check your progress. Precisely aligning these two components is critical to the safe and reliable function of the system.

⚠ CAUTION: When tightening the bolt on the back side of the fork ring, do not exceed the maximum torque specification of 8 N·m (70.81 in·lb/5.9 ft·lb). The fork ring uses a variable-diameter clamp design. As a result, the bolt may not feel like it is tight enough. This is normal. Do not overcompensate for this by tightening the bolt further. Overtightening can cause damage to your fork.

27. After confirming that **(a)** and **(b)** are precisely aligned, tighten the bolt on the back side of the fork ring using the supplied 3-millimeter hex wrench. Be careful not to move the fork ring out of adjustment as you do so. Do not exceed the maximum torque specification of 8 N·m (70.81 in·lb/5.9 ft·lb).
28. Sight down the fork tube to perform a final alignment check, making sure that the fork ring did not move out of adjustment as it was tightened.

⚠ WARNING: Never attempt to preset or engage the device while the motorcycle is in motion or while the engine is running. Either condition can result in serious injury or death to the user. Always preset and engage the device while the motorcycle is stationary and the engine is turned off.

29. With SELA fully installed, test that it is functioning properly by running it through a few cycles. To do this, first remove your motorcycle from its center stand so that both wheels are on the ground. Next, preset the SELA mechanism by turning the dial

clockwise until it locks. Then, compress the front suspension enough for the fork ring to travel below the SELA mechanism. When the suspension rebounds, SELA will engage.

If you encounter any problems engaging the device, make sure that you are sufficiently compressing the front suspension, recheck the fork ring alignment, and make any necessary adjustments. Then, perform the test once again.

To disengage the device, simply compress the front suspension again. In a race, this would occur shortly after performing your start, typically as a result of hitting a small bump or braking for the first turn. The SELA mechanism will fully retract at this point, and the device will not engage again until the dial is manually preset.

Congratulations! You have completed the installation.

Getting Started With SELA

WARNING:

Familiarize yourself with SELA and its operation before using it in a race or during a practice start. Remove the motorcycle from its center stand so that both wheels are on the ground. With the motorcycle stationary and the engine turned off, practice presetting, engaging, and disengaging the device.

After familiarizing yourself with SELA in this way, you can begin to practice starts with it. Be sure to perform your practice starts in a safe, open place with plenty of room to stop, away from other riders and hazardous obstacles.

With the engine turned off, preset and engage SELA. Start your engine, being careful not to compress the front suspension as you do so. With the engine properly warmed up, perform a practice start. As you brake, the front suspension will compress, causing SELA to disengage. Practice several starts in this way to further familiarize yourself with SELA and its operation.

Do not race with SELA until you have mastered its use.

Maintenance

⚠ CAUTION: Regularly inspect and maintain your SELA, fork, and fork guard.

- Check that all fasteners are properly torqued.
- After every day of use, flush the SELA mechanism with water directed at the large hole in the back side of the fork guard. Do not use a power washer to do so.
 - As you flush the SELA mechanism, rotate the dial back and forth between its default retracted position and its preset locked position. This will help to free any debris that may be in the system.
- Check the function of the SELA mechanism.
 - Verify that the dial rotates freely and fully from its default retracted position to its preset locked position and back again.
 - When rotated to the preset locked position, check that the dial remains there.
 - When manually dislodged from the preset locked position, check that the dial snaps all the way back to the default retracted position without assistance.
 - Apply a light lubricating oil to the system if its operation feels sticky.
- If the SELA mechanism is not operating smoothly after conducting the above steps, remove the fork guard and repeat them with direct access to the system.
- Periodically check the pin on the back side of the SELA mechanism for wear/damage.
- On the fork ring, flush the slot behind the receiver after every use, removing all debris. This will prevent undue wear/damage to the pin as it engages with the receiver.

⚠ WARNING: In the event of a crash, inspect the fork guard, SELA mechanism, fork, and fork ring for damage or displacement. Damaging or displacing any of these parts can cause SELA to malfunction. Perform the above maintenance steps, check that the fork ring and the SELA mechanism are properly aligned, and confirm that the system is functioning properly by running it through a few cycles. Never use SELA with damaged or missing parts.

⚠ CAUTION: Complete disassembly of the SELA mechanism for cleaning is not recommended, as it contains small, spring-loaded parts that can be ejected and lost during disassembly. Clean the SELA mechanism as thoroughly as possible without disassembling it.