



Installation Instructions YZ 450 Steahly Flywheel Weight Part Numbers 835 and 836 (patent pending)

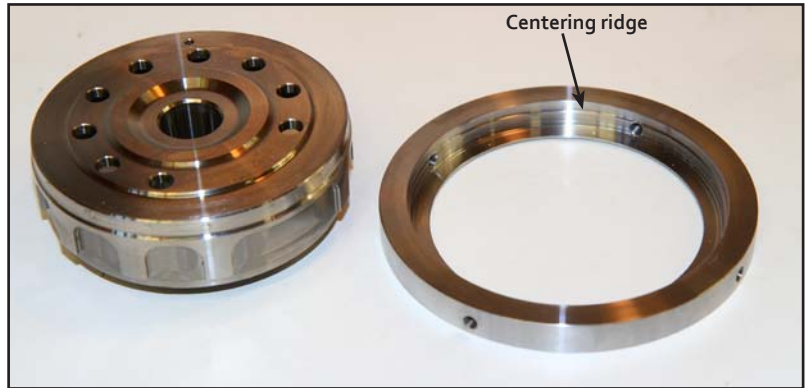
This procedure should be performed by someone with good mechanical abilities and will require patience and attention to detail. If that does not describe you, then you may send your stock rotor to Steahly Off Road to have this weight installed at no charge (shipping is not free). Read these instructions all the way through to make sure you have the ability and tools. Improper installation or use of this flywheel weight could cause expensive engine damage and/or a serious crash causing injury or death. Since we have no control over installation or use of this product, and since dirt bikes are often raced, subjected to extreme conditions, and abused, it has no warranty whatsoever. However, if you have problems please call, we may be able to help.

Procedure Summary: You must remove the rotor (stock flywheel) from the engine using the proper flywheel puller. The rotor and the weight ring must be cleaned of all traces of oil. Additional texture must be added to the rotor. The weight ring has centering ridges (raised areas) to keep the rotor in balance. The weight ring is held in place with set screws while the epoxy is injected into the cavity between the stock rotor and the weight. The epoxy must set up for 24 hours and then heated in an oven for two hours.

Additional items you will need to have: Common mechanics hand tools, flywheel puller, paper towels, ½ pint Isopropyl (rubbing) alcohol or acetone, a small pan for washing flywheels, small brush, plastic hammer or block of wood, newspaper, torque wrench, and maybe a new ignition cover gasket.

Removing the rotor (stock flywheel) from the bike:

1. Clean the engine, especially around the left side ignition cover.
2. Drain the engine oil or lay the bike on its right side. Make sure the gas tank is not leaking.
3. Remove the shift lever.
4. Remove the ignition cover carefully so you don't damage the gasket. The gasket has a metal backing and may be reusable if you are careful. Watch out for the two cover alignment pins; don't let them fall into the engine. You can set the cover to the side without disconnecting any wires.
5. Remove the rotor-retaining nut. Use an air or electric impact wrench, or use a 17mm wrench to hold the rotor as shown in the photo (Photo 1). Never stick anything through the holes in the rotor to jam up the engine; the chance of damage is too great.



Stock rotor and Steahly weight rings.



Weight ring mounted to stock rotor.



Photo 1 - Remove the rotor retaining nut.



Photo 2 - Use the tool for pulling the rotor.

6. Remove the rotor using the correct flywheel puller (Photo 2), such as Steahly part number E-63 for \$19.95, or similar. Do not use automotive or claw pullers, they will damage your rotor.

Preparing the rotor:

1. Wipe the rotor with paper towels and isopropyl alcohol to remove the majority of oil. **WARNING: ALCOHOL and ACETONE ARE FLAMMABLE, KEEP AWAY FROM OPEN FLAMES.**
2. Give the rotor a bath in alcohol and scrub with a small brush to remove all oil (Photo 3). Dry rotor.
3. Sand the surface of the rotor anywhere the weight ring will come in contact (Photo 4). Remove any rust. Remove any burrs that might keep the weight from going on properly.
4. Give the rotor another bath in fresh clean alcohol. Allow it to air dry.



Photo 3 - Clean the stock rotor in an alcohol bath. Leave no trace of oil or rust.



Photo 4 - Add texture to rotor surface.

Preparing the weight ring:

1. Give the weight ring a bath in clean alcohol and scrub with a small brush to remove all oil (Photo 5), including inside the four threaded holes.
2. Give it second bath in fresh clean alcohol and allow it to air dry.
3. Give the set screws a bath in clean alcohol, scrub and wipe them to remove all oil and rust (Photo 6).



Photo 5 - Clean the weight ring in an alcohol bath. Leave no trace of oil or rust.



Photo 6 - Clean the set screws thoroughly leaving no trace of oil or rust.

Fitting the weight ring onto the rotor:

1. Install set screws A and C (Photo 7) into the weight ring. Don't screw in too far, don't allow them to protrude into the inside of the ring.
2. Place the weight ring over the rotor and push or lightly tap it down. If it feels like it will not go on easily, check the weight ring and the rotor for burrs or dents and sand or file as needed. You can lightly sand the centering ridge of the weight ring if needed (Photo 8). Make sure the weight goes on all the way. Tap it down lightly with a plastic hammer.
3. Add dimples to the rotor using the set screws (Photo 9). Tighten and loosen set screw A, rotate the weight ring on the rotor a few degrees, then repeat until you have added at least 32 dimples (Photo 10). Do not attempt to remove the weight ring after you have made the dimples.
4. Push the weight ring all of the way on and hold pressure against the rotor while you tighten set screw A and C (not too tight or it will distort the weight ring).

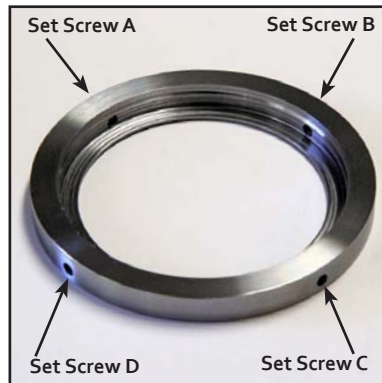


Photo 7 - Note location of set screw holes. A/C and B/D are opposite.

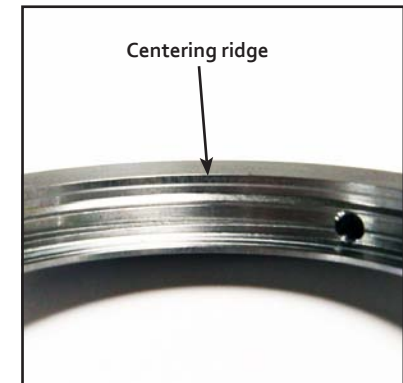


Photo 8 - Lightly sand centering ridge if needed.

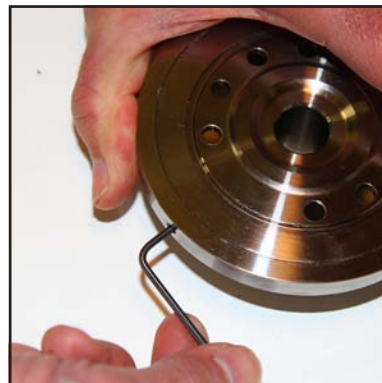


Photo 9 - Add dimples to stock rotor by clamping set screw down tight. Then loosen, rotate and repeat.



Photo 10 - Dimples left by set screw.

Gluing the weight to the rotor:

1. Lay down newspaper, put on rubber gloves, get all your tools and supplies laid out and ready. Once you mix the epoxy you only have about 15 minutes to complete the injection.

2. Open the supplied mixing jar of the pre measured epoxy. **NEVER USE EXPIRED EPOXY.** Add the pre measured hardener from the syringe (Photo 11).

WARNING; TO AVOID SPLASHING, PULL BACK ON THE SYRINGE PLUNGER FIRST, THEN SLOWLY AND CAREFUL PUSH THE HARDENER OUT.

Mix thoroughly using the flat end of the supplied wooden stick (Photo 12).

3. Fill the syringe with the mixed epoxy by sucking it up through the end of the syringe while pulling back on the plunger. Try not to suck in air (Photo 13).

4. Place the end of the syringe into hole B (Photo 14) while you slowly inject the epoxy. When epoxy comes out of hole D or from the seam between the weight and the rotor move the syringe to hole D and inject epoxy.

5. Coat two set screws in epoxy and install them into hole B and D. Snug tight.

6. Remove set screws A and C.

7. Place the end of the syringe into hole A and slowly inject epoxy. When epoxy comes out of hole C or from the seam between the weight and the rotor move the syringe to hole C and inject epoxy. Continue injecting until you are sure that all the cavities between the rotor and weight ring have been filled.

8. Coat set screws A and C with epoxy and reinstall.

9. Fully tighten all four set screws. The end of the supplied Alan Wrench will flex about 3/16 inch (4mm) when tightened properly (Photo 15).

10. Fill the set screw holes with epoxy (Photo 16).

11. Clean off the excess epoxy using paper towels dampened with alcohol.

12. Allow the epoxy to harden for 24 hours at normal room temperature.

13. After 24 hours, put the rotor/weight assembly into a cold oven (you can use your kitchen oven, there is usually no odor). Set the oven temperature to 250 degrees Fahrenheit and bake for two hours. Turn off the oven and allow it to slowly return to room temperature. Clean the flywheel assembly and make sure nothing is stuck to the magnets.



Photo 11 - Add hardener to epoxy.



Photo 12 - Mix thoroughly.



Photo 13 - Refill syringe with mixed epoxy.

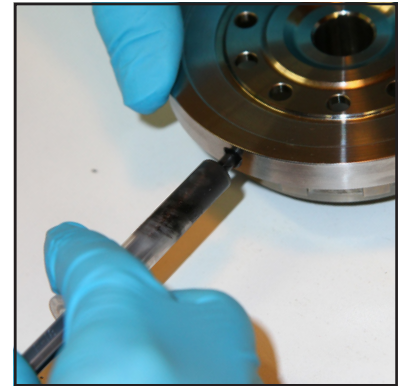


Photo 14 - Inject epoxy.

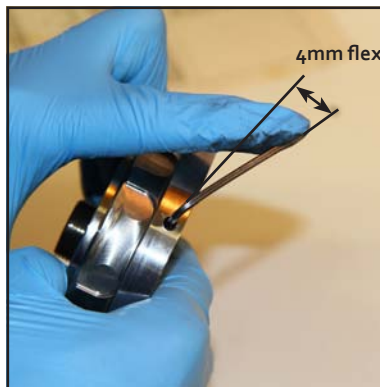


Photo 15 - Tighten set screws.

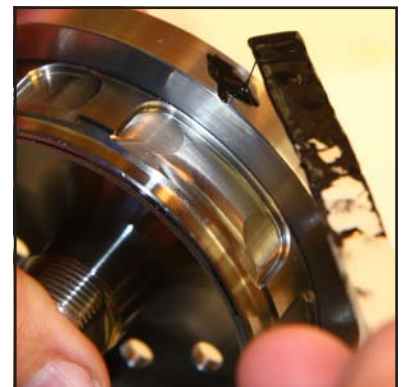


Photo 16 - Fill in set screw holes with epoxy

Install the rotor back in the engine:

1. Place the rotor over the end of the crankshaft with the key ways lined up.

2. Install the rotor nut and washer and torque to **42 foot-pounds**. Important: incorrect torque may cause clearance problems.

3. Install the ignition cover with a new gasket if necessary. Make sure the two cover alignment pins are in place.

4. Install the shift lever.

5. Add oil if necessary. Make sure the engine turns over freely before starting.

WARNING: USE CAUTION WHILE RIDING UNTIL YOU BECOME FAMILIAR WITH THE NEW POWER