Installation Instructions
Steahly Flywheel Weight
KX 450 09-13 (part number 626)
(patent pending)

This procedure should be performed by someone 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 for free (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 alignment ridges (raised areas) to keep the rotor in balance (Photo 2). 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 baked for two hours.

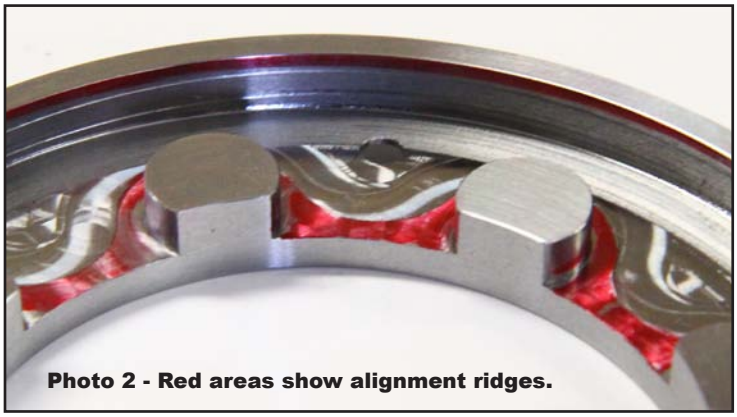
Photo 2 - Red areas show alignment ridges.

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 stock flywheel from the engine:

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 half full or less and is not leaking out of the tank.

3. Remove the shift lever.

4. Remove the eight ignition cover bolts. Disconnect the vent hose and the clutch cable. Slowly remove the ignition cover, using care to not damage the gasket, or have a new gasket available. Make sure the two cover locating pins stay in the engine cases and don't fall into the engine. The cover can hang off to the side by the wires.

5. Remove the flywheel-retaining nut. Using an air impact or electric impact wrench is the best way to loosen the nut, as generally no holding tools are needed. If no impact wrench is available then you will need a flywheel holding tool. A truck size oil filter wrench may work and they are not very expensive. A strap wrench may also work. NEVER stick anything through the holes in the flywheel to jam up the motor; the chance of serious damage is too great.

6. Pull off the stock flywheel using only the proper flywheel puller (Photo 3) such as Steahly part number E-662 for $19.95 or similar. NEVER use automotive or claw pullers, they will damage your stock flywheel.


Photo 3 - Proper flywheel removal.

Call for answers to your questions: 541-535-4896

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 4). Dry rotor.

3. Sand the surface of the rotor anywhere the weight ring will come in contact, including inside the eight large holes (Photo 5). Remove any rust. Remove any burrs that might keep the weight from going on properly.

4. Using a center punch (Photo 6) add texture to the areas of the rotor shown in green (Photos 7/8). The ideal height for the dimples you will be making is .003 to .004 inch (about the thickness of heavy paper). Be careful, don't put any dimples where the centering ridges of the weight make contact.

5. Give the rotor another bath in fresh clean alcohol. Allow it to air dry. DO NOT SKIP THIS STEP.

Photo 4 - Completely clean rotor insuring that no oil or rust remains.

Photo 5 - Sand all surfaces where the weight will come in contact with the rotor including inside the holes.

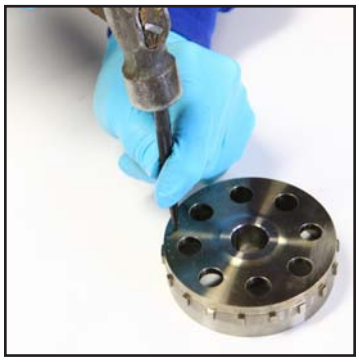

Photo 6 - Use a center punch to make small dimples in the rotor surface.

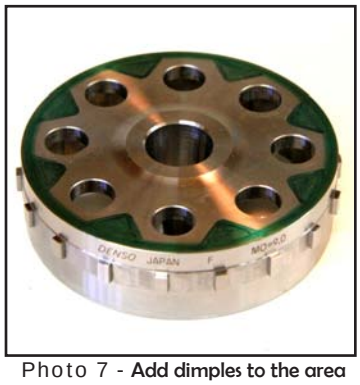

Photo 7 - Add dimples to the area shown in green

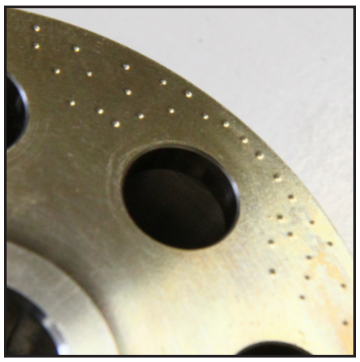

Photo 8 - End result of the dimpling process.

Preparing the weight ring:

1. Give the weight ring a bath in clean alcohol and scrub with a small brush to remove all oil, including inside the four threaded holes.

2. Give it second bath in fresh clean alcohol and allow it to air dry (Photo 9).

3. Give the set screws a bath in clean alcohol, scrub and wipe them to remove all oil and rust (Photo 10).

Photo 9 - Thoroughly bath the weight ring. Leave no trace of oil residue or rust.

Photo 10 - Thoroughly clean the set screws insuring no oil or rust remains.

Fitting the weight ring onto the rotor:

1. Install two set screws at 180 degrees apart in the weight ring. Don't screw in too far, there must be clearance to slip the weight ring on.

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 11). Make sure the weight goes on all the way. Tap it down lightly with a plastic hammer. The eight pins on the weight should be centered in the holes of the rotor (Photo 12).

3. While pushing the weight ring on, snug down the two screws (not too tight or it will distort the weight ring). Make sure the weight is all the way on, there should be no gaps between the rotor and the weight (Photo 13).

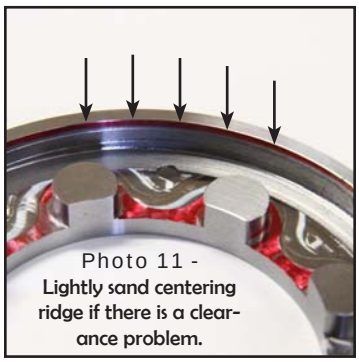

Photo 11 - Lightly sand centering ridge if there is a clearance problem.

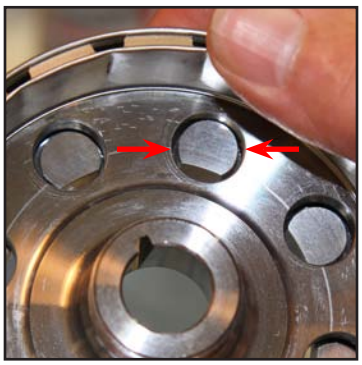

Photo 12 - Insure that the pins are centered in the rotor's holes.

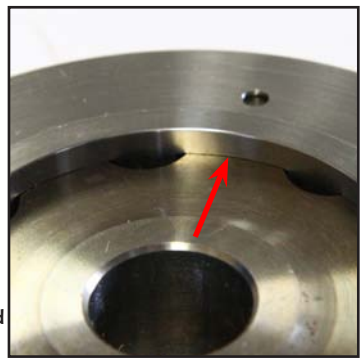

Photo 13 - Insure that the weight ring is seated on the rotor.

Gluing the weight to the rotor:

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

2. Open the supplied mixing jar that has the pre measure epoxy. NEVER USE EXPIRED EPOXY. Add the pre measured hardener from the syringe (Photo 14) 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 15).

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 16).

4. Place the end of the syringe into each of the four holes in the face of the weight ring (Photo 17) while you slowly inject the epoxy. When epoxy comes out of another hole or from the seam between the weight and the rotor move to the next hole. Repeat until you have injected into all four holes. If epoxy cannot be seen in the two set screw holes then continue injecting epoxy, but this time cover three holes with your fingers. Continue injecting until you feel that all the cavities between the rotor and weight ring have been filled.

5. Coat two set screws in epoxy and install them into the weight ring and snug tight.

6. Remove the first two set screws that you installed, coat them in epoxy, and reinstall.

7. Fully tighten all four set screws. The end of the supplied Alan Wrench will flex about 1/8 inch (3mm) when tightened properly (Photo 18).

8. Fill the set screw holes with epoxy.

9. On the inside of the rotor, fill the small gaps between the rotor holes and the eight pins of the weight ring (Photo 19). Do not fill the larger crescent shaped hole.

10. Clean off the excess epoxy using paper towels dampen with alcohol.

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

12. 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 14 - Add hardener to the epoxy.

Photo 15 - Thoroughly mix the epoxy.

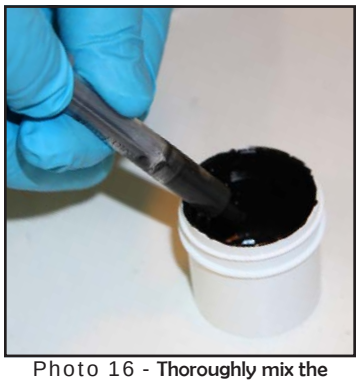

Photo 16 - Thoroughly mix the epoxy.

Photo 17 - Inject epocy into each of the 4 holes.

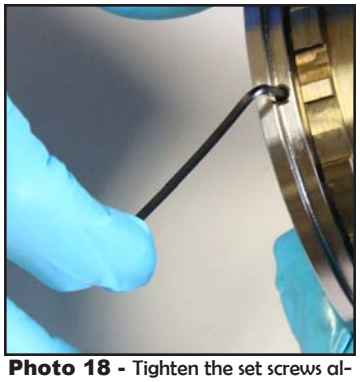

Photo 18 - Tighten the set screws allowing the key to flex about 3mm.

Photo 19 - Fill in the small gaps shown in red around the pins with epoxy. It is not necessary to fill the larger open portion towards the inside of each gap.

Install the weighted flywheel back onto the engine:

1. Place the flywheel over the end of the crank with the key ways lined up. Make sure the key stays in place.

2. Install the stock retaining nut and torque to 42 foot-pounds (60 nm).

3. Check for clearance between the flywheel and the large cam chain guide bolt by sliding a .010-inch feeler gauge in between. If there is not enough clearance make sure you did not over tighten the flywheel nut. You may need to grind down the top of the bolt.

4. Reinstall the ignition cover using a new gasket if necessary. Make sure the two cover alignment pins are in place. Attach the clutch cable, vent hose, and wire holders. Install the shift lever.

5. Check the oil level and add if needed. Kick the engine over a few times to make sure it turns freely, just as it did before.

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