DAELIM MOTOR USA

E-Five

S-FIVE

COMPLETE PERFORMANCE UPGRADE INSTRUCTIONS FOR THE DAELIM E-FIVE 50cc and S-FIVE 50cc

Basic de-restriction of the E-Five and S-Five:

For basic de-restriction the only process necessesary will be the replacement of the stock CDI with a new improved performance CDI. The OEM Daelim CDI is set with a rev limiter set for under 7500 rpms. Using part number MRP CDI # MP-01200 you can raise the performance to 11,000 rpms without having to do any major unit modifications. This is the simplest way to get more performance out of the units. See Step 1.

Complete de-restriction of the E-Five and S-Five:

For complete performance follow all of the following steps.

Basic CDI Swap

- **This picture shows the seat open on the S-Five.**
- **Begin by removing the gas caps and bolts connecting the seat to the frame.**

See picture below.

- **Remove seat from frame.**
- **Once removed identify location of OEM Factory CDI unit. See Below**

New Race CDI
MRP CDI # MP-01200

- **Once OEM CDI has been identified disconnect cables.**
- **Replace with new MRP Performance CDI replacement unit.**
- **Use a tie down to secure replacement CDI since it will be smaller than the bigger factory CDI unit.**

- **Once connected the unit will no longer have a rev limited**
- **Proceed to complete de-restriction.**

Step one: Removal of the Exhaust Pipe Trap

- **Remove the two nuts that secure the header pipe to the exhaust port of the cylinder.**
- **Proceed with the three bolts that secure the header to the exhaust.**

Next proceed to replace the header pipe with the one found underneath the seat.
Begin the reinstallation by lining up the three bolts that secure the header pipe to the exhaust. Leave these loose at first as you want free play in order to be able to line up the two nuts that secure the header pipe to the exhaust port on the cylinder.

Tighten these to no more then 10lb. foot of torque. Follow by tightening the three bolts that secure the header pipe to the exhaust. Again, be sure not to exceed 10lb. foot of torque.

Performance Exhaust Pipes:

There are several performance exhausts pipes available on the market for the Daelim E-Five and S-Five from many different manufacturers.

- **You can add about 5mph to the unit by replacing it with a racing exhaust system. We recommend the Turbo Kit TU037 either single exhaust or dual exhaust which is carried by MRP, but there are several brands available on the market which you can use.**
- **We find that the chrome finish on the Turbo Kit pipes enhance the already stylish appearance of the Daelim lineup and is hit with consumers.**
- **There is no performance difference between the TU037 and the TU037-2S only the fact that the later brings two exhaust silencers instead of a single exhaust.**
- **These are both 49cc de-restricted exhaust systems with no catalytic converter for greater performance.**

Step Two: Removal of the restrictor in the Transmission

To remove the restrictor located in the transmission, you must begin by removing all of the bolts that secure the kick start cover to the engine case.

- **Remove Transmission Cover to expose variator, clutch, belt, and other components.**

After having removed these, pull the cover away from the case. It might be tight in there so be sure to hold it firmly and pull evenly as you do not want to disturb the gasket.

- **With the case open you will need to remove the driving plate from the variator. This is the pulley found on your left hand side or the one closest to the front of the bike. It is secured by a 15mm bolt. It is strongly recommended that an air gun be used to remove this nut. If one in not available a special tool is required to hold the pulley in place.**

- **Once you have removed the driving plate on the variator, you will note that there is a small ring that prevents the two halves of the pulley from coming together. Remove this ring and discard it.**

Note: This is only the space ring, not the flat washer. Do not discard this washer. Replace it as discarding it would cause the bike to falter in acceleration. Slide the variator side of the pulley out and replace the roller weights with the ones found underneath the seat. Reassemble variator and slide it back on-to the crank shaft.

Put the belt back over the variator. Make sure to do this correctly because if done incorrectly the belt can later brake.

You might need to compress the clutch pulley to get the needed slack to be able to place the belt over variator pulley. Replace the driving plate of the variator making sure that all washers are in there place and in the same order as they were removed.

Once this has been done, tighten the nut using the air gun.
Place the cover back on top of the engine case paying close attention to the position of the gasket.

You will have noticed there is a small jet under the seat along with the roller weights in some units. This is the derestricted jet you will be using to allow for greater fuel flow to the carburetor. If not available you can purchase this separately from MRP.

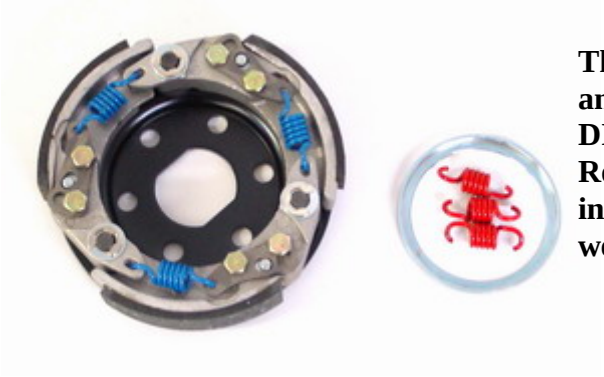
There are several performance upgrades available for the transmission:

VARIATOR:

TM08 -Turbo Kit Racing Variator with roller weights, backing plate and spring this is a complete kit made in Spain designed to improve the transmission system.

A basic variator with weights would be the VP 1257 Variator with weights made by Tecnomoto in Spain or the VP 1258 Variator, roller weights, Main Spring.

Clutch:



There is also an MRP 130876625 Racing Clutch for the S-Five and E-Five which is superior to the factory clutch and the MRP DIO 50 Racing Variator which is a basic upgraded variator. Roller Weights are available from many different manufacturers including Turbo Kit, MRP, Polini, Malossi, Tecnomoto, CB, and we recommend you stock them if you are a Daelim dealer.

Roller Weights:

- **We highly recommend that you begin by upgrading the variator roller weights before engaging in any performance upgrades. This is the simplest of upgrades and the least expensive for the consumer. We suggest stocking every size for every brand you carry in the store.**

This is a minimal investment and offers a maximum return. The main rule for tuning variators is: the lighter the roller the more rpm's are needed to push the rolls outwards through centrifugal motion to set the gear change in motion. Heavier roller weights need lower rpm's to start moving. Heavier roller weights = slower take off speed, more acceleration, = higher maximum speed.Lighter roller weights =faster take off speed, less acceleration = lower achievable speed. The right balance is an individual choice since a scooter racer will want heavier weights to achieve a higher overall speed so that they might be faster at full throttle. For daily use a driver might prefer lighter weights for more power to take off faster at a stop light. We recommend you stock all of the sizes for the brands you sell due to the low cost and quick turnover of the product.

Kevlar Belt:

This is made from the same material as bullet proof vests and we recommend upgrading this if you are going to be upgrading the scooter.

It helps the scooter perform better over a longer period of time and the material is vastly superior to regular factory belts. MRP stocks Polini belt number P248.011 which is made for the E-Five and S-Five. Minimum Cost and Maximum results.

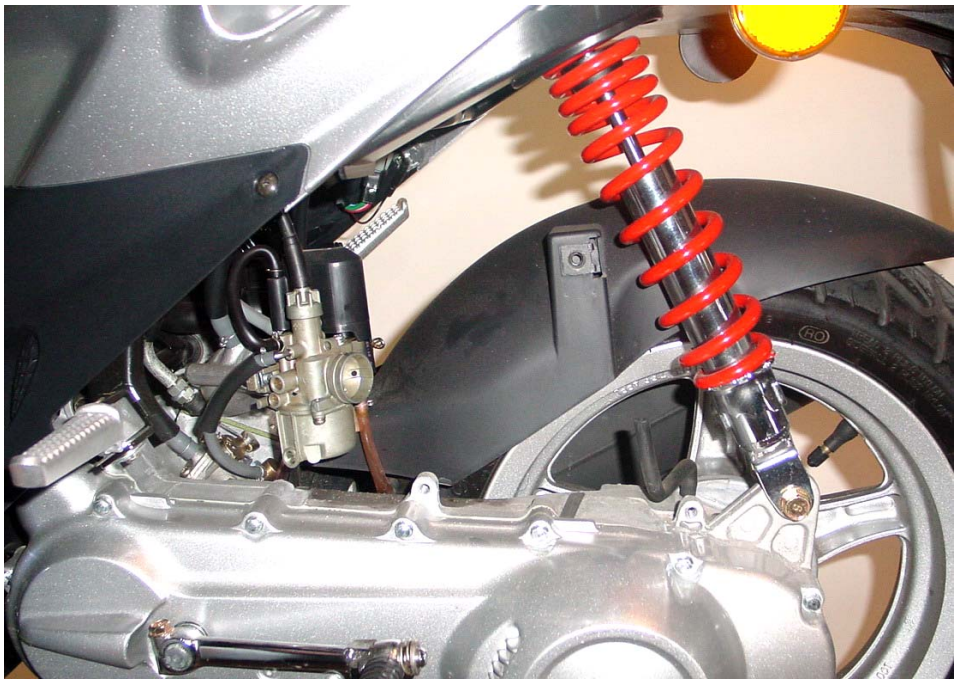
Step three: removing the air filter and changing main jet

To remove the air filter you will need to remove the three screws that hold it to the bike.

- **With the screws removed you can now maneuver the air filter so that the clamp that secures it to the carburetor can be exposed. Loosen the clamp that secures the air filter to the carburetor and along with it, pull away to remove the air filter box.**

Before removing make sure to disconnect the rubber hose that is connected to the air box.
Unscrew the flange to release the carburetor

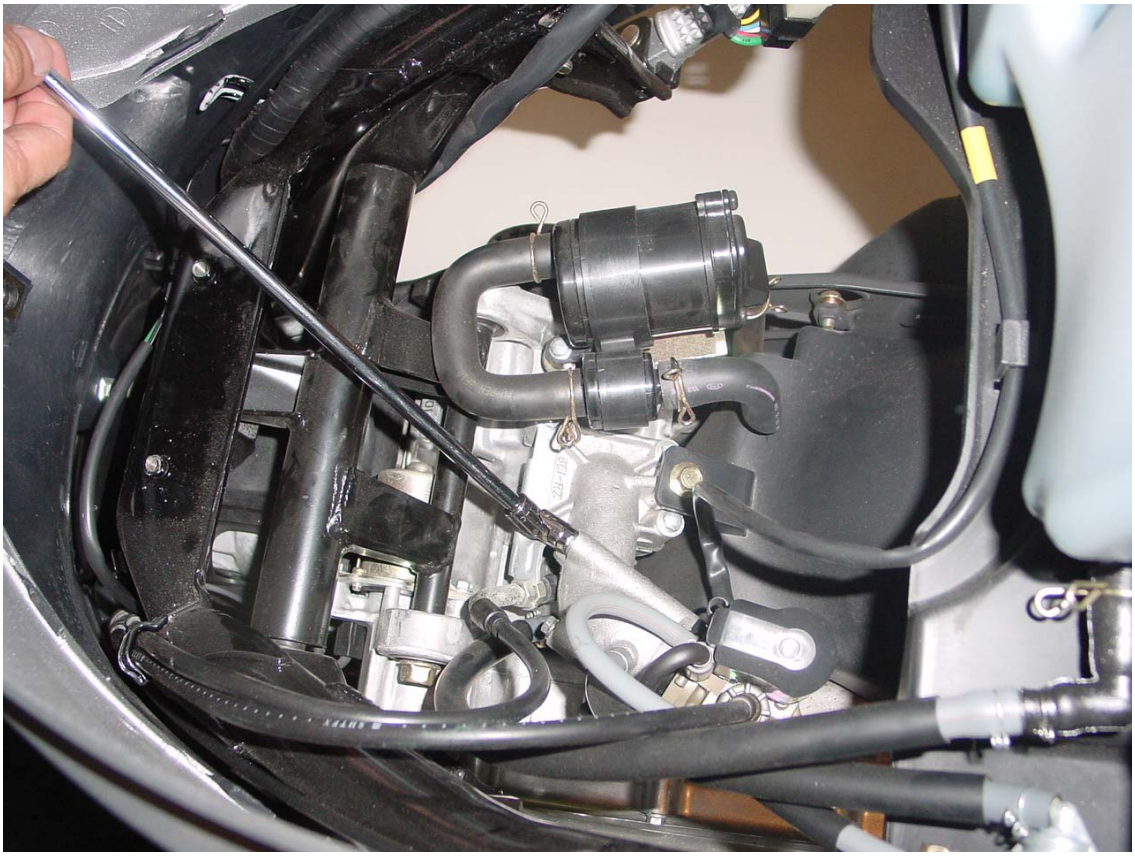
Once removed you should be able to access the Carburetor as the picture below

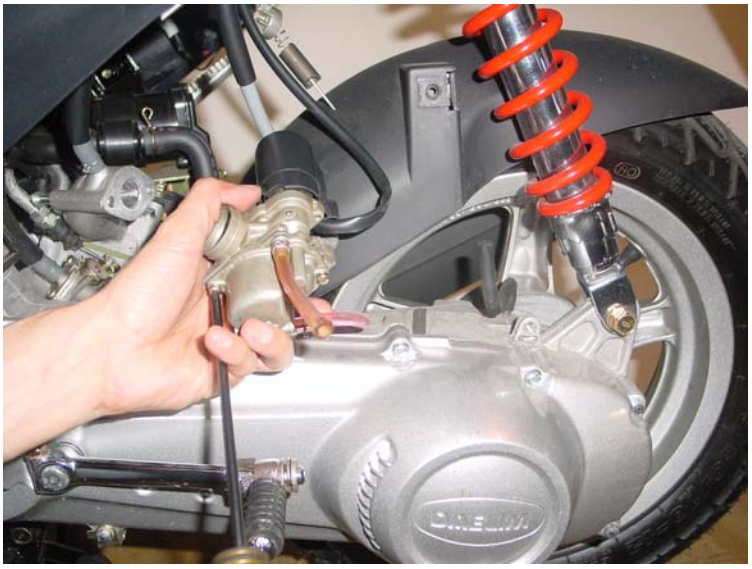


Now that you have exposed the carburetor you must access our ultimate goal of changing the main jet.

- **Note that it is a flange mounted design and thus will require you to remove the two screws that connect it to the intake manifold.**

- **You will not need to remove the fuel lines nor the throttle cable as you only need to maneuver the carburetor so that the bottom of it is accessible.**





- **The bottom portion of the carburetor contains a sediment bowl which is also where the fuel settles as it comes in from the fuel tank and before it is forced through the main jet. So remember that there might be fuel that could potentially spill. Use caution when removing the bowl. The bowl is attached by two small phillips head screws. Remove these, again caution with the fuel.**

You will now be faced with the main jet.
This is the large aperture found in the middle of the carburetor.
It has a small slot on it much like that of a screw.
Use a flat head screw driver to unscrew it from its retainer by turning counter clock wise.

Be very careful not to allow the tube that is behind it to slide out of place.

- **Take the new jet which was found under the seat and place it in-to the retainer and turn it clock wise until it is snug. If the new Daelim does not bring a replacement jet then you can order one from MRP. The standard E-Five or S-Five brings a 60mm or 65mm jet we recommend replacing this with a 72mm jet which is widely available from many sources. If you do not have access to a 72mm jet make sure to contact us. Too much force will cause it to break so use caution when installing.**

Replace the two bolts that secure the carburetor flange back on-to the intake manifold. These should also be tightened only until snug. Mount the air filter to the carburetor and tighten the clamp that secures it. Replace the three screws that were removed from the air filter box.

You have finished.

If every step was followed correctly, the scooter will now reach a top end speed of 45 or higher MPH depending on how many of these de-restrictions and enhancements you did. The rpm's should now be between 10,500 and 11,000 consistently instead of the restricted 7,500 and you should have more acceleration depending on your roller weight upgrades. Our test S-Five is going close to 60mph.

Written By

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