

# **The Quad City Ultralight Starter Motor System**

## **Installation Instructions**

**For use as part of the Quad City Ultralight 2.6 to 1. Reduction unit in conjunction with the Rotax 447 & 503 provision 8 engines only.**

### **Important.**

**Please read these instructions before installing the starter unit. If you have any questions, please contact Quad City Ultralight on**

**309 764 3515**

## **Precautions**

Before starting your engine, please observe the following precautions.

1. Follow the recommended 'Pre-Start' checklist for your aircraft.
2. Follow and observe any warnings or special procedures noted in Your owners manual.
3. Operate primer or choke as required.  
Note: If engine is warm, this step may not be necessary.
4. Make sure throttle controls work properly by opening and closing Throttle several times. Ensure throttle is closed before starting the Engine.
5. Make sure the battery is fully charged before use. See battery Manufacturers charging instructions. An 18amp or higher battery is Required for this system.

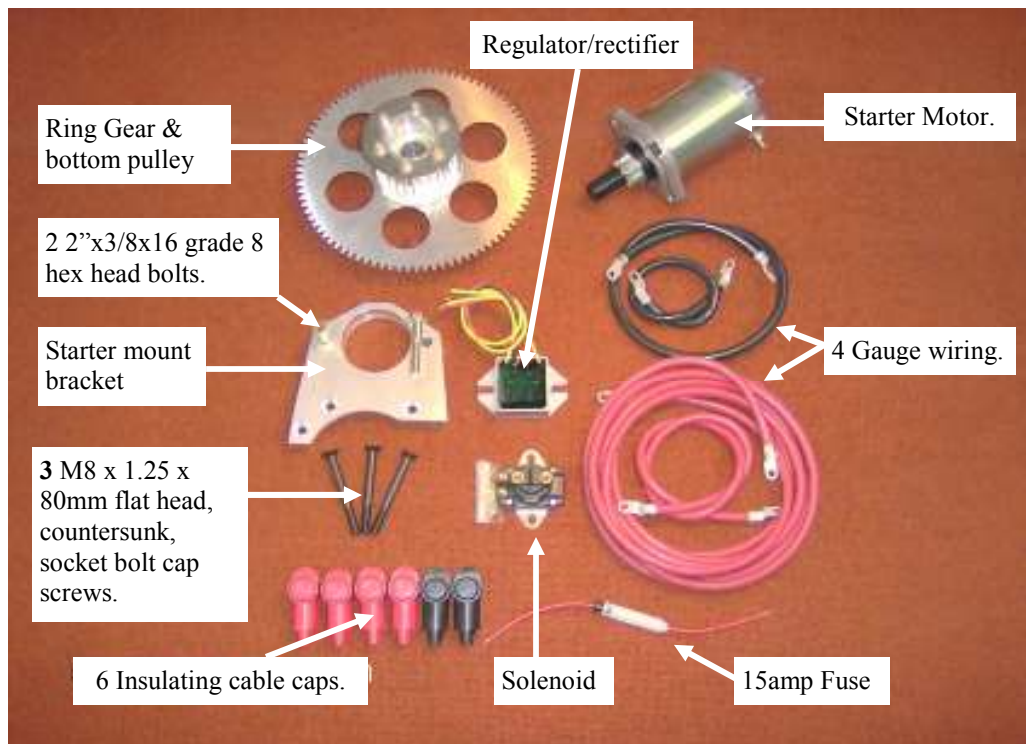
## **WARNING**

**TO PREVENT ELECTRICAL WIRING DAMAGE FROM OCCURRING, THE ENGINE TO BATTERY GROUND CABLE MUST BE INSTALLED.**

# Quad City Ultralight Starter motor installation instructions.

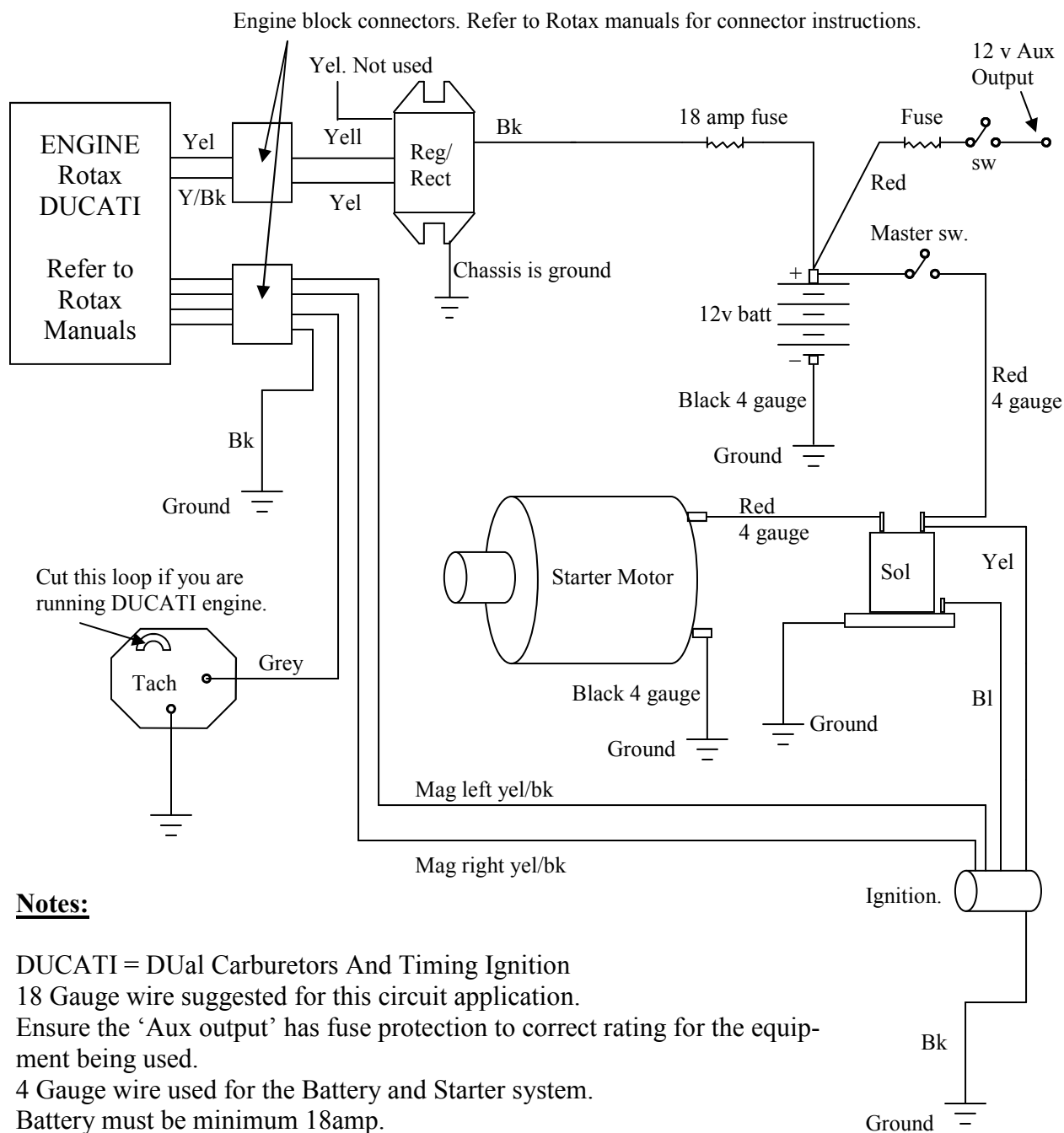
## Starter motor inventory list.

1. 1 Starter Motor
2. Bottom pulley assembly. Incl: 1 Starter 'ring' gear, 1 bottom pulley, 6 AN3-26A bolts. 6 AN525-1032 Nyloc nuts. 6 3/16 washers, 2 S.S. retaining rings. Factory assembled.
3. 1 Starter motor mount bracket.
4. 3 M8 x 1.25 x 80mm flat head, countersunk, socket bolt cap screws.
5. 2 2"x 3/8 x 16 Grade 8 hex head bolts.
6. 2 Grounding leads—4 Gauge x 24"
7. 2 Power leads—4 Gauge. 1 x 11ft, 1 x 3ft.
8. 1 regulator/rectifier
9. 1 solenoid
10. 6 insulated cable end caps - 4 red, 2 black.
11. 1 Fuse holder—less fuse (15amp)
12. Instructions



**Please conduct an inventory check and ensure all the components for this starter kit are accounted for. If there are any deficiencies or defects, please contact Quad City Ultralights on 309 764 3515.**

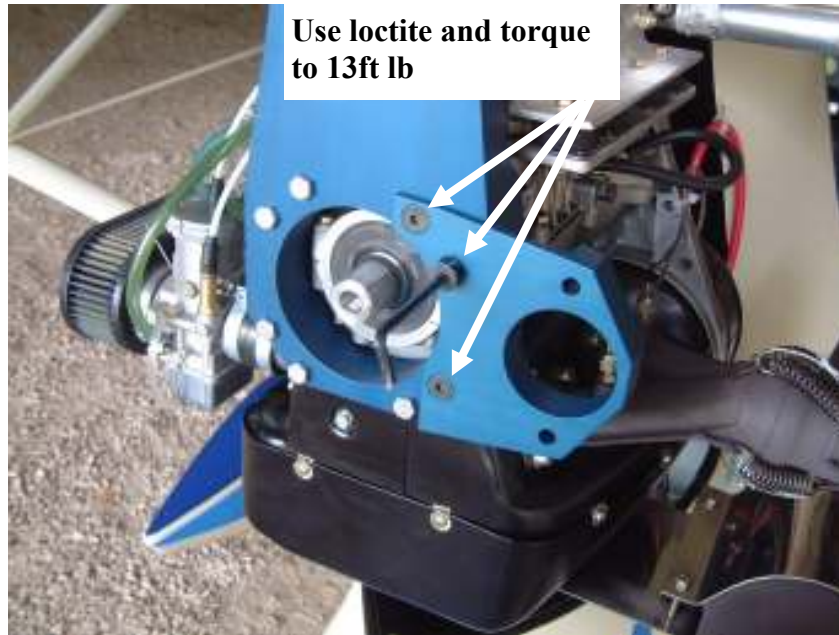
## Suggested Wiring diagram for Electric Starter



**Notes:**

- DUCATI = DUAl Carburetors And Timing Ignition
- 18 Gauge wire suggested for this circuit application.
- Ensure the 'Aux output' has fuse protection to correct rating for the equipment being used.
- 4 Gauge wire used for the Battery and Starter system.
- Battery must be minimum 18amp.
- Battery and Start circuit must have fuse protection
- All exposed terminals must have 'non-conductive' caps or protection.

**Remove the top right bolts from the right side of your tower and attach the starter motor mount bracket (as shown below) using 3 M8 x 1.25 x 80mm Flat head, countersunk socket cap screws. Torque to 13ft lb.**



**Before you are able to torque the bottom pulley, you must immobilize the crank shaft. The crank shaft retaining pin (small brass rod) is part of the Rotax tool kit supplied with your engine. Insert the pin into the vacuum nozzle. See picture below.**



The crank shaft end and the inside of the bottom pulley must be cleaned with MEK and free of any dirt or other contaminants before installing the bottom pulley. The crank shaft is tapered at the exposed end and the bottom pulley is tapered accordingly for a snug fit.



Install the starter as shown below. It is very important that a good grounding is obtained for correct operation of the starter. We used one of the Lord Mount bolts in this application. Ensure the power lead has an insulated end on the terminal. Note how the cables are zip tied to prevent unnecessary vibration and movement during engine operation. Assemble the reduction unit in accordance with instructions supplied with redrive.

