

# Meccano E15R Moderized Motor

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## IMPROVED E15R Motor "Kit"

Please read these notes before you build your motor.

1) Start by attaching wires to the DPDT switch as shown on the illustration taped on to the ISOMEC sheet. MAKE CERTAIN THAT THERE IS INSULATION ON THE WIRES THAT GO FROM CORNER TO CORNER ON THE DPDT SWITCH. Also, there should be insulation on the wires that go from the centre terminals on the DPDT switch to the motor terminals, and there should be insulation on the wires that go from the bottom two DPDT terminals to each 111c

2) Apply a tiny amount of soldering paste (flux) to each DPDT switch terminal before you do the soldering. Do not heat the terminals excessively as you may actually melt the plastic making up the DPDT switch. Just heat each terminal enough to cause a bit of solder to flow onto each terminal and connecting wire.

3) To attach the 3-24VDC motor, place the two 6BA bolts (with one 8s washer on each 6BA bolt first) through the P/N71. Place two more 8s washers on the 6BA bolt, before attempting to attach the motor.

Simply explained, there must be two 8s washers on each 6BA bolt between the motor and the P/N71 side plate. (The motor axle may go through either side of your motor.)

4) To attach the DPDT switch to the insulating flat girder, throw out the funny shaped washer that has a small protrusion on it. You really only need the locking washer, the one with inside "teeth". Move the bottom nut a bit less than 1/2 way up the threads, put on the locking washer, slip the switch into the large 1/4" hole in the insulating flat girder, and then secure it in place using the other nut.

5) Fix two Angle Brackets to the insulating flat girder through the oblong holes in each. The smaller round hole on the angle bracket will be attached to the side plates and the oblong holes will allow you to later adjust the position of the insulating flat girder as shown on the ISOMEC drawing.

6) Attach one of angle brackets to the side plate (pn71) as illustrated, and fasten all three of the threaded rods as illustrated to the side plate holding the motor and holding the insulated flat girder.

7) At this time, solder the ends of the wires to each motor terminal and fasten the other two wires from the DPDT switch to each p/n 111c.

8) Now you are able to put nuts and washers on the other ends of the threaded rods, slip on the side plates (and the last angle girder, pn9b) and then add a washer on each threaded rod, and attach a nut on to each. Also, at this time, bolt on the other angle bracket to secure it to the other side plate.

9) Where necessary, adjust the position of the side plates so that all holes in each side plate lineup with the holes in the other side plate, and make sure that the angle girders forming the base, are also lined up so that the motor sits flat without wobbling.

10) Place two washers on each 111c and then add each terminal nut. This will allow you to secure the two wires from your AC Adaptor. At this point you might like to use parts 62b (or 62f) to make improved bearings. Refer to the illustration for an example.

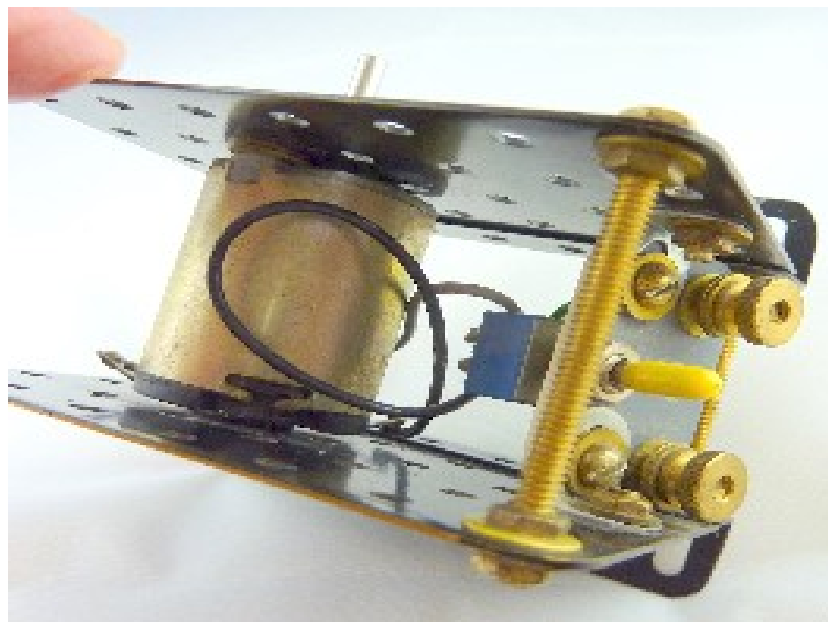
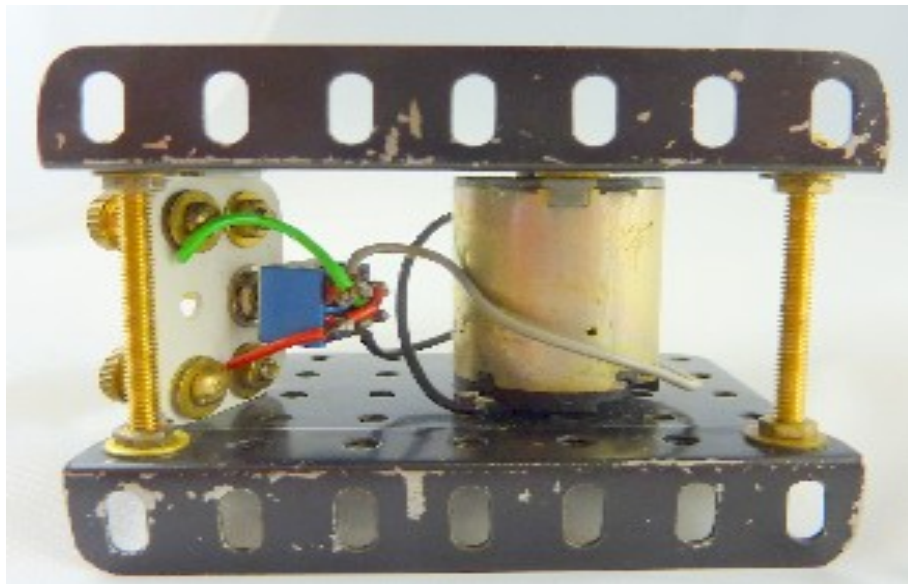
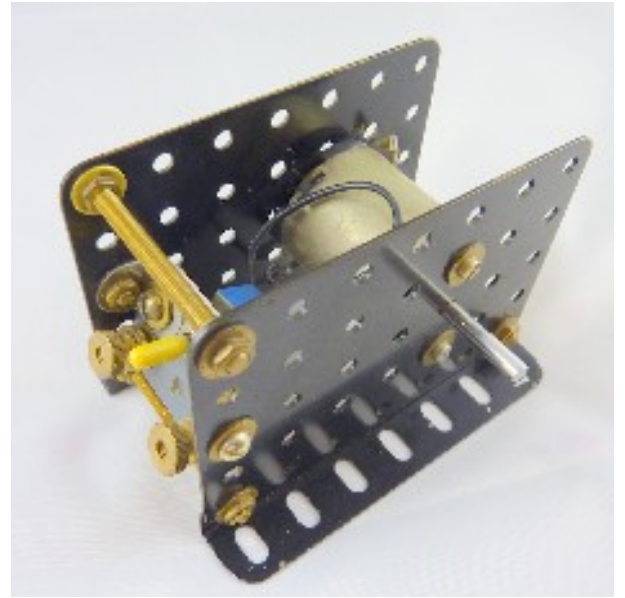
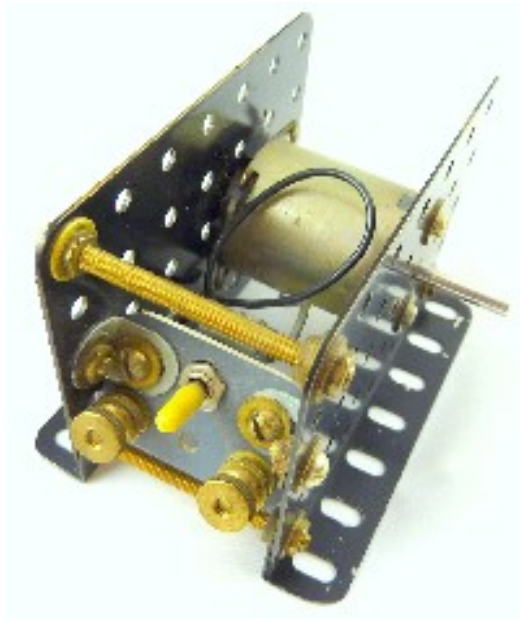
Although the motor may be run with up to 24VDC, I recommend using 12VDC and up to 1000mA. AC adaptors are available at Radio Shack or other electronic stores.

Best MeccanoMANIACal Regards, Norm LaCroix, e-mail [mecwars@webhart.net](mailto:mecwars@webhart.net)

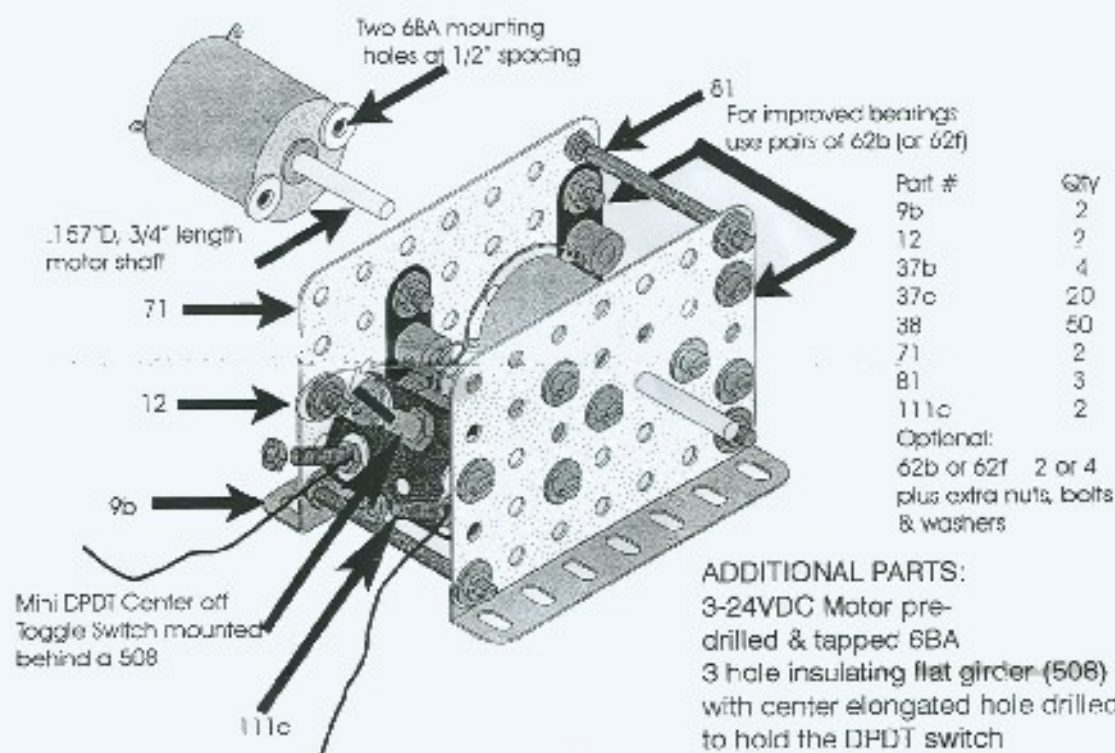
12VDC output @500mA

@ Can. \$15.95 plus postage

For anyone planning to attend the HOBBY SHOW November 6-8,  
order now and pick up at the show to avoid postage costs



# MODERNIZED (or IMPROVED) E15R MOTOR SUITABLE for THE CENTENARY BLOCKSETTING CRANE or ANY OTHER MODEL!



ISOMEC Drawing by Norm LaCroix, October 14, 1998

## NOTES

There are many model plans that call for an E15R motor, but they are obsolete, expensive if you can find one, and worst of all are not very powerful, and, as Spanners know smell like ozone while running. These precision 3-24VDC motors have a ball bearing shaft, and when operated at just 12VDC are so powerful that they are very difficult to stop rotating using finger pressure on the rotating shaft. At 12VDC the motor runs at about 4000rpm. My E15R motor, by comparison, at 12VDC runs between 7000 to 9000rpm. 8s flat brass washers are identical to PN38, but not as thick. Mini-DPDT center-off toggle switches are available at Radio Shack @\$5.99. Less expensive nuts could replace the two terminal nuts.

**SUGGESTED AC ADAPTOR:**  
12VDC output @500mA

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## ADDITIONAL PARTS:

3-24VDC Motor pre-drilled & tapped 6BA  
3 hole insulating flat girder (508) with center elongated hole drilled 1/4" to hold the DPDT switch  
Two 6BA bolts  
Six 8s flat brass washers  
Mini center-off DPDT Toggle Switch  
Two Terminal nuts  
Connecting wire

A kit of these Additional Parts are available from Norm LaCroix, 8 White Street, Petawawa, Ontario, K8H-1Z8, Canada  
E-mail [mecwars@webhart.ca](mailto:mecwars@webhart.ca)

**COST -**  
All above Additional Parts mailed in a 10 computer diskette holder to "Spanners"  
Canadian \$24.95 plus postage

MOTOR available separately  
@ Can. \$15.95 plus postage