

LX200 CLASSIC UPGRADE KIT

Revision 3

This applies to the Meade LX200 8", 10", 12" models and the EMC range with enhanced coatings.

This can be self-installed by the user provided you can drill and tap a hole. The rest is basic strip down and rebuild. If you are used to servicing your mount then there should be no issues. To get an index pulse from the existing sensor on the RA requires soldering.

COMPONENTS

DEC

MOTOR/32

14T 2.5 / 10 pulley with cheeks 2.5mm pitch components

40T 2.5 / 14 pulley without cheeks

T2.5 / 145 / 6 belt

Angle bracket

Motor bracket

4 M3 x 12 cap head

4 M3 washer

4 M4 x 12 set screw

3 M4 washer

3 M4 spring washer

1 M4 x 16 set screw

RA

MOTOR/32

12WF / ¼ inch pulley with cheeks 80thou pitch components

40WF / 3/8 inch pulley without cheeks

MP162 / ¼ inch belt

Motor plate

4 M3 x 8 cap head

4 M3 washer

4 M3 spring washer

THE REST

RA internal motor lead and front panel plate connector

DEC motor lead

Front panel plate

Advanced Microstep drive box, motor leads RA 1.5m DEC 2.5m

INDEX pulse lead 2.1m

Intelligent Handset (Not supplied for NON-GOTO kit)

ASSEMBLY

DEC

Remove the slow motion bracket with the old motor / gearbox.

Clean the grease off while you are at it.

Strip off the motor and gearbox.

Remove the pinion from the RA slow motion axle.

Remove the upstand for the pressure spring. Do not lose the spring. This is replaced by the Angle bracket and has the same function with the spring and the endstop as well as providing additional holes for the Motor Bracket.

Offer up the Angle bracket in place of the upstand and screw on with the two screws you have just taken out.

Drill through the third hole in this bracket diameter 3.2mm using the pilot hole provided.

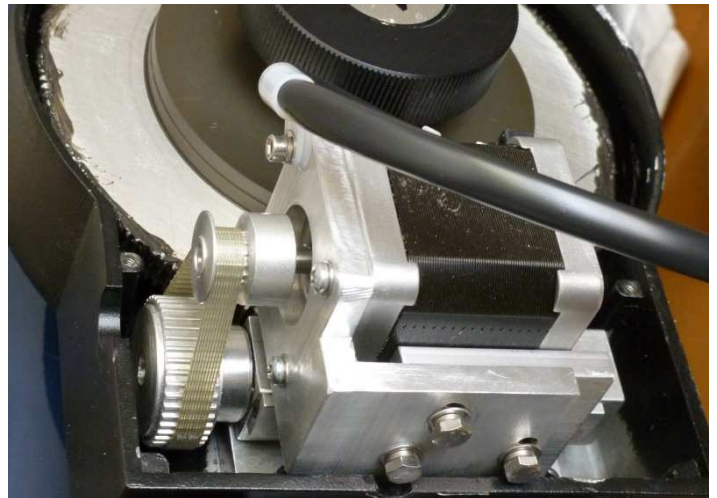
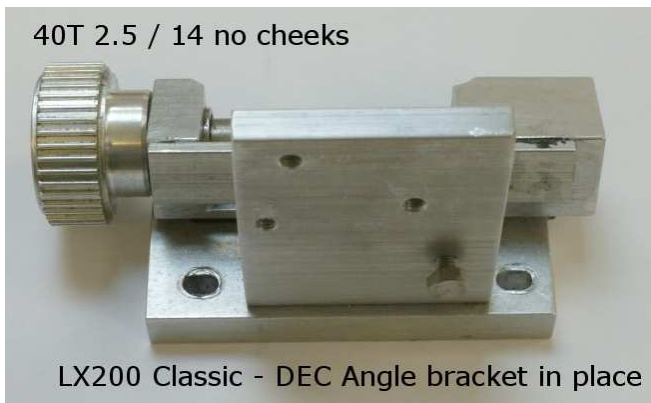
Tap this hole M4 in the Meade part

Open out the 3.2mm pilot hole in the Angle bracket to 4mm

Use this hole for additional support for mounting this bracket.

Follow the pictures to complete the assembly. Take the cheeks off the large pulley.

It would help if you put a flat on the slow motion shaft to take the grub screw of the pulley.



The motor belt should be reasonably tight but not excessively so to minimise backlash. The motor bracket is held by screws in slots, so there needs to be a washer and spring washer on each screw to do it up a bit allowing it to slide making it easier to get the adjustment done. The spring and the endstop screw need put back.

Finally re-mount the whole bracket on the existing screws and adjust the worm mesh and endstop screw so that there is about 0.5mm of play available on the bracket against the wheel.

Some adjustment may be needed when you power it up and test its operation. With a balanced telescope it should be able to move at a degree per second or higher.

RA

Remove the slow motion bracket with the old motor / gearbox.

The sensor for index pulse generation is required, do not damage it.

Clean the grease off while you are at it.

Strip off the motor and gearbox.

Remove the pinion from the RA slow motion axle.

This axis uses the existing spring upstand bracket with no modifications.

The new RA motor plate mounts using the four screws that mounted the old gearbox onto the slow motion bracket. The plate long edge is parallel to the base so that all the new components fit within the casing. Take the cheeks off the larger pulley. The picture is taken from the bottom. If you put the plate on the wrong way round then it will stick through the bottom case plate which is not intended.

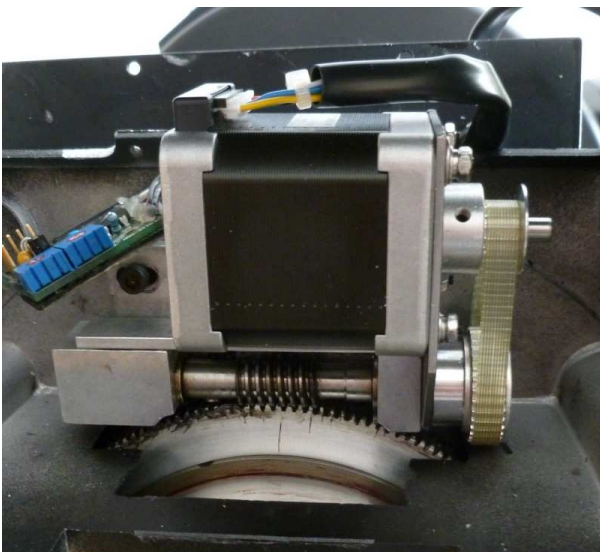
It is straightforward to fit the RA motor to the plate.

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Finally re-mount the whole bracket on the existing screws and adjust the worm mesh and endstop screw so that there is about 0.5mm of play available on the bracket against the wheel.

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LX200 Classic RA assembly

INDEX

The three wires on the INDEX connector are the correct colours to fix to the three wires from the RA sensor.

For diagnosing issues the following applies

PIN	FUNCTION	MEADE Colours
2	LOW at magnet index	RED
4	+5V	BLACK
5	0V	WHITE

Not my colours!

Voltages are when the INDEX lead is plugged into the Drivebox and powered. The same pin numbers are carried through from the drivebox through to the 5 pin DIN connector. Further information of the INDEX connector is given in the IDS manual.