Parts List

Prices include VAT and postage, rounded to the nearest pound. List compiled June 2016.

Engine
Almost any small lawn mower engine with a horizontal output shaft will probably do. I was originally going to use a Villiers Mk 10, but ended up using the engine from a Qualcast Suffolk Punch. If you search hard you can find these for about £25, though if you budget £40 (including postage) you'll probably find something much quicker! If you want to use something brand new, I imagine the Loncin LC125F 2.5 hp engine (£125) will do the job.

Axles, bearings, wheels
I used 20mm mild steel (EN8) bright round bar for the axles because the cheapest wheels and bearings I could find were 20mm bore. A 3 metre length was bought direct from a local steel stockholder. If there are no stockholders near you, try a local machine shop which is cheaper than buying from ebay. Bearings were from 'Belting On Line' **www.beltingonline.com** and wheels from CMD Engineering **www.miniature-trains.co.uk**

20mm diameter mild steel (EN8) bright round bar to make: 2 axles @ 400mm long 1 layshaft @ 400mm long 1 friction drive shaft @ 225mm long	3 metres	£22 (Or around £10 per 500mm from ebay)
5 inch (flange diameter) narrow gauge wheels	4 of	£77-50
UCP 204 Bearing Housing, 20mm bore bearing	6 of	£25
UCF 204 Bearing Housing, 20mm bore bearing	2 of	£8

Sprockets, chain, pulleys, belts, taper lock bushes
All these items were purchased from 'Belting On Line'. Sprockets and pulleys were fitted to axles using the appropriate taper lock bushes. Sprockets and chain are British Standard 3/8 inch pitch (06B-1). Pulleys and belts are SPZ section.

06B-1 17 Tooth Simplex Taper Bore Sprocket	1 of	£3
50mm 1 Groove SPZ V Pulley (SPZ50/1)	1 of	£5
1008 Taper Lock Bush, 20mm bore	2 of	£4
06B-1 27 Tooth Simplex Taper Bore Sprocket	1 of	£6
1210 Taper Lock Bush, 20mm bore	1 of	£3
06B-1 (3/8 inch) Pitch Chain	Order 1 metre	£4
06B-1 (3/8 inch) Connecting Link	At least 2 of	£1
60mm 1 Groove SPZ V Pulley (SPZ60/1)	1 of	£7
1008 Taper Lock Bush, bore to suit engine shaft	1 of	£2
118mm 1 Groove SPZ V Pulley (SPZ118/1)	2 of	£18
150mm 1 Groove SPZ V Pulley (SPZ150/1)	1 of	£13
1610 Taper Lock Bush, 20mm bore	3 of	£12
SPZ722 Wedge Section V Belt (plus spare)	2 of	£4

Timber

Bought from various local timber merchants/DIY stores. Imperial sizes are rough approximations. Prices given here are only a rough guide. You might have/be able to find more appropriate lengths or better prices.

18mm Exterior Plywood 1829mm x 607mm (6'x2')	1 of	£28
200 x 47mm (8” x 2”) dry treated regularised timber	1.2m	£18 for 4.8m
150 x 47mm (6” x 2”) dry treated regularised timber	1.2m	£12 for 3.6m
100 x 47mm (4” x 2”) dry treated regularised timber	1.6m	£9.50 for 3.6m
50mm x 50mm (2” x 2”) sawn timber	2.6m	£6 for 3.6m
50mm x 38mm (2” x 1 1/2”) sawn timber	0.5m	£2.50 for 2.4m
32mm x 12mm (1 1/4” x 1/2”) planed smooth	0.5m	50p per m

Nuts, Bolts, Screws etc

Prices quoted are from a quick ebay search.

M12 threaded bar (1 m lengths from hardware store)	3 of	£4.20
M12 Nyloc nuts	14 of	£5 (for 20)
M10 bolts 80mm long	20 of	£7
M10 bolts 40mm long	14 of	£4
M10 nuts	34 of	£6
M8 bolts 50mm long	4 of	£2
M8 nyloc nuts	4 of	£1
M6 x 25mm long pan head machine screws	8 of	£3
M6 nyloc nuts	8 of	£1
Assorted multi-purpose screws (mostly 5x75mm and 3½ x40mm)	Approx 50	£5 (or less)

Other Bits & Pieces

These are items I had lying around, so cost me next to nothing. With a little ingenuity it should be possible to acquire them at little cost or devise an alternative. I would check recycling sites, skips, small ads, charity shops etc. It might be cheaper and easier to find a whole bike than just the brake! You might find some suitable steel from some of the same places, or maybe an off-cut from a local machine/fabrication shop. At worst all items could be bought from ebay.

Bicycle brake. Doesn't really matter what type, so long as you can devise a way of mounting it and making it work. I imagine even something off a small child's bike would suffice. I used a rear side pull brake from 1970s/80s bike. You will need the whole thing – lever, cable, caliper, brake blocks.	I spent £5 (new cable)
Control Lever. You will need something to use as the speed control lever handle/crank. I used an off-cut of KLR 'rail' (30 x12mm mild steel flat bar) because I had it, but other materials (timber, plastic?) might work. You will need 600mm (2 ft) length of whatever material you choose.	£9 (ebay) 30x10x600mm mild steel flat bar
Couplings. Mine were made from 40 x 40 x 6mm angle iron, again because it was to hand. Simple alternatives might be some sort of hook or eye bolt.	£5 (guestimate)

Drawer Runners. Search for 'ball bearing drawer runners' on ebay. I chose to use ones rated at 60kg, but would now choose the cheapest metal 27mm wide pair I could find. 1 pair 245mm long will do the job. Don't worry about fixing screws as the ones supplied are usually pretty puny, it's better to use the M6 machine screws listed above.	£5.00
Leather. You will need enough to cut out two 120mm diameter circles plus some 8 to 10mm wide strips. Mine was from an old leather chair.	£2 (ebay) 20x15cm offcut
2” Leather Washers (57mmODx43mmIDx4mm). Search for 'Jaymac Industrial Products 2” Leather Washer' on ebay. You will need two of these, but it's a good idea to have more, and postage gets proportionally cheaper if you buy more.	£5 (for 4)

Many people will have at least a few of the parts lying around. The biggest costs to most will be wheels & axles (about £100), and the bearings, sprockets, pulleys and bushes @ about £115. If you have to buy everything listed above, building this locomotive will probably cost £350 - £400 using a second hand lawnmower engine. Even a super de luxe version with tractor seat and brand new engine should cost no more than £500.