

SCAMP, the little loco with a big heart.

Shopping list for a battery only version of the Mk4.



May 2026. Copyright Colin Edmondson
Direct questions initially via the 'Scamp locomotives' facebook group.

We supply this loco kit in good faith. As we have no input once the kit has been delivered you build it and use it at your own risk. If you have any doubts please ask in the facebook group or contact CMD.

Part of the design ethos of the loco is to use easily available commercial parts for all the items which may wear out, so that spares can be easily and cheaply obtained. The only spare that you will not be able to buy on-line is the motor sprocket, one is included in the kit and a spare one can supplied by CMD on request. All the parts below are available from Ebay, otherwise I have stated or suggested suppliers.

Chains, sprockets, axles etc.

Layshaft and axles are supplied as welded assemblies by CMD.

Layshaft welded assembly (CMD Engineering)	1 off
Wheel and axle assemblies (CMD Engineering)	1 pair

For 5mph and maximum pulling power get;

27 tooth taperlock sprocket 06B1 31-27	2 off
taperlock bush 1210-20	2 off

OR

For a good compromise get;

24 tooth taperlock sprocket 06B1 31-24	2 off
taperlock bush 1210-20	2 off

OR

For a fast speeder get;

20 tooth taperlock sprocket 06B1 31-20	2 off
taperlock bush 1008-20	2 off



bearings 20 x 42 x 12 rubber sealed	4 off
bearings 15 x 35 x 11 rubber sealed	2 off

Shaft collars, 20mm	4 off
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Chain

06B, you need 1500mm, (This often comes with at least one connecting link)	order 2m
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06B connecting link	You need at least 3 off
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Brake shoes are available from PNP, www.pnp-railways.co.uk
Pack of four 7 1/4" narrow gauge brake shoes PNR 1-E



Springs - vibration isolators 30 dia x 20 thick with male M8 thread one side only. 4 off
 Search for 'vibration mounts'. (These often come from China, delivery times of a few weeks are not uncommon)



Motor, Unite 36v 800w MY 1020 (Ideally try to get the one with the built in mounting foot, although alternative brackets can be supplied on request) 1 off
 If you can't get this try to get the Unite 24v 800W instead and use just batteries to suit.



Electric motor reversing switch, 32amp 1 off



12-50V 2000W MAX 40A PWM DC Controller (check against photos) 1 off



If you are intending to let children drive then you may want to fit a 'deadman's pedal', which isolates the drive if the driver takes their foot off the pedal.

12v heavy duty engine start push button switch 1 off



Head and tail lights, get 1 red and 1 white



'Vintage motorcycle heavy duty universal cable set' 1 off for brakes as per photo



Expanded wire mesh, A4 size, (get two if using Scamp or Ruston type bonnets) 1 or 2 off



Connector block, 30 amp to suit 6mm² cables (often called a 'chocolate block' connector) 6 way



2 pin spade connector, 6.3mm terminals (You may want to get a spare, as disconnecting is easily overlooked resulting in breakage) 1 off



Heatshrink tubing for brake lever, 25mm red, 100mm



Seat cushion, (plywood, foam, material)
(These can be supplied finished, please ask for a price)
9mm ply, 272mm x 212mm
Material (stall on local market?)
Foam (ditto)

Slatted seat option,
45 x 20 (2" x 1") planed all round softwood, 360mm long, 9 off

Brake lever spring, available from CMD 1 off

20mm x 2mm wall steel tube
(2 x 360mm and 1 x 100mm) 1m

2mm or 3mm by 12 to 20mm self adhesive foam strip

M6 Well nuts 16mm long 8 off
(also known as motorcycle fairing nuts)
You need the 13mm diameter ones with parallel sides.



Spray can of chain lubricant. 1 off

Bicycle hooter or chosen horn 1 off



Wire, 4mm² multi-strand, red and black, 2m of each

25mm diameter black plastic knob, 8mm hole
(or buy M8 and drill out, not one with brass insert) 1 off

16mm diameter black plastic knob M5 hole 1 off

End bungs (caps) for 20mm tube 5 off
(Brake lever and derailing bars)



Cable ties, 2mm 10 off

Rubber floor mat (car) 2 off
(or buy one square metre of 1mm rubber sheet) 1 off

Edge trim, 14mm x 8.5mm to suit 2mm sheet 2m



Grommet strip, to suit 3mm panel 1m



Clear sticky back plastic small piece

Lifting eye bolts M6 male thread (optional) 4 off

For the 24 volt version

Maximum size 195 x 130 x 155 tall

OR

Maximum size L 180mm x W 76mm x H 167mm

Both versions

Terminals Crimp On ring Connector, yellow 6.4mm. 8 off

Edge trim, 2mm, 1m



Fixings and fastenings (quantities are sufficient, please don't hold me to the exact number)
'st st' means 'stainless steel', BZP means bright zinc plated.

4mm x 10mm aluminium blind pop-rivets 200 off

M4 x 20 socket head screw	3
M4 nyloc nut BZP	3
M4 washer BZP	6

M5 x 25 button head screw	2
M5 nyloc nut BZP	2

M6 x 16 st st button head	100, (150 better)
M6 x 25 hex screw BZP	30
M6 x 35 hex screw BZP	20
M6 x 40 hex screw BZP	2
M6 wing nut BZP	2
M6 thin nyloc nut BZP	150
M6 st st form B washers BZP	150
M6 spring washer	1
M6 x 35 flanged st st button screws for slatted seat option, st st	20 off

M8 x 25 hex screw BZP	15	(20 if fitting deep 'Ruston style) buffers)
M8 x 35 hex screw BZP	20	

M8 nyloc nut BZP	50
M8 washer BZP	50

M10 x 75 screws BZP	2 (coupling pins)
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Painting

I clean the metal with thinners and a scouring pad to give a key for the paint followed by panel wipe to degrease it thoroughly. You could paint by brush, use spray cans or get all the parts powder coated. If you can find a local powder coating firm who will take folding beer tokens you may get a good deal. If you decide to spray the parts yourself, even if you are spraying outdoors you need to buy a proper paint spraying mask, particularly for two-pack paints. Buy one at the same shop that you buy the paint from and get some latex gloves as well, and don't be afraid to ask them for advice.

Tin of thinners.

Tin of panel wipe.

1 litre of acid etch primer, I used about half of it.

1 litre of gloss, I used about half of it.

Extra spray cans of gloss, depending on your colour scheme, eg red for buffers.

To freshen the Suffolk engine, spray cans of Fiat burnt orange and light grey gloss.

Masking tape and newspaper.