DELTA CERAMIC/PASTE 3D PRINTER RIG PARTS

(This is only considered as a helpful guide and no responsibility is taken for this information so please check all items before ordering for your suitability)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Price</th>
<th>Supplier Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY42STH47-1684A</td>
<td>High Torque Hybrid Stepper Motors (Note: 1.8 step angle, 2 phase, rated voltage 2.8, rated current 1.68, 4.4 kg.cm holding torque, 42 x 42 x 47 mm body, 4 wires - also known as Nema 17 steppers. Go for high torque)</td>
<td>£12.00/$21.00</td>
<td>UK - Zapp Automation <a href="http://www.zappautomation.co.uk/en/">http://www.zappautomation.co.uk/en/</a> US - <a href="http://www.applied-motion.com/products/stepper-motors/ts2170n3001e120">http://www.applied-motion.com/products/stepper-motors/ts2170n3001e120</a></td>
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<tr>
<td>SFC12</td>
<td>Precision ground round shaft (12 mm) - Length: 700MM or more (Note: The length of these rods does not seriously alter the settings of the printer)</td>
<td>£8.40/$17.60</td>
<td>UK - Zapp Automation <a href="http://www.zappautomation.co.uk/en/">http://www.zappautomation.co.uk/en/</a> US - <a href="http://www.amazon.com/Polished-Finish-Precision-Annealed-Diameter/dp/B00CNM6RFA/ref=sr_1_1?ie=UTF8&amp;qid=1401593521&amp;sr=8-1&amp;keywords=precision+ground+rod">http://www.amazon.com/Polished-Finish-Precision-Annealed-Diameter/dp/B00CNM6RFA/ref=sr_1_1?ie=UTF8&amp;qid=1401593521&amp;sr=8-1&amp;keywords=precision+ground+rod</a></td>
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</table>
| RAMPS 1.4 with mega 2560, LCD Screen | * Mega 2560 core microcontroller (Arduino base)  
* RAMPS 1.4 electronics board that sits over the Mega  
* You want Stepper motor drivers mounted into the RAMPS board  
* LCD display screen with SD card slot and connector cables (Note: Different LCD screens have different settings in the Marlin firmware) | - [http://e3d-online.com/Electrical/Electronics-Boards](http://e3d-online.com/Electrical/Electronics-Boards)  
- [http://www.amazon.co.uk/Sintron-Printer-Controller-Stepper-Heatsink/dp/B00K7P9Y46/ref=sr_1_fkmr0_2?ie=UTF8&qid=1448464086&sr=8-2-fkmr0&keywords=RAMPS+1.4+with+mega+2560+LCD+Screen](http://www.amazon.co.uk/Sintron-Printer-Controller-Stepper-Heatsink/dp/B00K7P9Y46/ref=sr_1_fkmr0_2?ie=UTF8&qid=1448464086&sr=8-2-fkmr0&keywords=RAMPS+1.4+with+mega+2560+LCD+Screen)  
- [http://www.ebay.co.uk/itm/Reprap-RAMPS-1-4-Mega-2560-R3-5pcs-A4988-with-stiker-2004-LCD-For-3D-Printer-/131638989955?hash=item1ea64b9483-g:3BIAAOSwHnFVjzqY](http://www.ebay.co.uk/itm/Reprap-RAMPS-1-4-Mega-2560-R3-5pcs-A4988-with-stiker-2004-LCD-For-3D-Printer-/131638989955?hash=item1ea64b9483-g:3BIAAOSwHnFVjzqY) |
| 3 x End stops | (Note: Different LCD screens have different settings in the Marlin firmware) | UK - [https://www.think3dprint3d.com/Hardware/Deltaprinter-hardware/endstop-microswitches](https://www.think3dprint3d.com/Hardware/Deltaprinter-hardware/endstop-microswitches)  
UK - [http://www.amazon.co.uk/SctechFeb-Mechanical-Switch-EndStop-Printer/dp/B00KWAOE1Q/ref=sr_1_12?ie=UTF8&qid=1448460640&sr=8-12&keywords=end+stops+3D+printer](http://www.amazon.co.uk/SctechFeb-Mechanical-Switch-EndStop-Printer/dp/B00KWAOE1Q/ref=sr_1_12?ie=UTF8&qid=1448460640&sr=8-12&keywords=end+stops+3D+printer) |
Wiring cables for endstops (2 or 3 pin) and for motor wires (4 pin) ‘Search for DuPont Connector’ there is the plastic outer housing and then the male pin that connects to the wire, to make up your own wires. They plug into the ramps board.

UK - [http://www.ebay.co.uk/itm/Dupont-Cable-wire-Housing-5-or-10-Pack-Choose-from-1-8-pin-X2-UK-Free-P-P-/231489416755?var=530745159946&hash=item35e5d82e33:m:mYriz_iaRz_E6ek1Hi1yxAA](http://www.ebay.co.uk/itm/Dupont-Cable-wire-Housing-5-or-10-Pack-Choose-from-1-8-pin-X2-UK-Free-P-P-/231489416755?var=530745159946&hash=item35e5d82e33:m:mYriz_iaRz_E6ek1Hi1yxAA)

1 x 100k thermostat to override temperature code in firmware

- [http://www.ebay.co.uk/itm/100K-ohm-EPCOS-B57560G104F-NTC-Thermistor-RepRap-Prusa-3D-Printers-/321191109538?hash=item4ac87b63a2:g:8lEAAMXQPW55FtI](http://www.ebay.co.uk/itm/100K-ohm-EPCOS-B57560G104F-NTC-Thermistor-RepRap-Prusa-3D-Printers-/321191109538?hash=item4ac87b63a2:g:8lEAAMXQPW55FtI)

- [http://www.amazon.com/dp/B00C7EV5GK/ref=sr_1_1?ie=UTF8&qid=1448459344&sr=8-1&keywords=GT2+belts+3d+printers](http://www.amazon.com/dp/B00C7EV5GK/ref=sr_1_1?ie=UTF8&qid=1448459344&sr=8-1&keywords=GT2+belts+3d+printers)

GT2 belts for various 3d printers. (Must get three belts at least 1200 mm long / total around 4Meters)

Or 3 x GT2 UNITTA belt 1164mm length 6mm wide.


UK - [http://www.amazon.co.uk/Timing-Pulleys-meters-Printing-Printer/dp/B00WR9KAC0/ref=sr_1_17?ie=UTF8&qid=1448459344&sr=8-1&keywords=GT2+belts+3d+printers](http://www.amazon.co.uk/Timing-Pulleys-meters-Printing-Printer/dp/B00WR9KAC0/ref=sr_1_17?ie=UTF8&qid=1448459344&sr=8-1&keywords=GT2+belts+3d+printers)


GT2 20 tooth Timing Pulleys x 3 (One for each stepper motor)

Note – Search around you can probably find belts (above) and pulleys together for a good price.


UK - [http://e3d-online.com/Mechanical/Motion/GT2-Pulley-20-tooth](http://e3d-online.com/Mechanical/Motion/GT2-Pulley-20-tooth)

traxxas 5347 Traxxas Rod Ends (Large) with Hollow Balls

12 in pack - £7.59/$7.09

UK - Modelsport UK


1m Brass Tube - 8mm (Note: You need to find a tube that the Traxxas Rod Ends above fit snugly into – see

[https://www.youtube.com/watch?v=Q7ucXlnLlis&list=UUvFXo_8dqYWhdq7bQJlh5A](https://www.youtube.com/watch?v=Q7ucXlnLlis&list=UUvFXo_8dqYWhdq7bQJlh5A)

2 lengths @ £9.49 each (or such like)

Sainsbury Homebase
**DELTA CERAMIC/PASTE 3D PRINTER EXTRUDER PARTS**

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Specification</th>
<th>Price (UK)</th>
<th>Price (US)</th>
<th>Supplier (UK)</th>
<th>Supplier (US)</th>
</tr>
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<tbody>
<tr>
<td>XBOX 360 203W Power Brick 220V</td>
<td></td>
<td>£14.00</td>
<td>$25.00</td>
<td>Amazon <a href="http://www.amazon.co.uk/Official-Microsoft-Replacement-Power-Supply/dp/B00AUYDF6M/ref=sr_1_2?ie=UTF8&amp;qid=1393778450&amp;sr=8-2&amp;keywords=xbox+360+power+supply">here</a></td>
<td>Amazon <a href="http://www.amazon.com/Fosmon-Power-Supply-Microsoft-Xbox/dp/B008OJQV3E/ref=sr_1_1?ie=UTF8&amp;keywords=xbox+360+power+supply">here</a></td>
</tr>
<tr>
<td>8oz Techcon 918-034-000 TS Series Aluminium Cartridge Retainer</td>
<td>1 Each 20.58</td>
<td>£35.71</td>
<td></td>
<td>Ellsworth Adhesives <a href="http://www.ellsworthadhesives.co.uk/">here</a></td>
<td>OKInternational, Techcon Systems <a href="https://www.okinternational.com/us-webstore/english/globalnavigation/us-webstore-product-detail?productid=ff11148a-61a2-4d02-b508-3589237f4c69">here</a></td>
</tr>
<tr>
<td>8oz (230ml) Techcon TS80C HD Cartridge – Natural</td>
<td>10 Each</td>
<td>£2.50</td>
<td>$0.92</td>
<td>Adhesive Dispensing <a href="http://www.adhesivedispensers.co.uk/techon-8-oz-hd-cartridge-natural.html">here</a></td>
<td>Chemical Concepts <a href="http://www.chemical-concepts.com/techon-8-oz-hd-cartridge-natural.html">here</a></td>
</tr>
<tr>
<td>Techcon TSD931-7 Male Luer Lock to 1/4” NPT PP – White</td>
<td>Each 0.77</td>
<td></td>
<td></td>
<td>Adhesive Dispensing <a href="http://www.adhesivedispensers.co.uk/TSD931-7.htm">here</a></td>
<td><a href="http://www.adhesivedispensers.co.uk/TSD931-7.htm">here</a></td>
</tr>
<tr>
<td>TTN14 Smooth Flow Tapered Tips - 50</td>
<td></td>
<td>£12.00</td>
<td></td>
<td>Adhesive Dispensing <a href="http://www.adhesivedispensers.co.uk/tapertips.htm">here</a></td>
<td>Amazon <a href="http://www.amazon.co.uk/gp/product/B008MLUPAY/ref=oh_details_o02_s00_i00?ie=UTF8&amp;refRID=16536ABQ04311R49W0VV">here</a></td>
</tr>
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*Note: Other power bricks could be used but while being over powered the Xbox brick are relatively cheap and readily available.*
TE714025PK  Precision Tips
50 for £11.50
UK - Adhesive Dispensing
http://www.adhesivedispensers.co.uk/TE714025PK.htm

Ball Valve 1/4 bsp Male Female Air Compressor to hose
£2.19/$5.00
UK – Amazon
http://www.amazon.co.uk/dp/B008859D7M/ref=pe_385721_37038051_TE_3p_dp_1

1/4” PT Male Thread 6mm Push In Joint Pneumatic Connector Quick Fittings
10 for £4.30 / 5 for £6.82
UK - Amazon
http://www.amazon.co.uk/Thread-Joint-Pneumatic-Connector-Fittings/dp/B0091TF6QG/ref=sr_1_7?ie=UTF8&qid=1393777304&sr=1-7&keywords=push+in+6mm
US – Amazon http://www.amazon.com/Thread-Joint-Pneumatic-Connector-Fittings/dp/B00A150R3O

6mm Plastic pipe – good thickness for pressure.
4M $6.70
UK – I get it from my local hardware shop
US – Amazon http://www.amazon.com/13-1Ft-Pneumatic-Hose-Pipe-Clear/dp/B0087WHNPS/ref=pd_sim_indust_1?ie=UTF8&refRID=0FKNW0SKRX1FF7X4AX8H

AR2000-02 Adjustable Pressure Gauge Metal Pneumatic Regulator 1/4"PT £10.30 (or such like) $12.24
UK – Amazon http://www.amazon.co.uk/AR2000-02-Adjustable-Pressure-Pneumatic-Regulator/dp/B00AFXL63M/ref=sr_1_fkmr1_17?ie=UTF8&qid=1393237524&sr=1-1-fkmr1&keywords=compressed+air+regulator+AR2000-02
US – Amazon http://www.amazon.com/Amico-AR2000-02-Adjustable-Pneumatic-Regulator/dp/B00AFXL63M/ref=sr_1_1?ie=UTF8&qid=1401593350&sr=8-1&keywords=ar2000-02

(A cheaper alternative to the Techcon parts extruder above top)
Glue Liquid Cartridge Dispenser Syringe Barrel 300CC Clear Black
£8.13 / $11.89
UK – Amazon http://www.amazon.co.uk/Liquid-Cartridge-Dispenser-Syringe-Barrel/dp/B00GMW4EBG
US - Amazon http://www.amazon.com/Liquid-Cartridge-Dispenser-Syringe-Barrel/dp/B00GMW4EBG
1/4 Turn Lever Blue White Plastic 6mm Hose Pipe Fitting Coupler Ball Valve
(Inline tap for dispenser above)
£2.65 / $5.31
UK – Amazon
http://www.amazon.co.uk/dp/B00C97IAWC/ref=pe_385721_37038051_TE_3p_dp_3
US – Amazon http://www.amazon.com/Lever-White-Plastic-Fitting-Coupler/dp/B00C97IAWC