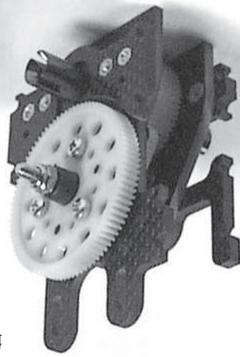
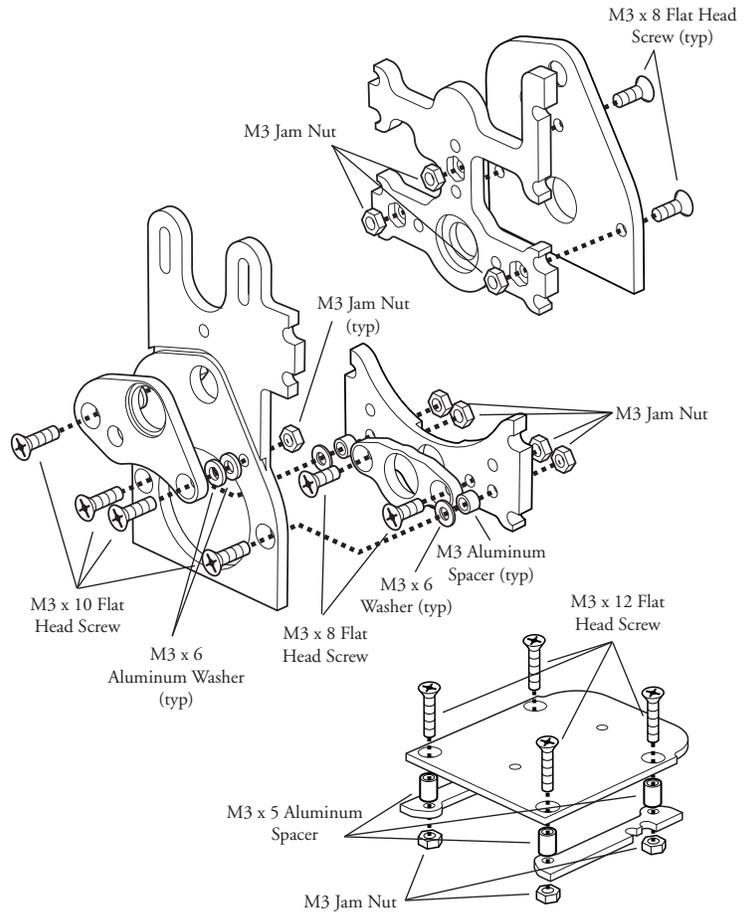


Magnum Gearbox Conversion
for Penguin r/c P2300



P2300rGB

1 Gearbox Component Assembly:



P2300rGB Replacement Parts

P2302r	P2300r Raised Radio Tray	\$15.99
P2304r	P2300r Gearbox Plate Set	\$28.99
P2305r	P2300r Motor Plate Set	\$24.99

P2300rGB Other Manufacturer Required Parts

Traxxas	1985 - Teflon Washers 5x8x.5mm (20)
Traxxas	1993 - Layshaft w/rollpin
Traxxas	1996 - Idler Gear
Traxxas	2388 - Planetary Gear Differential Set
Traxxas	3195 - Top Drive Gear
Traxxas	4687 - 87 Tooth 48p Spur Gear
Traxxas	3693 - Spur Gear Adaptor (or) 4615 - Slipper Clutch Set (complete)
Tamiya	9804181 - Joint Cup: 47201
	Ball Bearing (5x11x4mm) (x6)

You may use Traxxas sliders instead of the original Tamiya dogbones, however, you will need to extend the wheelbase on the TLT-1 and purchase PN#1651 and 4628 (x2)

1230P N Jefferson Street Anaheim CA 92807 •
714.630.9015 • 714.630.6250FAX • <http://www.penguinrc.com>

Penguin r/c

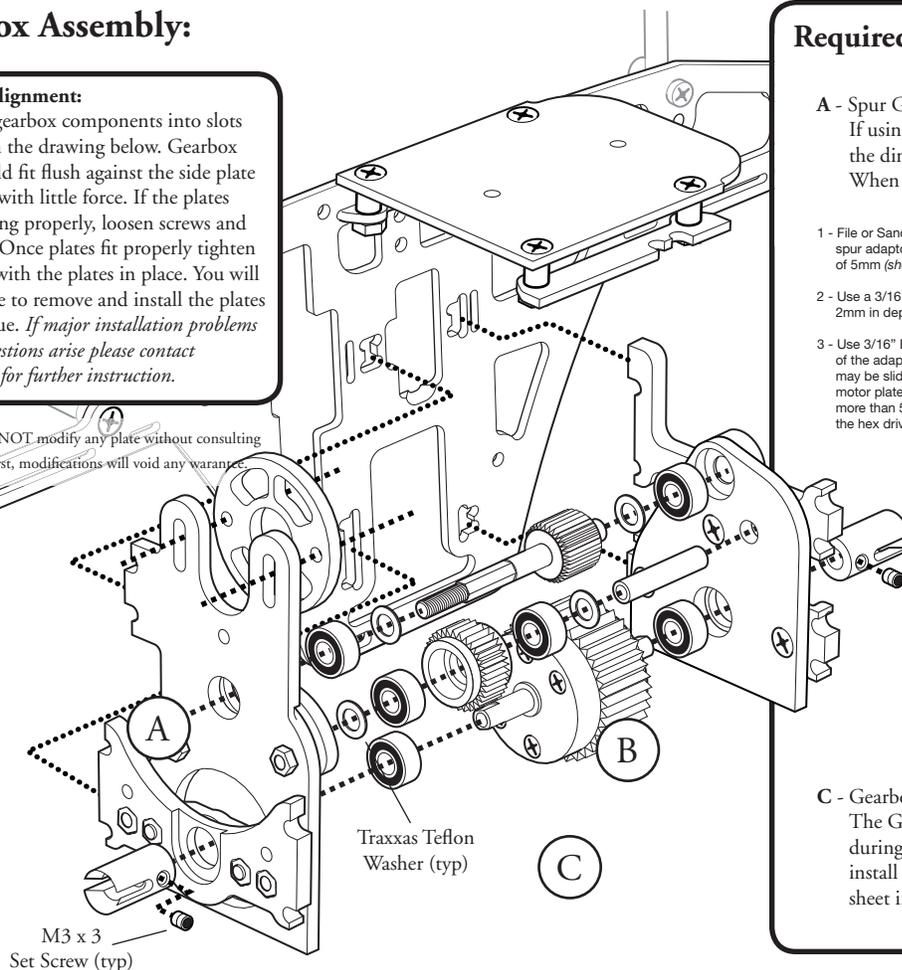
©2006

2 Gearbox Assembly:

Gearbox Alignment:

Install the gearbox components into slots as shown in the drawing below. Gearbox plates should fit flush against the side plate and slip in with little force. If the plates are not fitting properly, loosen screws and then re-fit. Once plates fit properly tighten the screws with the plates in place. You will then be able to remove and install the plates without issue. *If major installation problems occur or questions arise please contact Penguin r/c for further instruction.*

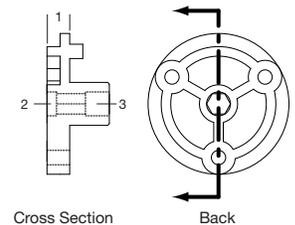
NOTE: DO NOT modify any plate without consulting Penguin r/c first, modifications will void any warranty.



Required Part Modification & Information:

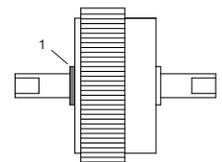
A - Spur Gear Information, Slipper (4615) or Adaptor (3693) -
If using the Spur Gear Adaptor please modify the adaptor to the dimensions below so that fit and clearances are correct. When using the slipper assembly no modification is needed.

- 1 - File or Sand the back side of the spur adaptor to a plate thickness of 5mm (shown by lines)
- 2 - Use a 3/16" Drill to create a relief 2mm in depth for the Center Hex.
- 3 - Use 3/16" Drill to open the front of the adaptor mounting so that it may be slid all the way back to the motor plate. Be sure not to drill out more than 5mm from the front as the hex drive is needed.



B - Differential Gear Assembly (2388) -
Please modify the differential housing as shown below so that fit and clearances are correct.

- 1 - File or Sand the shaded area shown so that it is flush with the Differential Case.



C - Gearbox Dust Guard -

The Gearbox Dust Guard (if used) should be installed during this step of assembly as it can be more difficult to install at a later time. This item is featured on the single sheet insert from these directions.

P2300rGB Replacement Parts

P2302r	P2300r Raised Radio Tray	\$15.99
P2304r	P2300r Gearbox Plate Set	\$28.99
P2305r	P2300r Motor Plate Set	\$24.99

P2300rGB Other Manufacturer Required Parts

Traxxas	1985 - Teflon Washers 5x8x.5mm (20)
Traxxas	1993 - Layshaft w/rollpin
Traxxas	1996 - Idler Gear
Traxxas	2388 - Planetary Gear Differential Set
Traxxas	3195 - Top Drive Gear
Traxxas	4687 - 87 Tooth 48p Spur Gear
Traxxas	3693 - Spur Gear Adaptor (or) 4615 - Slipper Clutch Set (complete)
Traxxas	9804181 - Joint Cup: 47201
Tamiya	Ball Bearing (5x11x4mm) (x6)

You may use Traxxas sliders instead of the original Tamiya dogbones, however, you will need to extend the wheelbase on the TLT-1 and purchase PN#1651 and 4628 (x2)

1230P N Jefferson Street Anaheim CA 92807 •
714.630.9015 • 714.630.6250FAX • <http://www.penguinc.com>

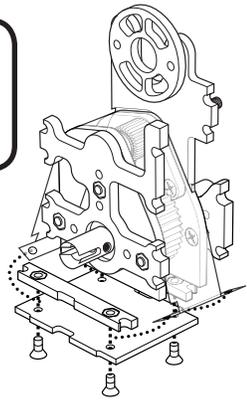
4 Final Assembly and Gear Cover Installation:

Final Chassis Assembly Notes:

The TLT-1 axles and suspension mount in the same manner as stock except where noted below. The 8 main axle connecting rods need to be lengthened by 8mm from the stock settings when used with the standard Tamiya dogbones and drive cups. Please refer to your original TLT-1 instructions for the placement of suspension tie-rods and original link length.

GB Gear Cover Installation:

Once done preparing the cover, as described with the template. Install the cover by rolling it over the top of the G10 Gearbox plates and sliding the notched area of the cover into the recess in the motor plate. Your installation should look similar to the picture on the right. Once set on the gearbox the cover attachment platforms will be retained between the skid plate mounts and the skidplate itself. This part is fairly tricky to get the parts aligned. We have found the best method of alignment is to use a allen wrench to align the skid plate, cover, and brace holes so that the screw can be put in. Install all four screws but DO NOT tighten. After the gearbox is completed with cover install into chassis as normal and tighten all screws to ensure proper fit.



GC Gear Cover Installation:

Preparing Cover:

Use a thin flexible material (*no more than 1/32 thick*) to create the gear cover. We suggest Lexan similar to body thickness. Use the template shown to cut your gear cover. We suggest to make a copy of the template so that you may make future covers if needed. This template will be part of the direction .pdf on our website as well for future needs. Once the cover is cut, fold the ends of the cover carefully along the dotted lines toward the inside so that they create platforms at a 90degree angle.

