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V2 1/8 scale Revo Hybrid Case/Differential Guide v0.2

Background

This product is a result of a joint effort from FastLane machine and RC-Monster and is distributed exclusively through RC-Monster and manufactured by FastLane Machine. These units incorporate an unmodified pinion gear and custom bearings and differential case to allow the use of a 1/8 buggy or truggy differential in the Traxxas Revo trucks. The custom modified parts will drop into and out of the revo bulkheads just like the stock differentials.

These are available in limited quantities for now, and can be ordered with the standard 13/43 "1/8 buggy" ring/pinion or the 10/43 "1/8 truggy" ring/pinion reduction ratios to suit your individual needs. These are sold per unit - 2 required for complete truck. Most similarly sized 1/8 differentials will fit these cases, including Kyosho, Ofna, Hot Bodies.

Differential Selection

The choice of differential Buggy or Truggy alters the gearing of your Revo and your ultimate top speed. Changing your differential will almost certainly require you to revisit your gearing. The following table provides some examples :

Setup: Revo G3R, Emaxx 2nd Gear, 22/66, Neu 1515 2.5D 1650kv, 6s2p Lipo, Badland tires.

Differential	Diff Ratio	Top Speed**	Pinion Req'd for 41mph
Stock Revo	13/37	41mph	22
Buggy	13/43	35mph	26
Truggy	10/43	28mph	33

** Speeds calculated using: Scriptasylum.com

As the table shows you will need to increase your pinion size by 50% in order to maintain the same overall gear reduction with the Truggy differentials. In summary if you are currently running a Novak HV system with a small pinion 9-12T then you want Truggy differentials otherwise go for the Buggy Differentials.

The choice of differential is up to you as the cases support Kyosho, Ofna and Hot Bodies differentials – RC-Monster.com offers a package deal with the Hot Bodies differentials which use hardened spiral cut gears.



Differential Oil

Refer to the following link for more information on differential oil selection: [Triple Diff Basics](#)

Recommended setup in the range of 7-10k Front and 3-5k Rear.

Outdrive Selection

The centre outdrives are **not included** in the RC-Monster hybrid differential kit – The selection of Outdrive depends on if stock Revo centre sliders or the Gorillamaxx dogbones are used – Please refer to the table below (Note 2 are required)

8mm bore Steel Revo drive shaft coupler This coupler was designed to allow installation of the stock Revo center drive shafts when using our V2 hybrid differentials.	Revo Coupler	
Drive cup - 8mm bore for 1/8 differential pinion out drive 8mm bore 1/8 differential pinion outdrive. Includes 2 5mm sec screws	8mm Drive Cup	

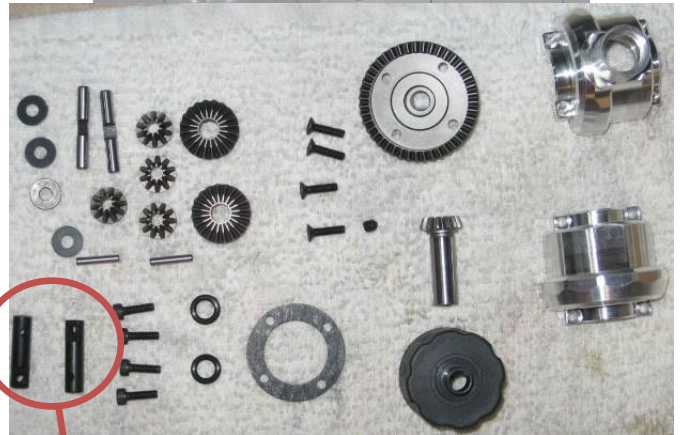
Differential Build

Rc-Monster kit includes all parts required for differential assembly except grease and oil.



The **only** difference between the Hybrid differential and a stock set of Truggy or Revo differentials are the out drives and bearings – Highlighted in Red.

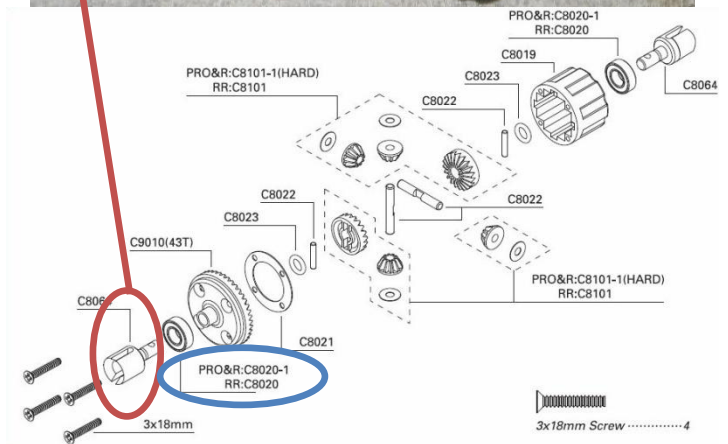
These replace the stock outdrives (C8064) highlighted in the picture below with the RC-Monster Coupler.



Assemble the differential according to the manufacturer's instructions.

Hot Bodies: [LSP Manual](#)
OFNA: [X1X-CR Manual](#)

The following picture shows the layout for the standard Hot Bodies Lighting Stadium Pro differentials included with the RC-Monster package.



The RC-Monster flange bearings are inserted into the outer differential case as shown in the photo right. This replaces part C8020 from an LSP Differential – Refer to Blue highlighted items.

At this point remember to mark outer differential case front and rear!



Apply a small amount of grease to the ring and bevel gear during final assembly.

Recommended to use high quality grease such as Moly or Gorilla Snawt.

Use blue Loctite on the four outer differential case screws.



Picture right shows built with Revo couplers installed.

Utilize Blue Loctite on all screws as this is likely to be the only remaining weak link in the system.

Ensure that the differentials are free of binding prior to further assembly.

If you notice any binding you may need to look at shimming the differential – Please refer to this guide for details on the principles: [T-maxx Differential Shimming](#) – Alternatively please post to the RC-Monster.com forum for help : [Forum](#)



Finally drop the differentials back into the bulkheads.

At this point it is worth confirming the direction of rotation of the differentials to ensure both front and rear wheels are driving in the same direction.



Guide: Chris (aka Arct1k)

Pictures: Shaun (aka TDC57)

Speed Calculator: BrianG (aka Brian) [Scriptasylum.com](#)

For support visit: [Forum](#)

