

A12-GD Gear Differential

Instruction Manual

INTRODUCTION

The Awesomatix A12 Gear Diff is specially designed for the use in the Awesomatix A12 1/12 Scale Pan Car. With the 1/4" main shaft, this Gear Diff is also suitable for most other brand 1/12 Scale Pan Car's. This Diff is suitable for standard TC and 1/12 spur gears of many brands. The overall weight is with only 21g. classleading to ensure the best performance on the track.

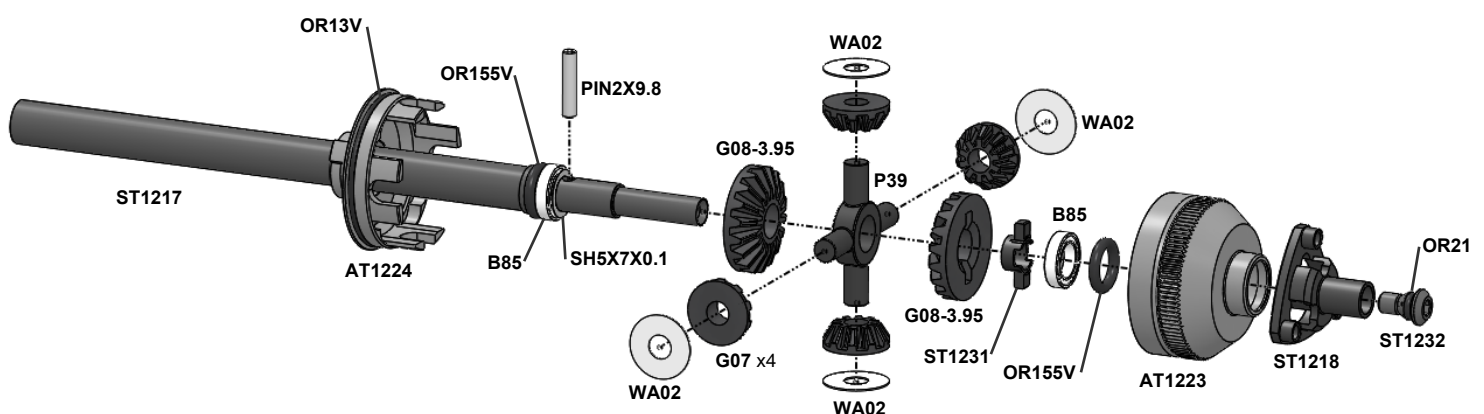
ASSEMBLY NOTES

Our tests with Team Drivers showed that there are two possibilities to build and use the A12 Gear Diff to suite different conditions.

#1 - Fully filled with silicone oil inside the sealed housing.
 --> hardness can be adjusted by use of different hardness
 3.000 - lower grip conditions
 10.000 - medium grip conditions
 15.000 - high grip conditions

#2 - Assembled with just grease between all moving parts and no any silicone oil.
 --> softest possible setting. Suitable for low grip surfaces such as Asphalt/Tarmac.

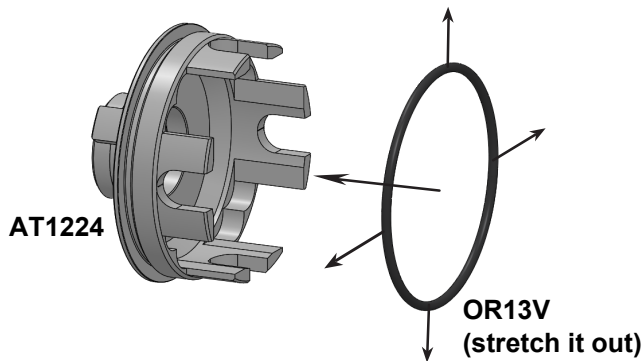
ASSEMBLY OVERVIEW / EXPLODED VIEW



A12-GD Gear Diff set includes following parts:

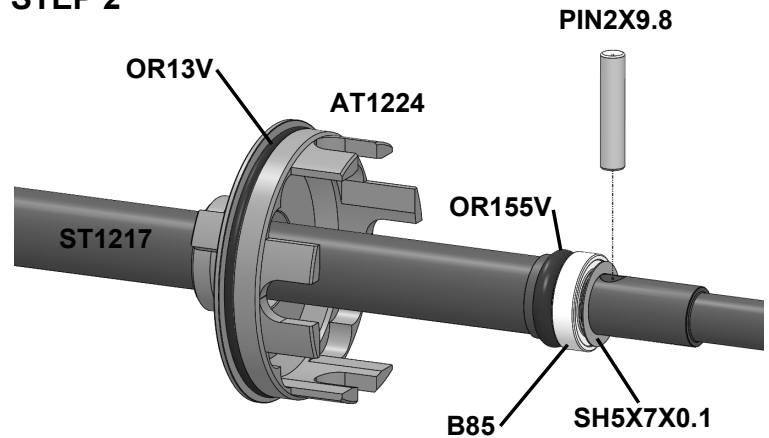
1x ST1217	Steel Axle for A12-GD	1x SH5X7X0.1	Shim 5x7x0.1mm
1x ST1218	Outer Drive	1x P39	GD2 Cross Pin
1x ST1231	Inner Drive	4x G07	GD2 Satellite Gear
1x ST1232	A12-GD Screw	2x G08-3.95	A12-GD Bevel Gear
1x AT1219	A12-GD Spur Nut	1x OR13V	13x1mm O-Ring
1x AT1223	A12-GD Case 1	2x OR155V	Damper Output O-Ring
1x AT1224	A12-GD Case 2	1x OR915	9x1.5mm O-Ring
2x B85	Ball Bearing	1x OR21	2x1mm O-Ring
4x WA02	3.5x9.5x0.2mm Washer	3x SC25X5	M2.5x5 Cap Head Screw
1x PIN2X9.8	2x9.8mm Pin		

STEP 1



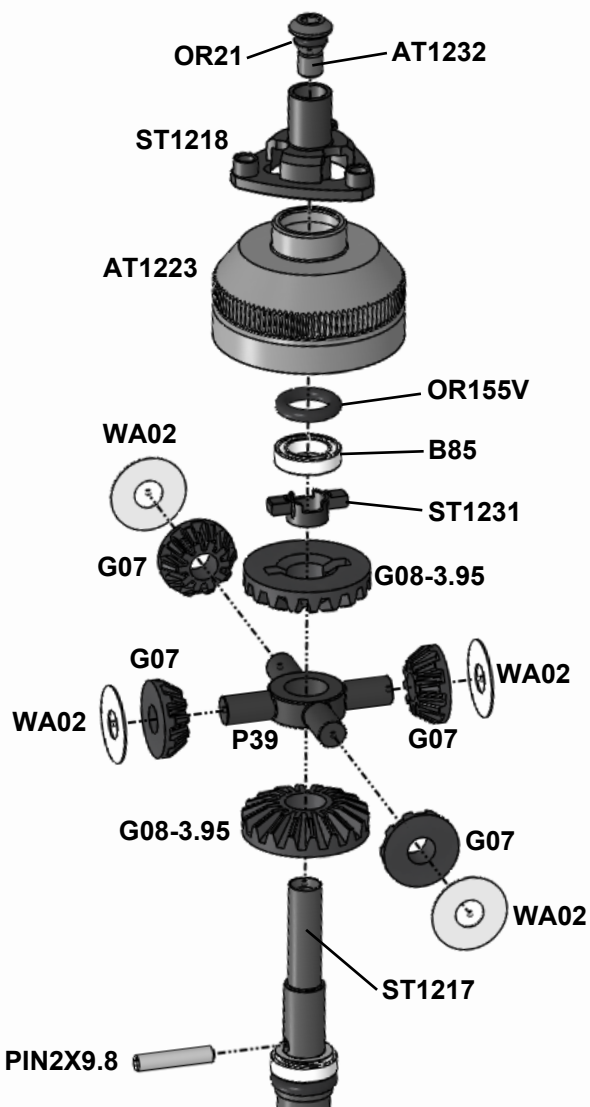
At **OR13V** installation, it is very important that it stretches evenly around the entire circumference. We recommend to lubricate this ring before installation and align it in the groove by several preliminary screwing of the diff's housing halves.

STEP 2



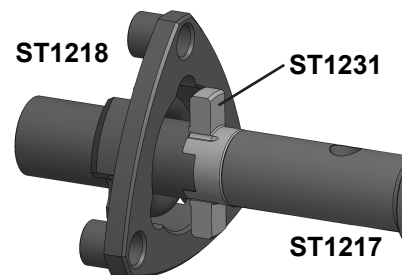
STEP 3

! #1 - The recommended silicone oil amount is ~1,0-1,2g. !

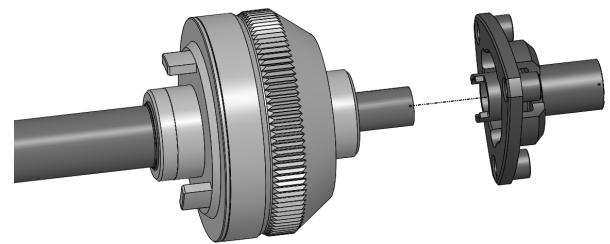


! In order to avoid visible deformation of the thin-walled housing, it is recommended to screw the halves of the differential housing without tension, only until it touches. !

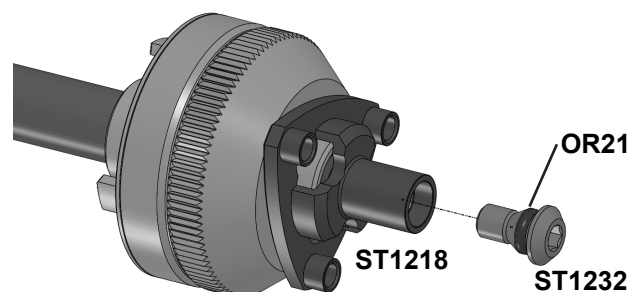
! ATTENTION! SEE THIS NOTES BEFORE FULL ASSEMBLING !



Note the fit of **ST1231** slots and **ST1218** pins. In case **ST1218** with **ST1231** will rotate on **ST1217** shaft with noticeable binding, please take **ST1218** out, turn it on 180 deg and input again. Please remember this mutual orientation of parts.



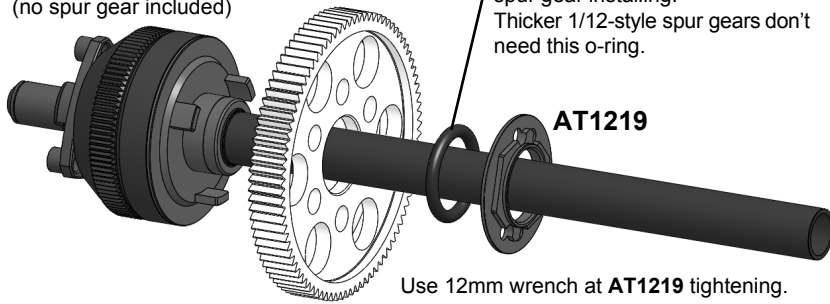
The pins of **ST1218** must fit into the groves of **ST1231**. In case **ST1218** will rotate on **ST1217** shaft with noticeable binding please take **ST1218** out, turn it on 180 deg and input again.



Insert **ST1232** screw to fix the **ST1218** and finish the assembly of the GD unit.

STEP 4

TC & 1/12 style spur gears from various brands are suitable. (no spur gear included)



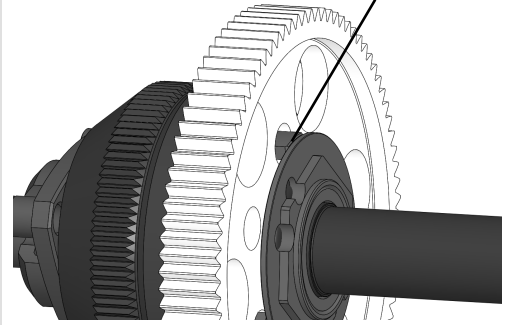
Add **OR915** o-ring if thin TC-style spur gear installing. Thicker 1/12-style spur gears don't need this o-ring.

AT1219

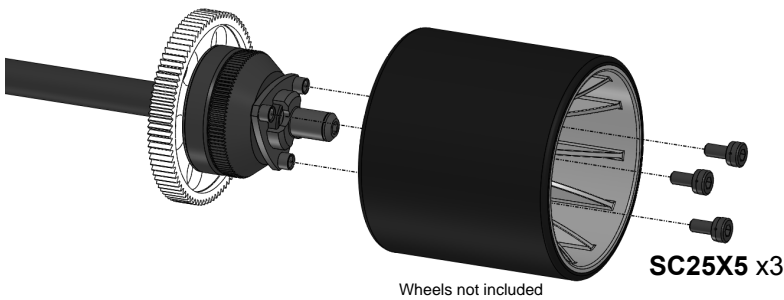
Use 12mm wrench at **AT1219** tightening.

STEP 4 - FINAL

Tighten **AT1219** nut until tight contact between these tabs of **AT1224** and the nut flange.



TIRE ASSEMBLING

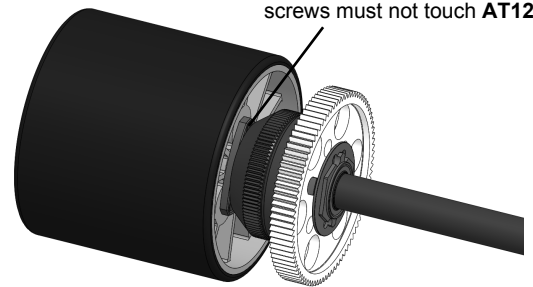


Wheels not included

SC25X5 x3

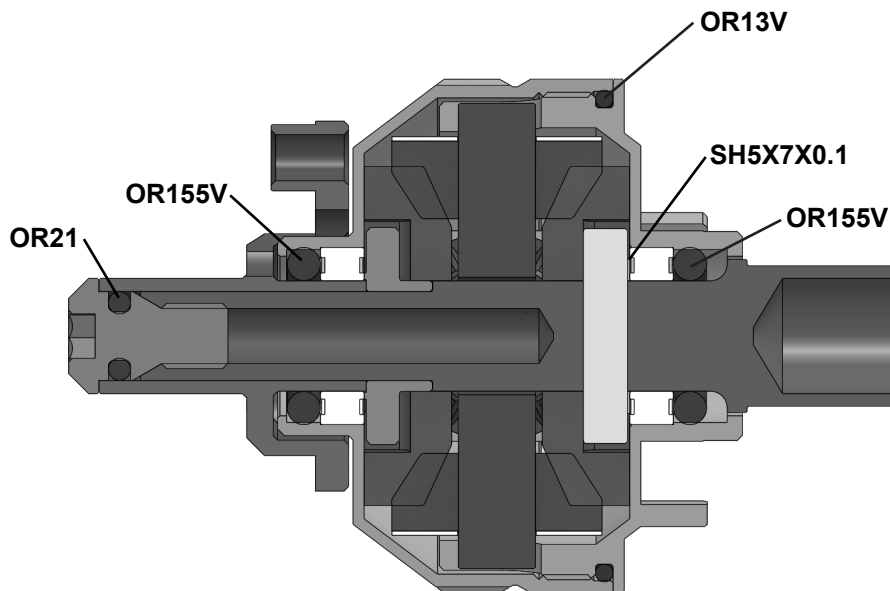
! ATTENTION !

Avoid too long screws for the tires mounting. The tips of the screws must not touch **AT1223**!



ASSEMBLY TIP FOR SOFTEST SETTING #2

Don't install all of these o-rings in case of you going to build the softest diff with only a small amount of lubricant between all moving parts instead fully filled with silicone oil.



Cross section view of the A12-GD