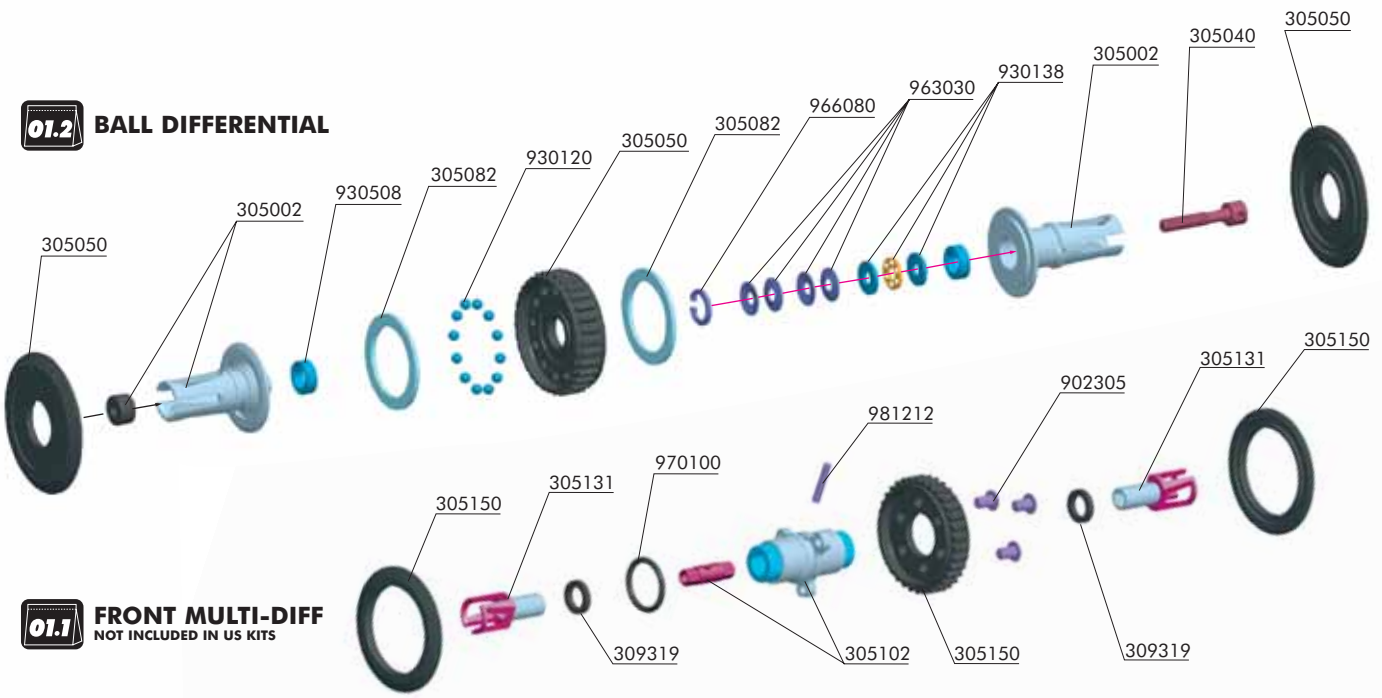
1. BALL DIFFERENTIAL & FRONT MULTI-DIFF™



BAG

01.1

30 5002	BALL DIFF. WITH LABYRINTH COVERS™ - (FACTORY KIT)	90 2305	HEX SCREW SH M3x5 (10)
30 5040	SCREW FOR EXTERNAL DIFF ADJUSTMENT - SPRING STEEL	93 0120	CARBIDE BALL 2.4 MM FOR BALL DIFFERENTIAL (12)
30 5050	DIFF PULLEY 34T WITH LABYRINTH DUST COVERS	93 0138	CARBIDE BALL-BEARING AXIAL F3-8 3 x 8 x 3.5
30 5082	DIFF WASHER 17x23x1 (2)	93 0508	BALL-BEARING MR85ZZ 5x8x2.5 (2)
30 5102	XRAY MULTI-DIFF™ T1FK'05	96 3030	CONE WASHER ST 3x8x0.5 (10)
30 5131	INNER DRIVESHAFT ADAPTER - T1FK'05 - SPRING STEEL (2)	96 6080	CH-CLIP 8 (10)
30 5150	TIMING BELT PULLEY 34T	97 0100	O-RING 10x1.5 (10)
30 9319	UNIVERSAL SET OF PLASTIC SHIMS	98 1212	PIN 2x11.8 (10)

01.2

Properly functioning differentials and axles are extremely important to the performance of the car. It is imperative they operate smoothly after assembly or rebuilding, and after every run. The T1FK'05 uses an adjustable ball differential and a Front Multi-Diff™ (non-US kits only). The ball differential is pre-assembled at the factory; follow the procedures in this section if you need to clean or rebuild the ball differential.

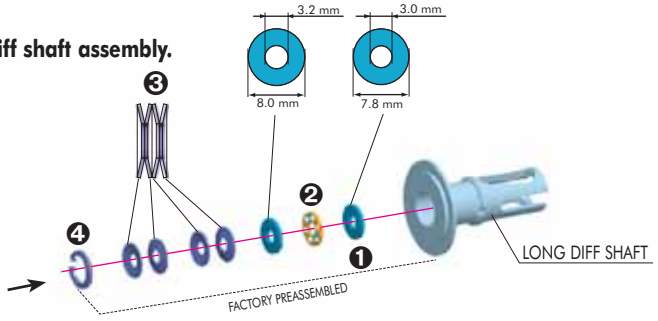
966080
C 8

963030
ST 3x8

930138
BA 3x8

The ball differential is pre-assembled at the factory.
Follow these steps if you need to clean or rebuild the long diff shaft assembly.

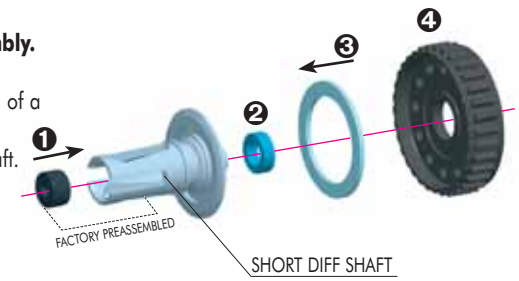
1. Insert the smaller of the two thrust washers into the long diff shaft.
2. Apply grease to the balls in the thrust ball cage; coat each side. Insert the thrust ball cage into the long diff shaft.
3. Place the larger thrust washer into the long diff shaft.
4. Insert four cone washers as shown in the detail image.
5. Insert a #966080 (C 8) clip into the groove inside the long diff shaft. Use snap-ring pliers for easy assembly.



930508
BB 5x8

The ball differential is pre-assembled at the factory.
Follow these steps if you need to clean or rebuild the short diff shaft assembly.

1. If you need to replace the diff locknut, push it out from the opposite side with the tip of a wrench. Insert a new one into the short diff shaft.
2. Place a #930508 (BB 5x8) ball-bearing on the short center stub of the short diff shaft.
3. Put a very thin coat of grease on the side of a #305082 diff washer, and place it on the short diff shaft. The washer should seat centered on the short diff shaft, and the layer of grease will hold it in place.
4. Press the #305050 diff pulley onto the ball-bearing.



930120
B 2.4

The ball differential is preassembled at the factory.
Follow these steps if you need to clean or rebuild the diff pulley or diff balls.

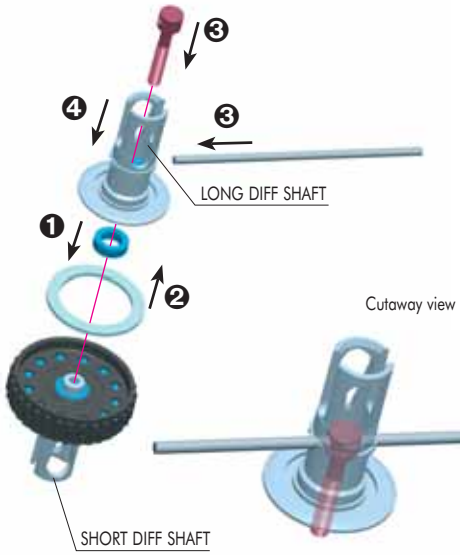
1. Apply a little bit of grease into each of the 12 holes in the diff pulley.
2. Place the twelve #930120 carbide diff balls into the diff pulley holes.

930508
BB 5x8

The ball differential is pre-assembled at the factory.
Follow these steps if you need to clean or rebuild the ball differential.

1. Hold the short diff shaft with the installed pulley facing up. Place a #930508 (BB 5x8) ball-bearing on the center stub, atop the other bearing.
2. Put a very thin coat of grease on the side of a #305082 diff washer, and place it on the long diff shaft. The washer should seat centered on the long diff shaft, and the layer of grease will hold it in place.
3. Insert the #305040 diff screw into the top of the long diff shaft as shown, and align the holes in the screw with the holes in the diff shaft. Slide a small Allen wrench through the aligned holes in both pieces. The end of the diff screw should protrude from the center of the diff shaft.
4. Hold the lower diff half upward as shown, and lower the long diff shaft with the screw pointing down onto the short diff shaft. Carefully thread the diff screw into the center of the short diff shaft. Keep tightening until the diff washer just touches the diff balls, and then tighten another 1/4 turn or until you feel some resistance. Remove the Allen wrench.

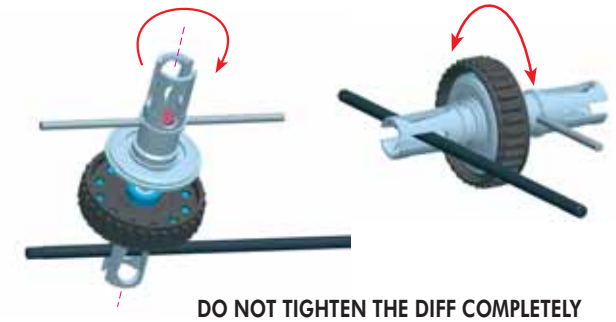
ALWAYS HOLD THE DIFFERENTIAL VERTICAL DURING ASSEMBLY, SO THE PARTS STAY IN ALIGNMENT AND THE DIFF BALLS DO NOT FALL OUT.



To check the differential:
Slide two wrenches into the slots on both sides of the diff shafts. Hold both wrenches in one hand and try to turn the pulley; it should take some force to get the pulley to slip between the two outdrives. Then remove both wrenches and rotate one of the diff shafts while holding the pulley stationery. The action should feel smooth.

To tighten the differential:
Insert a small Allen wrench into the aligned holes in the setscrew and long diff shaft. Turn the long diff shaft 1/16 to 1/8 of a turn clockwise to tighten. Remove the Allen wrench and recheck the diff.

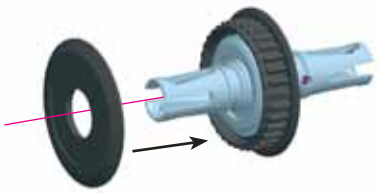
To loosen the differential:
Same as tightening the differential, except turn the long diff shaft counter-clockwise to loosen.



DO NOT TIGHTEN THE DIFF COMPLETELY THE DIFF MUST BE BROKEN IN PROPERLY !

IMPORTANT: When you build the differential, do not tighten it fully initially; the differential needs to be broken in properly. When you build the diff tighten it very gently. When you put the diff in the car and complete the assembly, run the car for a few minutes, tighten the diff a little bit, and then recheck the diff. Repeat this process several times until you have the diff tightened to the point you want it.
Final adjustments should ALWAYS be made with the diff in the car and on the track.

Slide two Labyrinth Dust Covers onto the ends of the diff shafts; the smooth sides of the covers face outward, away from the pulley. Squeeze the covers firmly until they both "snap" onto pulley; it may take a bit of effort to do this. Once snapped on, the covers seat perfectly.



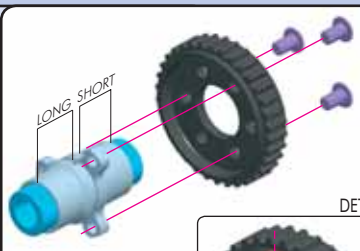
FRONT MULTI-DIFF™ (not included in US kits)

902305
SH M3x5

309319
SHIM 6x9x2

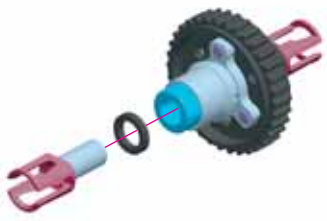
981212
P 2x12

970100
O 10x1.5



Attach the #305150 pulley to the #305102 front axle using three #902305 (SH M3x5) screws.

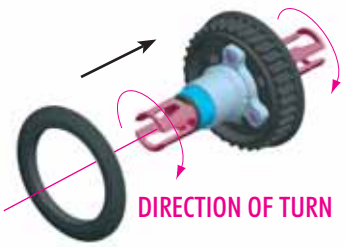
Attach pulley to SHORT side of front axle, opposite to side with hole through axle (for locking pin).



Slide #309319 spacer onto #305131 outdrive shaft.

Apply one-way lube to outdrive shaft, then slide into one-way bearing in end of front axle.

Repeat for other side.



Slide two pulley covers onto the ends of the front axle. Squeeze the covers firmly until they both "snap" over the pulley; it may take a bit of effort to do this.

Verify that the outdrives rotate in the direction shown.

See page 22 for front Multi-Diff™ settings.