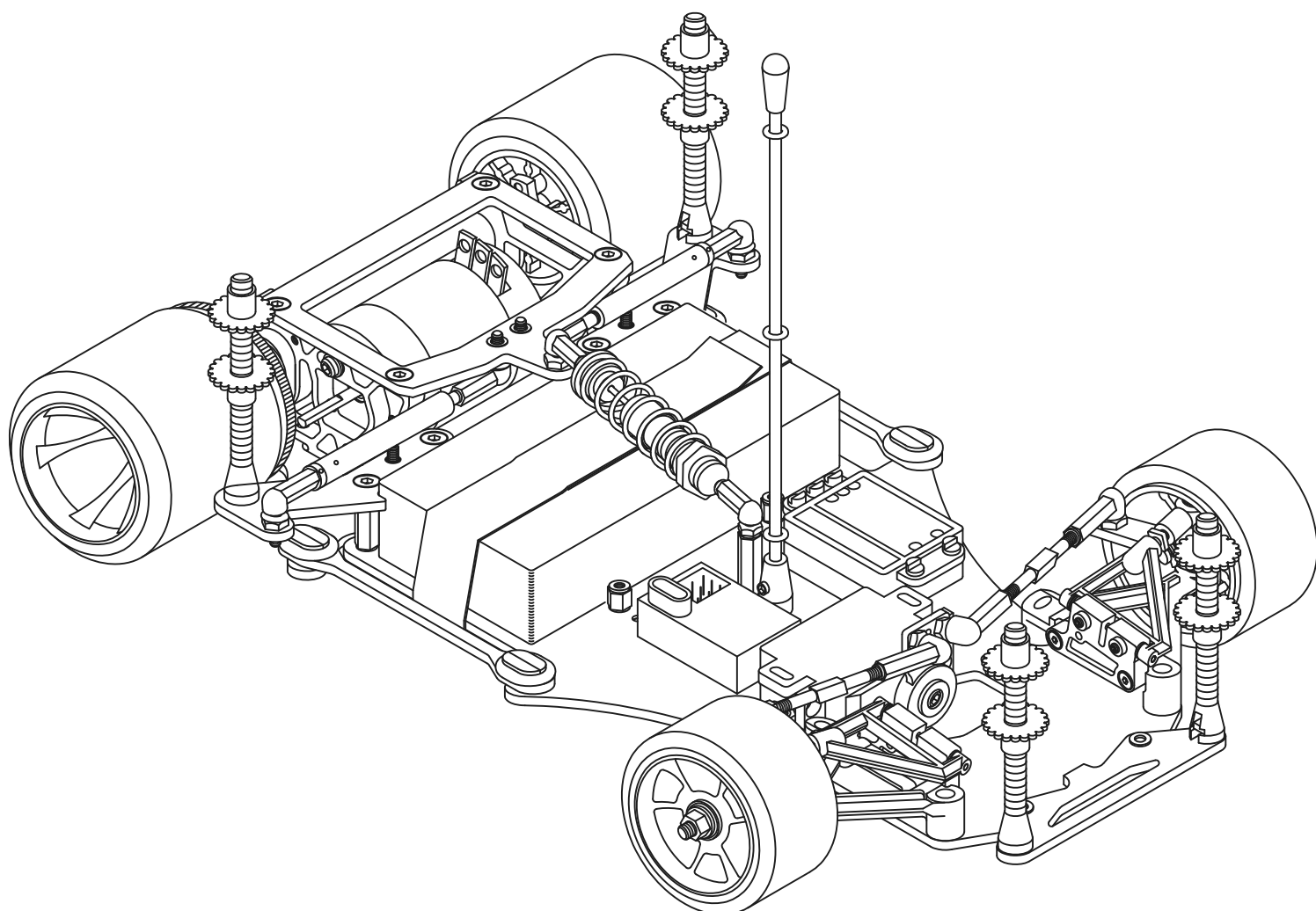




***Instruction Manual***



**#00064 Team Corally 12SL**



## **12SL INSTRUCTION MANUAL**

***Thank you for choosing this high performance Team Corally R/C Car kit! This manual will guide you through all the steps to finish your 12SL. Although the car comes partially assembled it is recommended to carefully examine each step of this manual. Team Corally is constantly developing to ensure that all products set the pace in the R/C competition world. Check [www.corally.com](http://www.corally.com) for possible updates and setup tips. Please contact us by email or phone if you might come across any problems during the assembly of this car kit and we will do our very best to help you. We wish you a lot of fun and success building and racing your new Team Corally R/C Car!***

***The 12SL is the result of Team Corally's unbeaten 1/12th scale racing experience. Before the release there has been a long and extensive period of development and on-track testing by multiple European, US and World Championship winning team drivers. The 12SL uses the World's best materials and production methods to be the ultimate high performance race car which combines super low weight with high rigidity and durable on-track performance.***



### **Features:**

---

- The 12SL comes fully equipped with super strong, lightweight Titanium screws.
  - Ceramic diff and thrust balls are used to provide super smooth diff action.
  - The precision Ceramic front and rear wheel bearings offer long lasting ultra low rolling resistance and efficiency.
  - Super lightweight and user friendly aluminium inserts are used to replace normal nuts throughout the kit. These inserts are pressed into the graphite parts providing a super rigid, tweak-free construction. Working on your car has never been this efficient ever before
  - Unique one-piece graphite rear axle.
  - The 12SL uses super high grade graphite chassis components with revolutionary pre-shaped battery slots for sub-C cells. 3.7V LiPo battery packs can be easily mounted. 5mm forward placement of LiPo packs can be done the optional available Rear Bodypost & Damper Plates.
  - Penta Dampening System using two rear tube-dampers, VCS microshock and two O-ring front dampers.
  - Lowered and adjustable front and rear roll centres.
  - Duraluminium servo mounts.
  - Super rigid duraluminium motorpod using unique tube design.
  - Front & rear adjustable ride height.
  - Threaded body posts for precise body height adjustment.
  - The 12SL comes partially assembled.
- 
- Weight : 205 gram (excluding bodyshell, electronics, wheels and tires).
  - Rear Width : 170 mm.
  - Front Width : 168 mm.

## INCLUDED

- High-Grip Hex Screwdriver - 2.0mm **Corally part #16083**
- Damper syrup Hard **Corally part #80001**
- Ball Differential Lubricant **Corally part #80010**
- Silicone Shock Oil 20WT **Corally part #80120**

## TOOLS REQUIRED FOR ASSEMBLY

- High-Grip Hex Nut driver - 5 mm **Corally part #16086**
- High-Grip Hex Nut driver - 5.5 mm **Corally part #16087**
- High-Grip Hex Nut driver - 9 mm **Corally part #16091**
- Longnose Plier
- Hobby Scissors
- Double-sided Tape **Corally part #13085**

## ITEMS NEEDED TO COMPLETE YOUR CAR (NOT INCLUDED)

- R/C two channel surface frequency radio system
- Battery Pack (4.8V 4 cell sub-C size / 3.7V LiPo Pack)
- Battery Charger (with peak or temperature detection)
- Mini Servo with Servosaver
- Electronic Speed Control
- Electric Motor
- 1:12 Scale Lexan Body
- Receiver Pack or VOLTAGE BOOSTER **Corally part #48290**

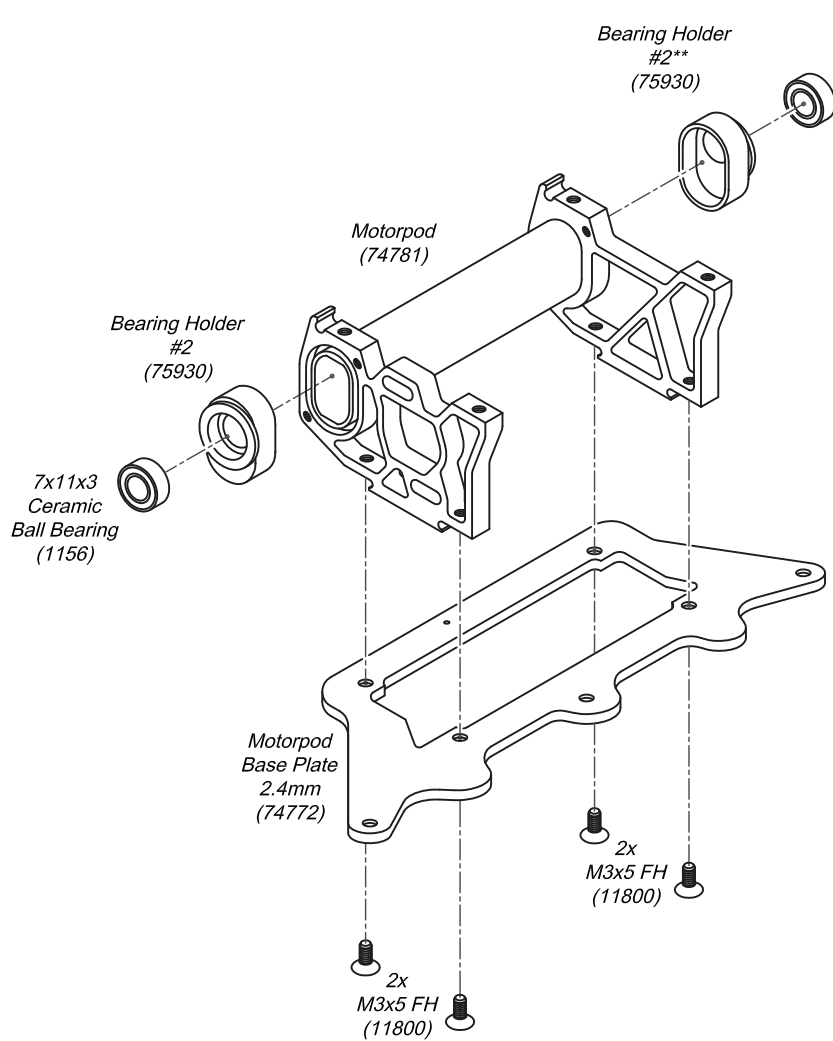


## PARTS

10010	Thrust bearing - With 1/16 Inch CERAMIC Balls - US SPEC
10013	Thrust washers - US SPEC - 1 pair
10014	Diff washers - US SPEC - 1 pair
10016	Thrust balls 1/16 Inch - CERAMIC - US SPEC - 10 pcs
10050	Diff Spare parts set - FOR CORALLY WHEELS
1006	Diff balls 1/8 Inch - CARBIDE - 10 pcs
1007	Diff balls 1/8 inch - CERAMIC - 10 pcs
1008	Diff balls 1/8 inch - STEEL - 10 pcs
10401	Rollover antenna
10405	Replacement Antenna / Microshock Mount - OPTIONAL
1121	Ball Bearings, Metal Shielded - 5 x 9 mm - 1 pair
1122	Ball Bearings, Metal Shielded - 4 x 7F mm - 1 pair
1124	Ball Bearings with Zero Res Metal Shields - 1/4 x 3/8" - 1 pair
1126	Ball Bearings with Zero Res Metal Shields - 7 x 11 mm - 1 pair
1135	Ball Bearings - 1/8" x 5/16 - 1 pair
1136	Ball Bearings - 1/8" x 5/16 - Flanged - 1 pair
1151	Ceramic Hybride Ball Bearings - 5 x 9 mm - 1 pair
1156	Ceramic Hybride Ball Bearings - 7 x 11 mm - 1 pair
1165	Ceramic Hybride Ball Bearings - 1/8" x 5/16 - 1 pair
11800	Titanium Screws M3 x 5 mm - 2 mm Hex Flat Head - 6 pcs
11801	Titanium Screws M3 x 6 mm - 2 mm Hex Flat Head - 6 pcs
11802	Titanium Screws M3 x 8 mm - 2 mm Hex Flat Head - 6 pcs
11811	Titanium Screws M3 x 6 mm - 2 mm Hex Button Head - 6 pcs
11812	Titanium Screws M3 x 8 mm - 2 mm Hex Button Head - 6 pcs
11813	Titanium Screws M3 x 10 mm - 2 mm Hex Flat Head - 6 pcs
11961	Steel Screws M2,5 x 6 mm - 2 mm Hex Button Head - 6 pcs
11962	Steel Screws M2,5 x 4 mm - 1.5 mm Hex Button Head - 6 pcs
1233B	Steel Screws 8-32 x 5/8" (16 mm) - Hex Flat Head - 5 pcs
1250	Steel Nuts, M2 - 10 pcs
1255	Aluminium Inserts, M3 - 4 pcs
1256	Aluminium Locknuts, M3 Black - 10 pcs
1260	O-Rings 2.0 x 1.0 mm - 10 pcs
1265	O-Rings 5.0 x 3.0 mm - 10 pcs
1280	Steel washers 3 x 6 mm - 10 pcs
1281	Aluminium washers 3 mm - 10 pcs
1283	Aluminium washers 5 mm - 10 pcs
2210	Steel Setscrews M3 x 3 mm - 1.5 mm Hex - 5 pcs
48290	VOLTAGE BOOSTER - Recommended for use with all 3.7V LiPos
74706	Chassis - For single cell LiPo 7 4-cell sub-C - 2.4 mm Graphite - 1pc.
74745	Motorpod Base Pivot Plate - Incl. inserts - 2.4 mm Graphite - 1 pc.
74754	M3 Posts - 10 mm Length - Fiber Reinforced Black Nylon - 3 pcs
74755	M3 Posts - 12 mm Length - Fiber Reinforced Black Nylon - 3 pcs
74756	M3 Posts - 15 mm Length - Fiber Reinforced Black Nylon - 3 pcs
74758	M3 Posts - 10 mm Length - Aluminium - OPTIONAL - 3 pcs
74759	M3 Posts - 12 mm Length - Aluminium - OPTIONAL - 3 pcs
74769	Motorpod Top Plate - Incl. inserts - 2.4 mm Graphite - 1 pc.
74770	Front Bumper - 2.4 mm Graphite - 1 pc.
74772	Motorpod Base Plate - 2.4 mm Graphite - 1 pc.
74774	Rear Bodypost & Damper Mount, Left - Incl. inserts - 2.4 mm Graphite - 1 pc.
74775	Rear Bodypost & Damper Mount, Right - Incl. inserts - 2.4 mm Graphite - 1 pc.
74776	Rear Bodypost & Damper Mount, Left - Battery +5mm - 2.4 mm Graphite - 1 pc.
74777	Rear Bodypost & Damper Mount, Right - Battery +5mm - 2.4 mm Graphite - 1 pc.
74778	Side Links - 2.4 mm Graphite - 1 pair
74781	Motorpod - Ultra rigid with bearing holder fixation - AL 7075T6
74795A	Servo posts - Red anodised duraluminium - 1 pair

74900	Micro Shock-Absorber - 1 pc.
74905	Tube-damper - 1 pc.
75291	Ball joint set for T-Bar - Low - 2 pcs
75532	Bearing Holders - 0.5 Setting - Hard Anodised Aluminium - 1 pair
75533	Bearing Holders - 1.0 Setting - Hard Anodised Aluminium - 1 pair
75534	Bearing Holders - 1.5 Setting - Hard Anodised Aluminium - 1 pair
75535	Bearing Holders - 2.0 Setting - Hard Anodised Aluminium - 1 pair
75536	Bearing Holders - 2.5 Setting - Hard Anodised Aluminium - 1 pair
75537	Bearing Holders - 3.0 Setting - Hard Anodised Aluminium - 1 pair
75548	Side Spring Adjustment Screws - For rear suspension - 1 pair
75551	Side Springs - For rear suspension - X-SOFT - 1 pair
75552	Side Springs - For rear suspension - SOFT - 1 pair
75553	Side Springs - For rear suspension - MEDIUM - 1 pair
75554	Side Springs - For rear suspension - HARD - 1 pair
75701	Body post set 50 mm - 1 pair
75710	Body post nuts - 8 pcs
75846	Left Wheel Hub - Red anodised duraluminium - 1 pc.
75848	Right Wheel Hub - Red anodised duraluminium - 1 pc.
75863	Rear axle - Graphite (170 mm) - 1 pc.
75924	Diff nut, hex (M7) - Incl. Spring Lock Washer - 1
75926	Diff nut thrust spacer - Red anodised aluminium - 1 pc.
75930	Rear Axle Bearing holder set - 3 pairs for 6 different ride height settings
75956	Lower A Arm Spacers - 2.4 mm Woven Graphite - 1 pair
75959	Cross Brace - 1.5 mm Woven Graphite - 1 piece
75960	Upper Suspension Mounts - 0°, 5° & 10° caster - 3 pair
75962	Upper Suspension Arms - 1 pair
75964	Lower A Arms - 1 pair
75966	Upper Turnbuckles - 1 pair
75970	Pivot Ball - 4 pcs.
75972	Steering Blocks - 1 pair
75974	Kingpin - 1 pair
75976	Kingpin Shim - 8 pcs.
75977	Steel Front Axle with M3 Thread - OPTIONAL - 1 pair
75978	Titanium Front Axle - 1 pair
75979	Hingepin - 1 pair
75980	Hingepin L-Shaped - 1 pair
75982	E-clips - 6 pcs.
75984	5-40 x 1/8" Set Screw - 4 pcs.
75986	Spring .020 - 1 pair
75987	Spring .022 - 1 pair
75988	Spring .024 - 1 pair
75995	Body Post - Including body pivots & clips - 4 pcs
76101	Universal transponder holder
79117	Hingepin Shims - 10 pcs.
79118	Outer Hingepin Shims, 0.2 mm - 10 pcs
79261	Pivot Balls 4.3 mm M3 x 2.5 mm - Duraluminium 4 pcs.
79264	Pivot Balls 4.3 mm M3 x 5.5 mm - Hard Steel 4 pcs.
79274	Turnbuckle 43mm
79277	Turnbuckle Tool
80000	Team CORALLY Damper syrup for tube and friction dampers - Soft
80001	Team CORALLY Damper syrup for tube and friction dampers - Hard
80002	Team CORALLY Damper syrup for tube and friction dampers - Extra Hard
80010	Team CORALLY Diff Lube, White - For the large diff balls
80015	Team CORALLY Diff Lube, Black - For the thrust bearing
80120	Team CORALLY Shock Absorber Oil - 20 W

# MOTORPOD BASE PIVOT ASSEMBLY



**NOTE:**

3 pairs of bearing molded holders are included in the kit to allow 6 different rear ride height settings.

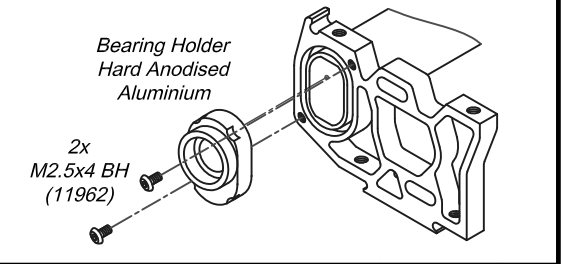
- Bearing Holder - 1.0 Setting
- Bearing Holder - 2.0 Setting
- Bearing Holder - 3.0 Setting

**OPTIONAL AVAILABLE:**

Hard Anodised Aluminium:

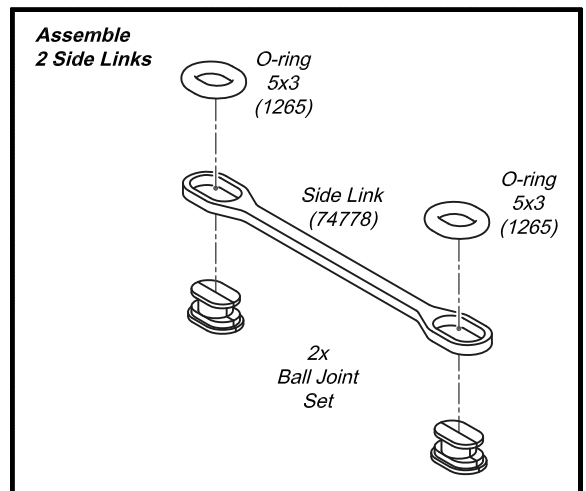
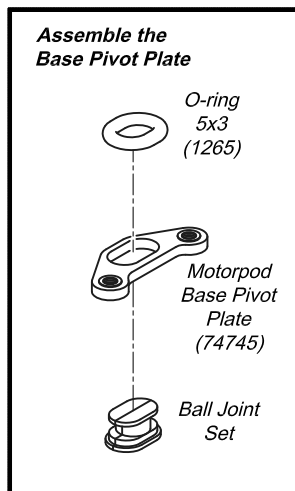
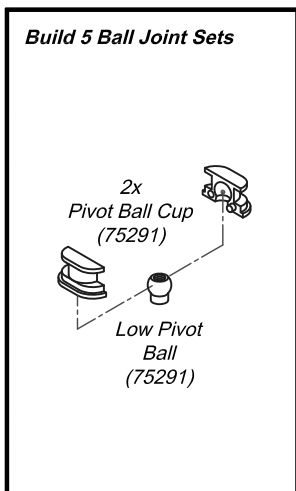
- #75532 Bearing Holder - 0.5 Setting
- #75533 Bearing Holder - 1.0 Setting
- #75534 Bearing Holder - 1.5 Setting
- #75535 Bearing Holder - 2.0 Setting
- #75536 Bearing Holder - 2.5 Setting
- #75537 Bearing Holder - 3.0 Setting

\*\* Use 4x #11962 M2.5x4 BH

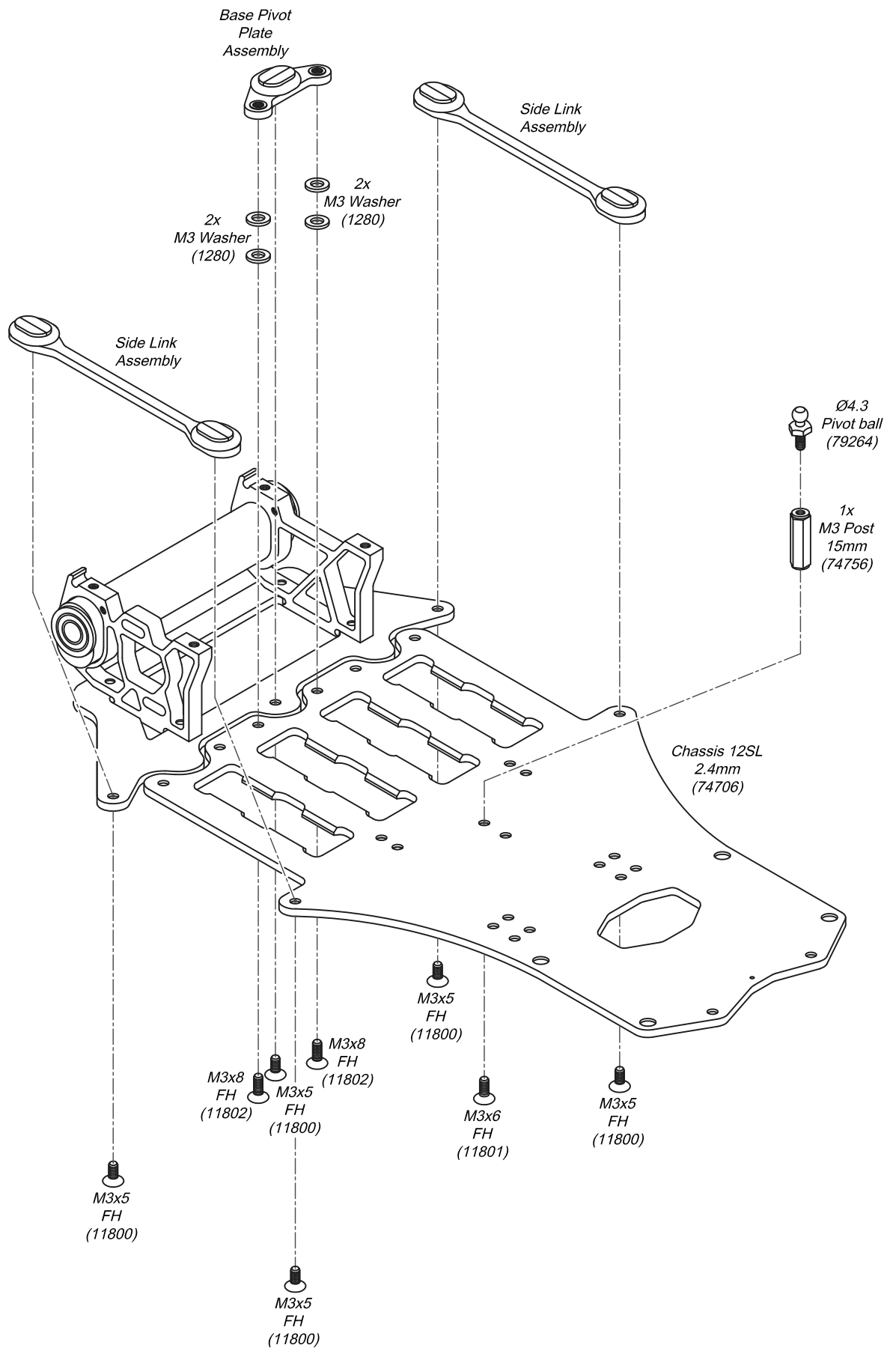


# BASE PIVOT PLATE AND SIDE LINKS ASSEMBLY

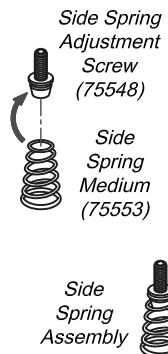
Prepare and assemble the pivot parts for the base pivot and the side links.



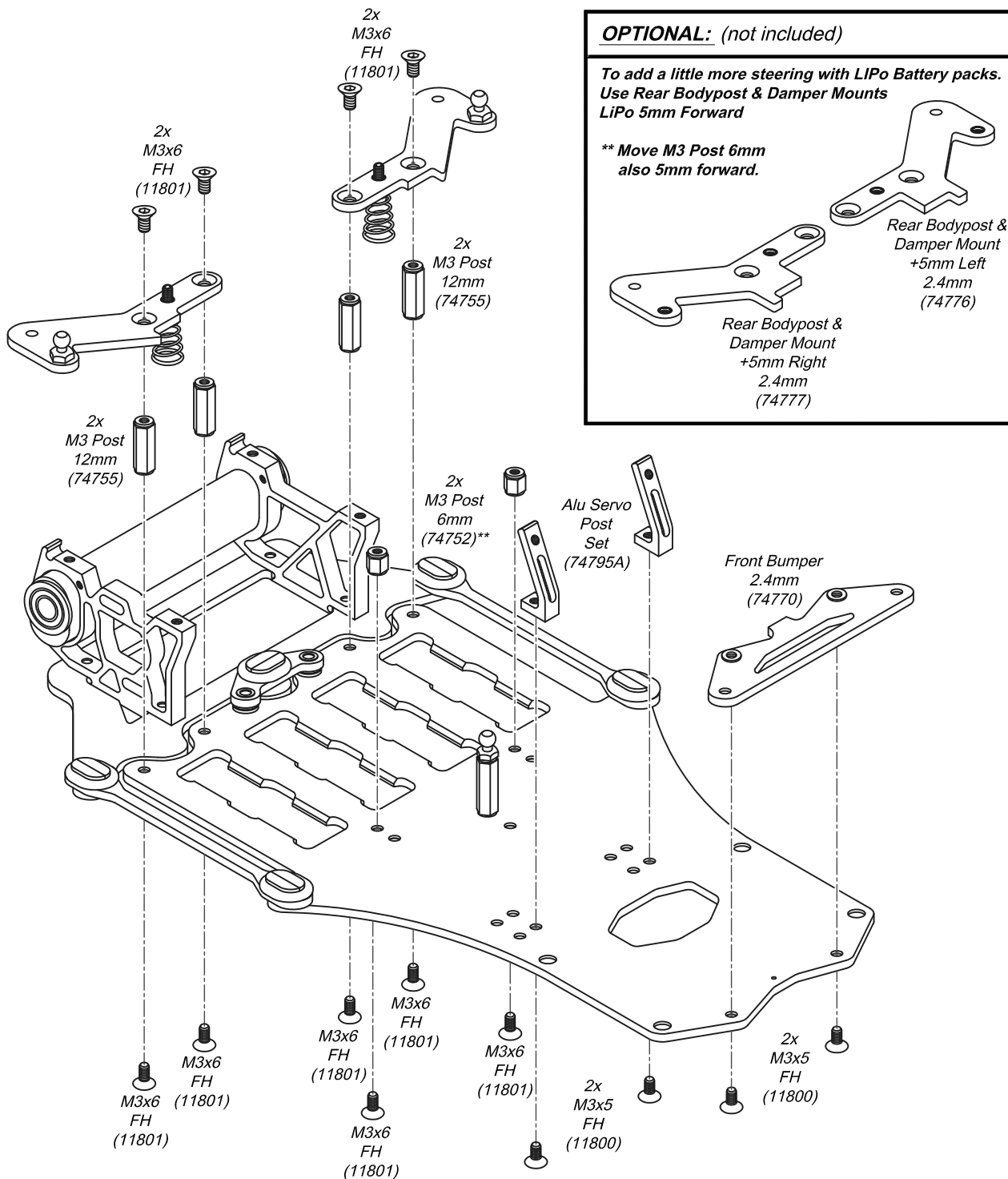
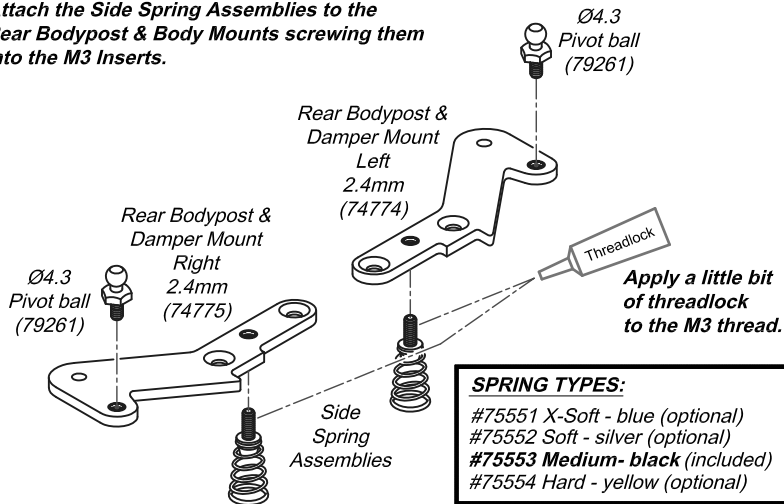
# CHASSIS JOINTS



**Build 2 Side Spring Assemblies**  
**Attach the spring on the Side Adjustment Screw**



**Attach the Side Spring Assemblies to the Rear Bodypost & Body Mounts screwing them into the M3 Inserts.**



**OPTIONAL:** (not included)

To add a little more steering with LiPo Battery packs. Use Rear Bodypost & Damper Mounts LiPo 5mm Forward

**\*\* Move M3 Post 6mm also 5mm forward.**

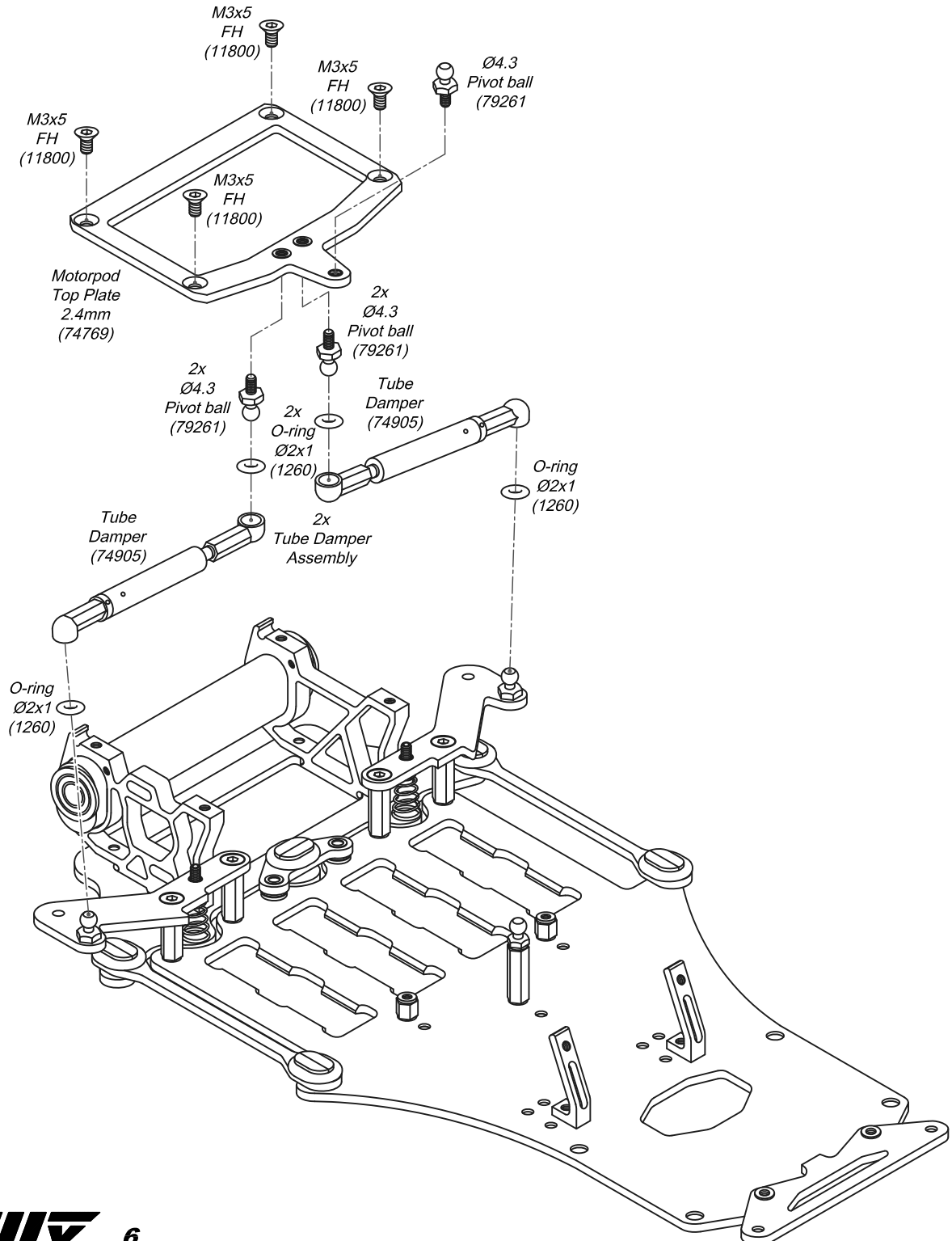
Rear Bodypost & Damper Mount +5mm Left 2.4mm (74776)  
 Rear Bodypost & Damper Mount +5mm Right 2.4mm (74777)

# TUBEDAMPER REAR SUSPENSION

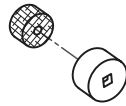
Build 2 identical Tubedampers  
#74905

**DAMPERSYRUP**  
#80000 Soft  
#80001 Hard (included)  
#80002 Xtra Hard

Apply some Dampersyrup on the shaft and in the tube until the desired friction is reached. 3 Types of damper syrup are available for setting softer or harder dampening.

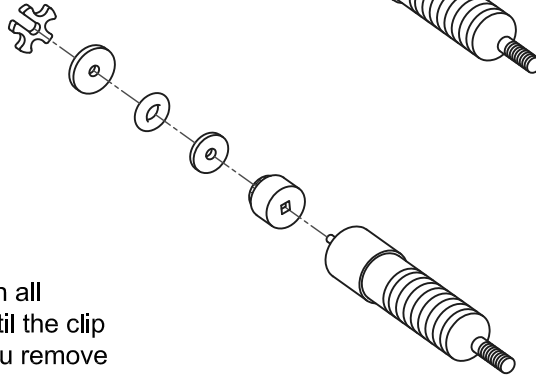
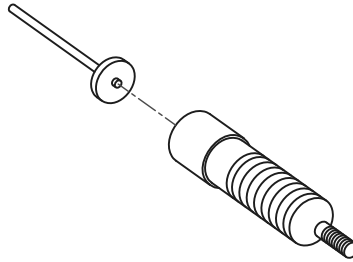


# VCS MICRO SHOCK ASSEMBLY (#74900)



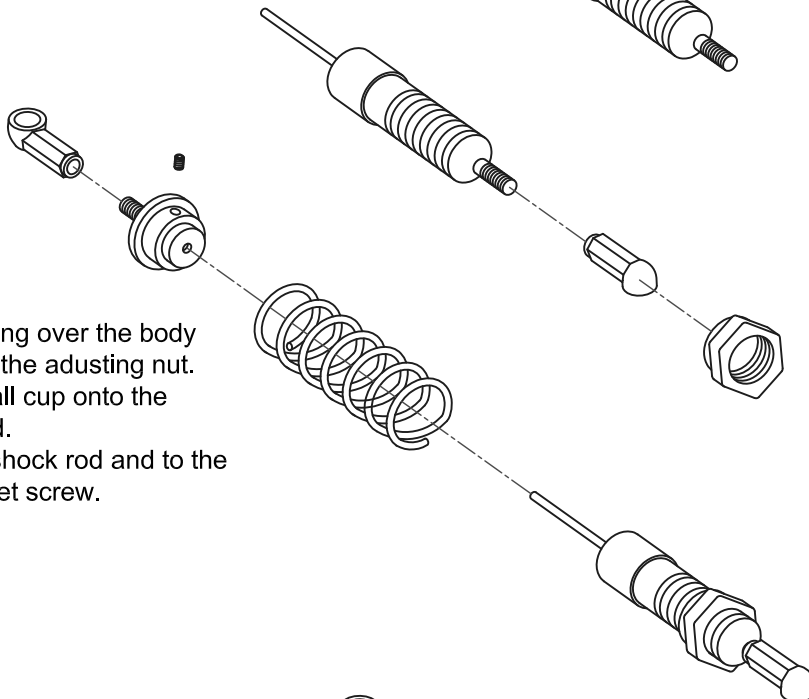
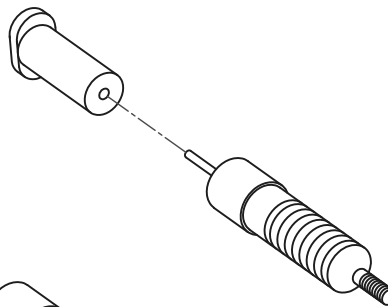
1. Remove the plastic VC housing from the parts tree.
2. Soak the VC foam with your shock oil. Use our Corally Shock Absorber Oil #80120
3. Push the foam into the housing.

1. Keep shock body straight up and fill with oil up to the upper groove.
2. Insert shaft/piston all the way to the bottom.



1. Remove the small and large washer from the parts tree. Remove any flash from the washers.
2. Slide the VC housing with the foam onto the shaft, housing first (so the foam is still seen through the body opening).
3. Slide on the following in this order: smaller washer, red O-ring, larger washer, then the star-shaped clip.

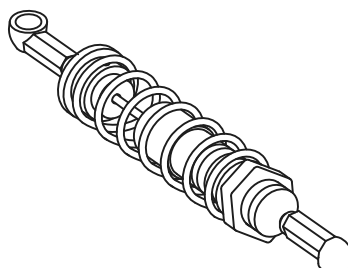
1. Use the assembly tool to push all the parts down into the body until the clip snaps into the groove. When you remove the tool, the shaft will push out somewhat if everything snapped into place correctly. Make sure the clip snaps into the groove completely



1. Slide the spring over the body and up against the adjusting nut.
2. Screw the ball cup onto the shock shaft end.
3. Tighten the shock rod and to the shaft with the set screw.

1. Remove the assembly tool and screw on the ball cup where shown.
2. Screw the spring adjusting nut onto the shock body threads, flange first, as shown.

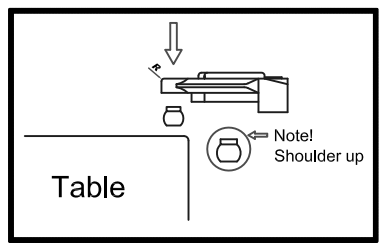
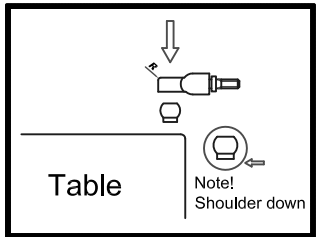
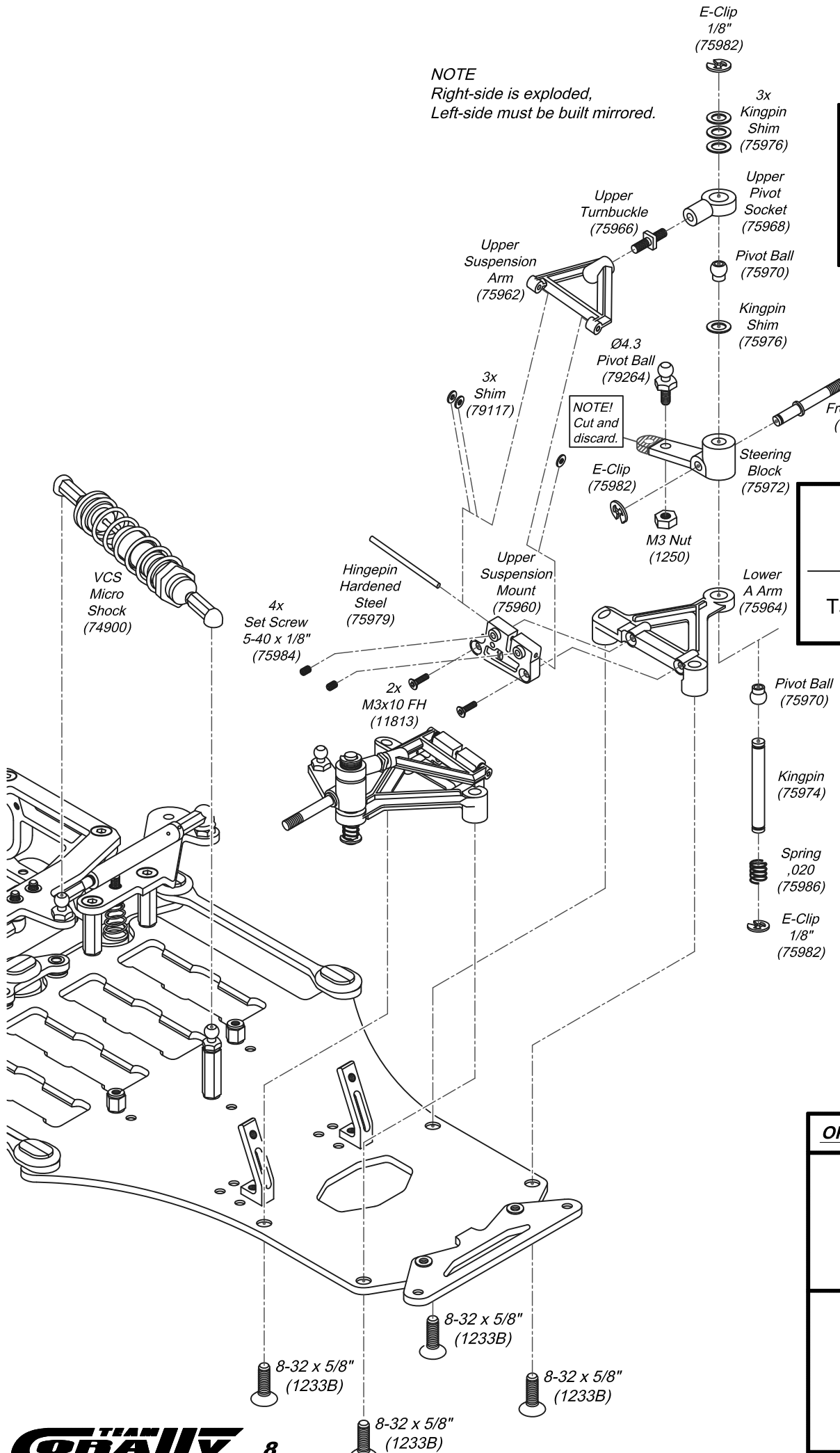
1. Pop the ball cups on the ball ends of your kit.
2. Turn the spring adjusting nut to adjust spring tension.





# FRONT SUSPENSION MOUNTING

**NOTE**  
Right-side is exploded,  
Left-side must be built mirrored.



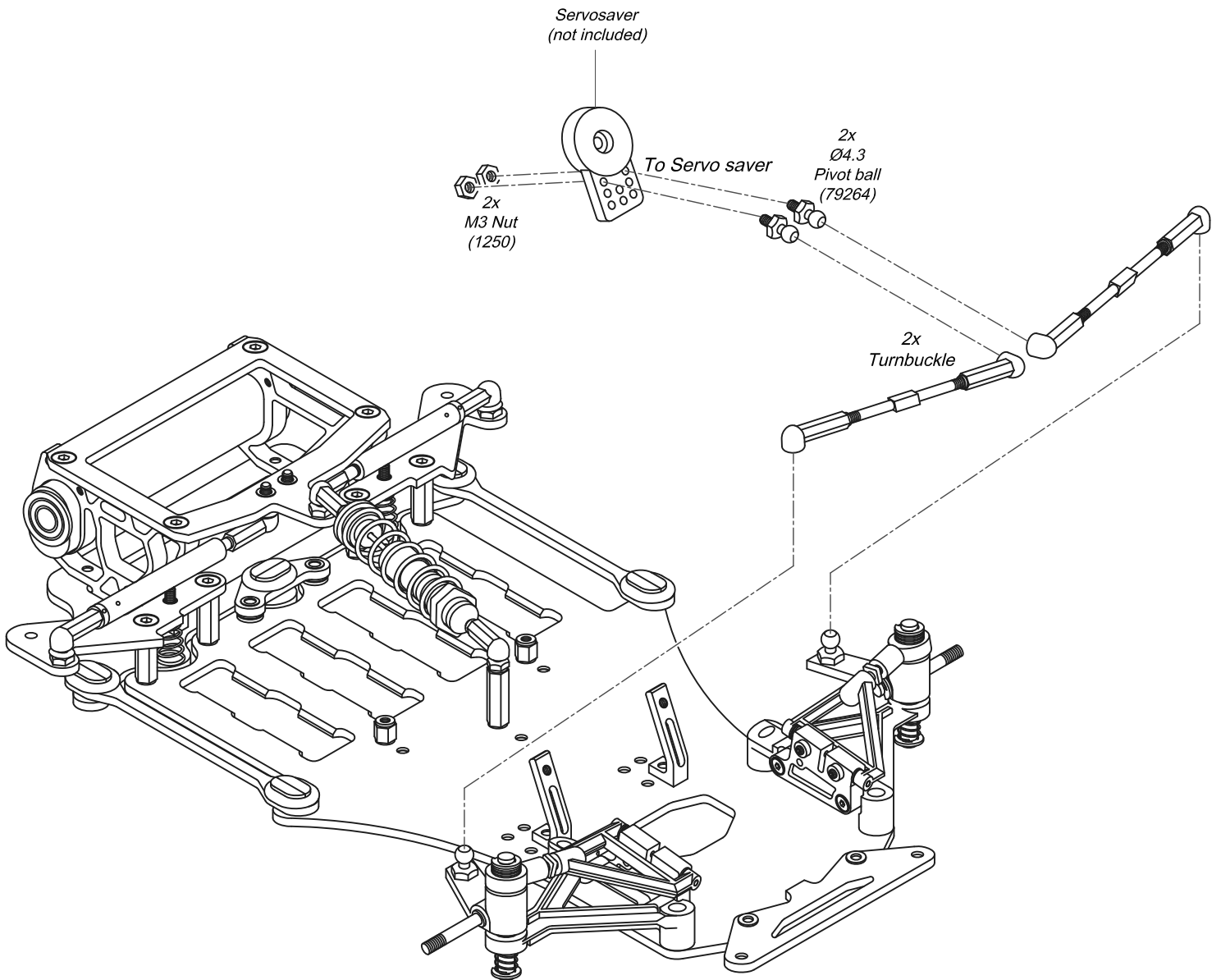
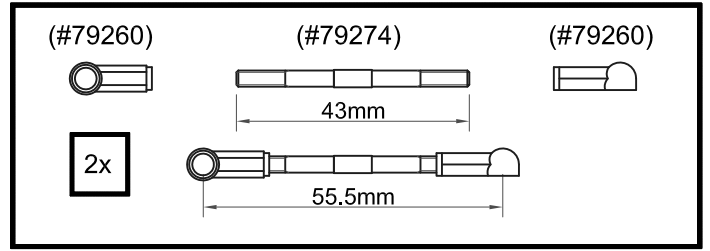
**SPRING TYPES:**  
#75986 Spring ,020 (included)  
#75987 Spring ,022 (optional)  
#75988 Spring ,024 (optional)

**OPTIONAL: (not included)**

Cross Brace (75959)

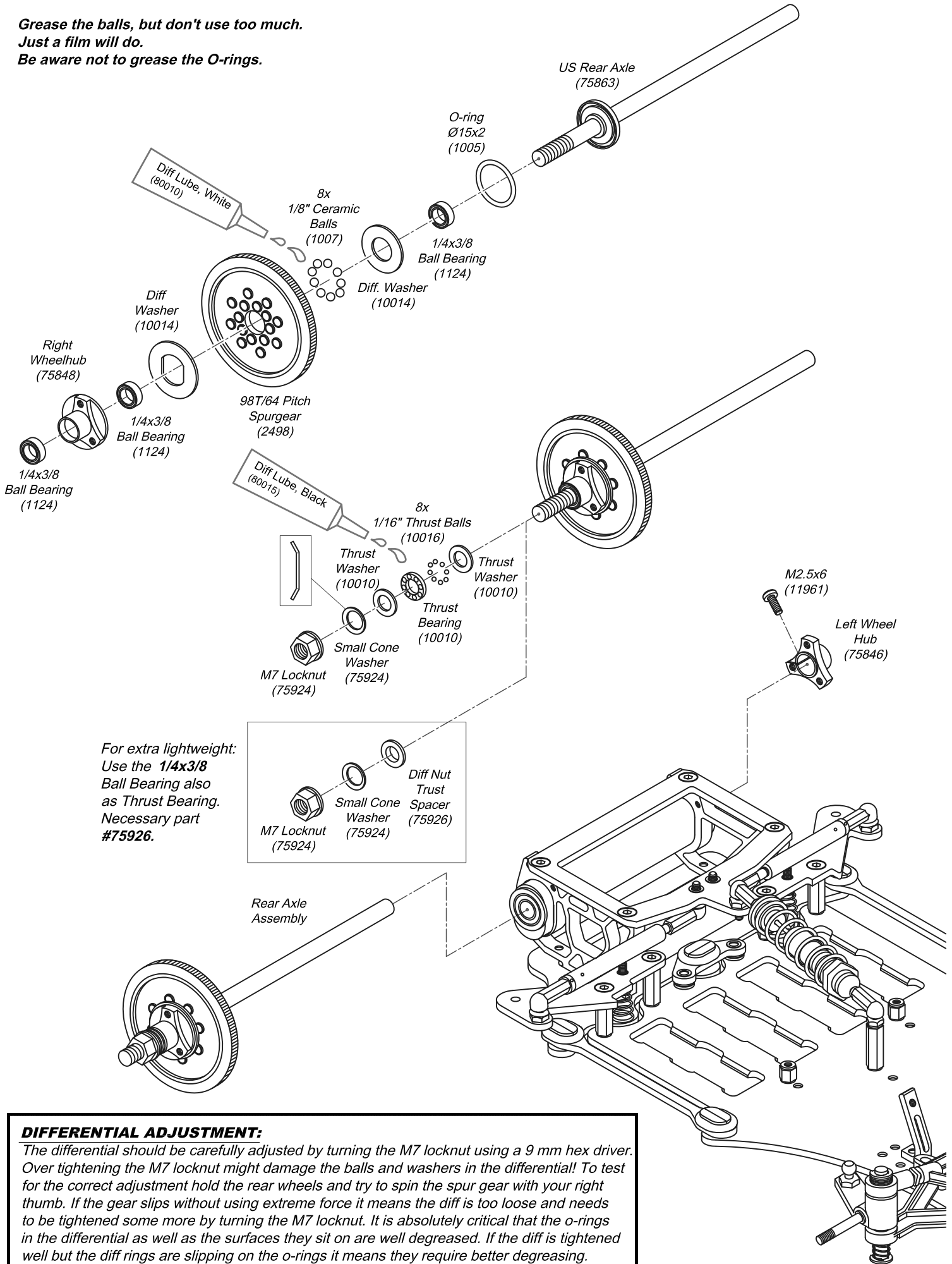
Lower A-arm Spacer 2.5mm (75956)

# STEERINGS



# REAR AXLE ASSEMBLY

**Grease the balls, but don't use too much.  
Just a film will do.  
Be aware not to grease the O-rings.**



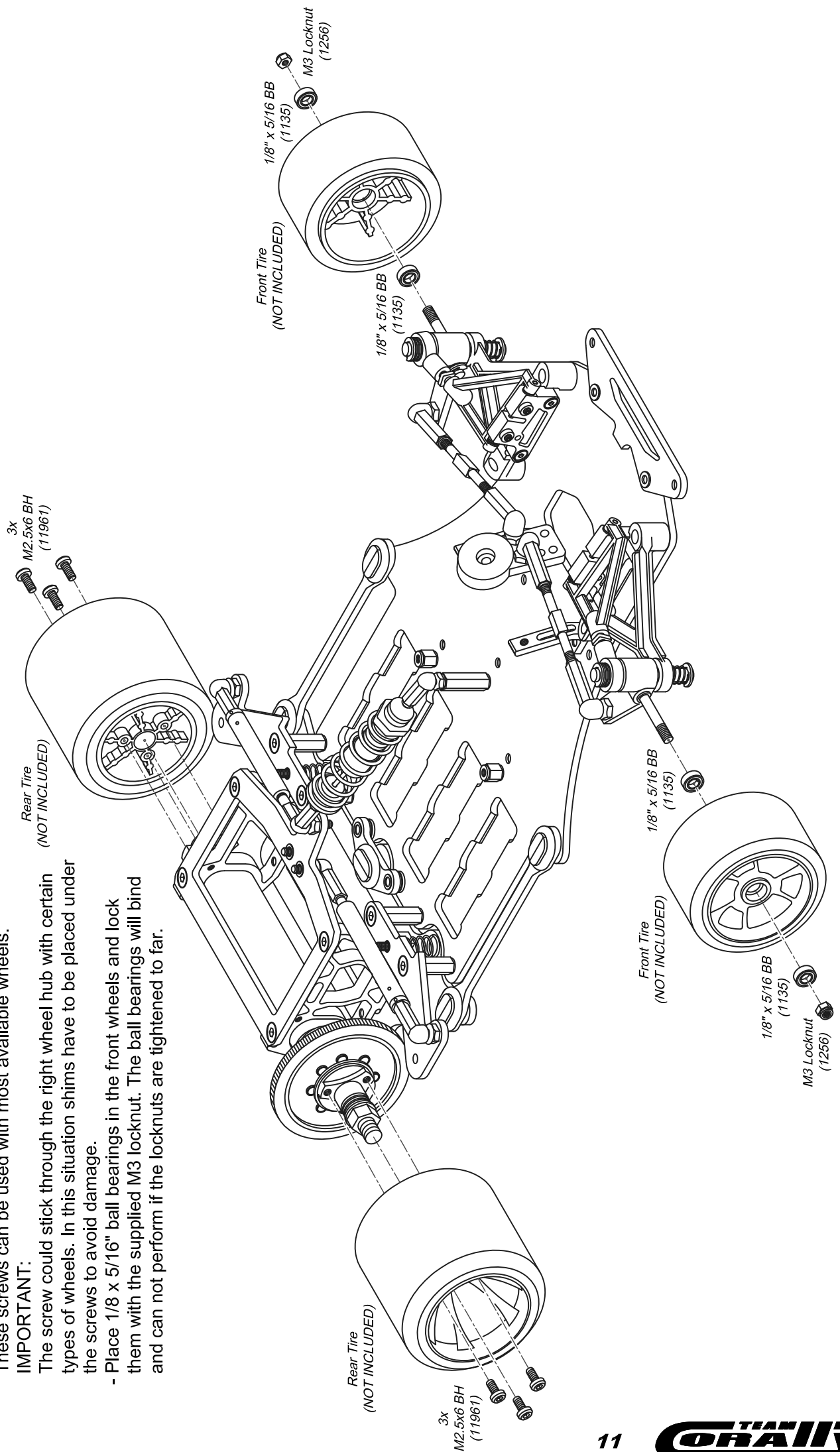
*For extra lightweight:  
Use the 1/4x3/8  
Ball Bearing  
also as Thrust Bearing.  
Necessary part  
#75926.*

### **DIFFERENTIAL ADJUSTMENT:**

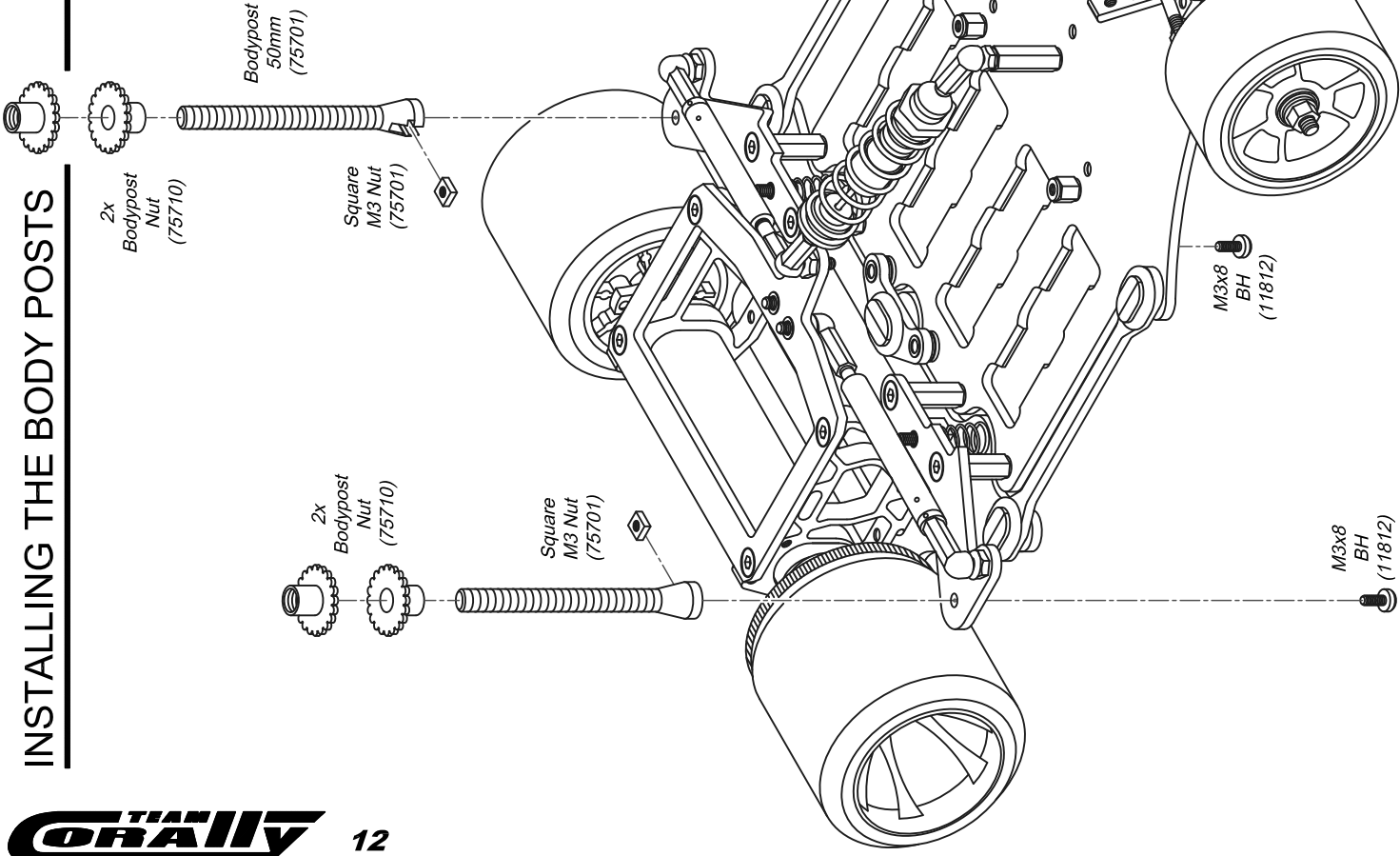
The differential should be carefully adjusted by turning the M7 locknut using a 9 mm hex driver. Over tightening the M7 locknut might damage the balls and washers in the differential! To test for the correct adjustment hold the rear wheels and try to spin the spur gear with your right thumb. If the gear slips without using extreme force it means the diff is too loose and needs to be tightened some more by turning the M7 locknut. It is absolutely critical that the o-rings in the differential as well as the surfaces they sit on are well degreased. If the diff is tightened well but the diff rings are slipping on the o-rings it means they require better degreasing.

# WHEEL MOUNTING UNIVERSAL WHEELS

- Fit the wheels on the axles.
- Use the M2.5 x 6 mm BH screws for mounting the rear wheels. These screws can be used with most available wheels. **IMPORTANT:** The screw could stick through the right wheel hub with certain types of wheels. In this situation shims have to be placed under the screws to avoid damage.
- Place 1/8 x 5/16" ball bearings in the front wheels and lock them with the supplied M3 locknut. The ball bearings will bind and can not perform if the locknuts are tightened to far.



# INSTALLING THE BODY POSTS



- The supplied Team Corally body posts allow fine and precise body height adjustment.
- They are fast and easy to use if you follow these steps:
  1. Screw the lower nuts on the body posts and put your bodyshell in place.
  2. Adjust the nuts until the desired height has been reached.
  3. Put on the upper nuts and set them at a couple of millimetres above the bodyshell to allow future adjustments.
  4. Cut the body posts to length at just above the upper nuts.
  5. Remember that the Corally body post nuts only require 1 or 2 turns for a secure fixation and they do not need to be tightened all the way down against the bodyshell.
  6. Now you're all set for some fast and easy bodyshell changing with the option of precision adjustment!

**OPTIONAL: (not included)**

The standard threaded Bodypost can be replaced by 4 WC Bodyposts. #75995

# INSTALLING ELECTRONICS

- Check the manual of your electronics for proper use and installation.
- Use tape to hold the batteries.
- Use double sided servo tape to hold the electronic speed control and receiver.
- The required screws and washers for mounting the servo and motor are included.

**NOTE:**  
Voltage Booster recommended with all 3.7V LiPos combined with most speed controllers.

**#48290 - TC VOLTAGE BOOSTER**

Use tape to mount the batteries.

Anti-roll Mast (10401)

3.7V LiPo Battery Pack

4.8V sub-C Battery Pack

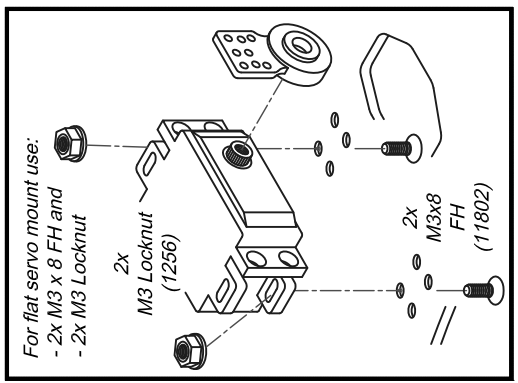
Make your choice of battery to your needs or local race rules. The 12SL is designed to fit both.

M3x6 RH (11811)

Alu Washer (1281)

M3x6 RH (11811)

Alu Washer (1281)



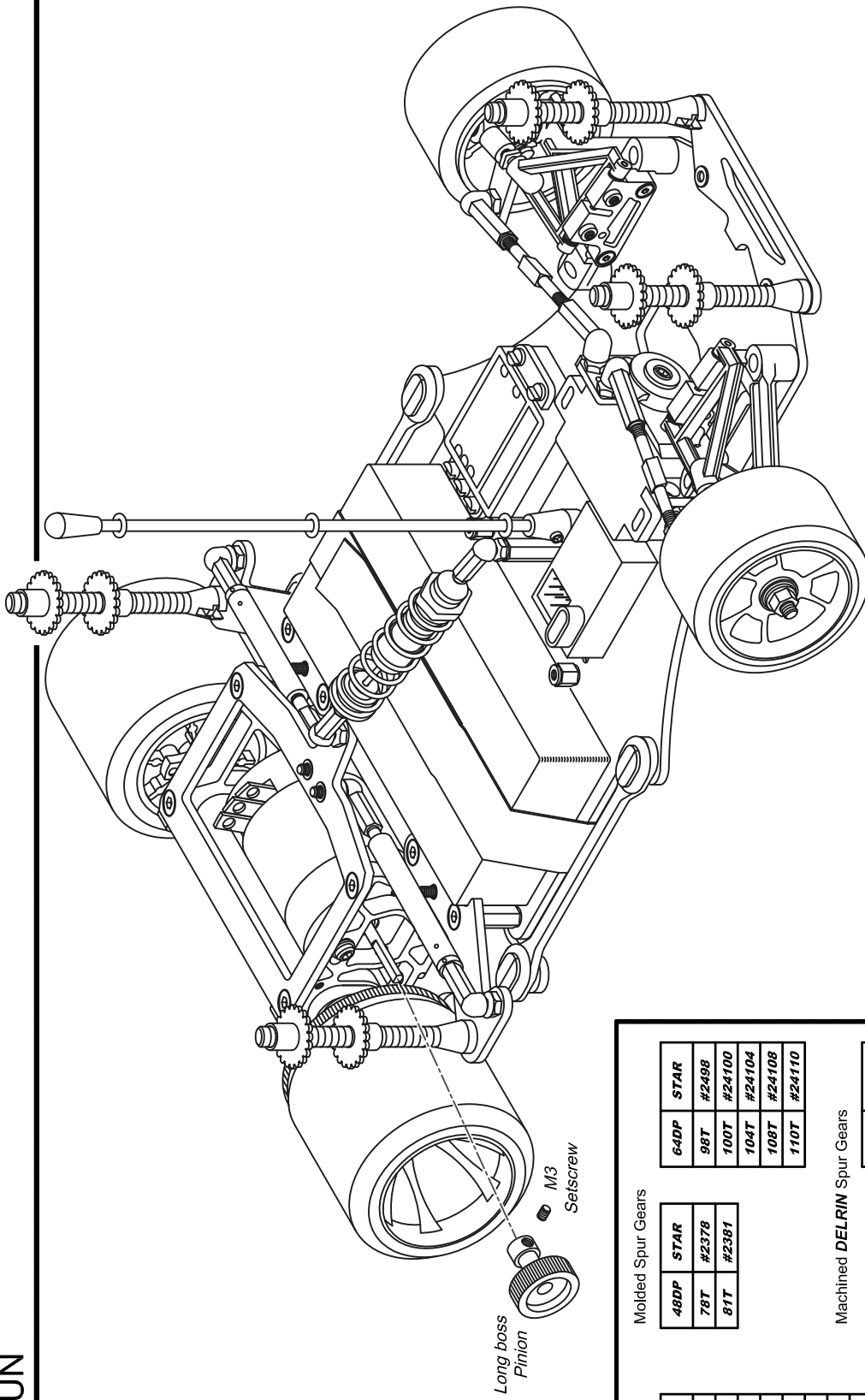
2x M3 Washer (1280)  
2x M3x8 BH (11812)

Electronic Speed Controller

Receiver

# ALMOST READY TO RUN

- Your standard spur gear is 98T/64Pitch. Do not overgear the motor, check the gear ratio chart on page 19 and 20.



Pinions		Molded Spur Gears		Machined DELRIN Spur Gears	
48DP	STEEL	48DP	STAR	64DP	STAR
13T	#2313	78T	#2378	98T	#2498
14T	#2314	81T	#2381	100T	#24100
15T	#2315			104T	#24104
16T	#2316			108T	#24108
17T	#2317			110T	#24110
18T	#2318				
19T	#2319				
20T	#2320				
21T	#2321				
22T	#2322				
23T	#2323				
24T	#2324				
25T	#2325				
26T	#2326				
27T	#2327				
28T	#2328				
29T	#2329				
30T	#2330				
31T	#2331				
32T	#2332				
7075	STEEL			64dp	DELRIN
#2517	#2417			78T	#24278
#2518	#2418			80T	#24280
#2519	#2419			82T	#24282
#2520	#2420			84T	#24284
#2521	#2421			86T	#24286
#2522	#2422			88T	#24288
#2523	#2423			90T	#24290
#2524	#2424			92T	#24292
#2525	#2425			94T	#24294
#2526	#2426			96T	#24296
#2527	#2427				
#2528	#2428				
#2529	#2429				
#2530	#2430				
#2531					
#2532					
#2533					
#2534					
#2535					
#2536					
#2537					
#2538					
#2539					
#2540					

NOTE: Only long boss pinions can be used!!

# TIPS TO FINAL ASSEMBLY

## Radio installation.

The Electronic speed control (ESC) and the receiver need to be mounted onto the chassis, using double sided tape (not supplied.) Mount the ESC first on the chassis plate on the left of the car. It is important that the ESC is mounted in a position which keeps the battery wires to the minimum length, to minimise electrical losses and potential interference problems. Next mount your receiver on the chassis plate on the right of the car. It is advised to keep the crystal and aerial wire as far away from the batteries as possible. Finally thread the aerial wire through the o-rings on the Anti-roll mast.

## Motor installation and gear meshing.

Bolt your chosen motor in place as shown and fit the appropriate pinion gear to the shaft of the motor. The I2SL is designed for use with long boss pinions which are available from Corally in a wide variety of sizes in 48 dp and 64 dp. Use a 1.5 mm setscrew driver and ensure that you tighten the 3 mm set screw onto the flat on the motor shaft. Refer to the gear ratio chart in this manual for advice on gear ratio selection. Once in place and the gears are fitted you need to adjust the position of the motor, in the slotted holes provided in the motor pod, to ensure that the gears mesh smoothly. A small amount of play is required between the teeth of the gears as they engage, turn the axle to ensure that they mesh consistently around the whole spur gear. Once in position tighten up the M3 screws to hold the motor firmly in place. Please note that there are two types of gears available for Corally cars. One is 48 dp which offers good efficiency and great durability, whilst for the serious racer there are 64 dp gears which have a much smaller tooth form and so offer greater efficiency at the expense of durability.

## Mounting the bodyshell and wings.

It is recommended that you use a lexan / polycarbonate bodyshell (not included) as they are lightweight and strong. See the set-up section later in this manual for advice on bodyshell selection and other aerodynamic considerations. It is advised that you mark the outside of the bodyshell with bodypost and aerial positions, before you spray paint it on the inside. The Corally body mounting posts fitted to the car are fully adjustable. The bodypost screws are fitted with sleeves which have been designed to allow the bodyshell to 'float' a little. This design helps in the event of a crash or when the bodyshell is accidentally run too low.

## Final checks.

BEFORE RUNNING YOUR CORALLY CAR, CHECK ALL SCREWS ARE TIGHTENED READY FOR RACE CONDITIONS. The cars are pre-assembled with automatic tools with a low torque setting, so that you can undo them in the future.



# MAINTENANCE AND SETUP TIPS.

## Tweak (left to right balance of the car).

One of the most important factors when racing an R/C on-road car is 'tweak'. If a car is tweaked then the car will turn differently in left and right hand bends. Purposely tweaking a car may be advantageous when oval racing, but generally it is best if the car handles exactly the same in both left and right hand turns.

A car becomes tweaked when the grip or weight is not balanced between left and right hand wheels. This may occur in several ways.

- The chassis assembly could be twisted, this is no longer common in modern cars, but should be checked after major crashes.
- The tires on each side of the car could be different sizes. The outside tire generally wears more quickly than the inside tire. To prevent problems swap the tires from left to right hand sides after every couple of races. Or use a tire truer if available.
- The suspension or ride height may not be set the same on each side of the car. Check springs, tweak adjuster settings and ride height settings.
- Steering movement may be different on left and right sides.
- Tires may be giving different grip levels. Check and replace any that seem to have different firmness on the left or right.
- When using tire additive it is possible to tweak the car by accidentally applying different amounts of additive to each tire – be careful!
- Finally its possible for the car to feel tweaked if the suspension does not move freely. Check that the power wires to the motor do not restrict the rear suspension movement and check that all ball joints move freely.

## Ride height adjustment.

The ride height should be kept to a minimum, this will keep the centre of gravity of the car as low as possible and so maximise cornering speeds. The ride height should ideally be between 3 – 5 mm (1/8" - 3/16"), but on bumpy tracks or where regulations dictate otherwise run the car a little higher. Check regularly to compensate for tire wear which can be rapid on some tracks.

### **Adjusting the front ride height.**

A-arm spacers can be mounted under A-arms of the front suspension. Placing the front A-arms block lowers the chassis (less ride height) and conversely putting them above raises the chassis, giving more ride height.

### **Adjusting the rear ride height.**

Three molded different pairs of rear axle bearing holders have been included in the kit, they are all off-set to give 6 different rear axle height settings. Optional Available are six pairs of rear axle Hard Anodised Aluminium bearing holders. With these settings it is possible to fine tune the ride height with different kind of tire sizes.

Remove the rear axle and fit the appropriate pair of bearing holders to each end of the rear axle tube, complete with ball bearings and put the rear axle back into place. Do not forget to re-mesh your pinion and spur gear. Always use the same height setting on both sides of the car otherwise the rear axle bearings will lock up.

## Rear tube damper servicing and adjustment.

The rear tube dampers are a very important part of the car. These dampers control the rear suspension movement.

Periodically check that the movement of these dampers is even and smooth in all directions. To change the damper action (stiffness) the damper syrup has to be replaced by another type. Corally offers 3 different grades as following:

#80000 – Damper Syrup, Soft

#80001 – Damper Syrup, Hard

#80002 – Damper Syrup, X-Hard

### **Rear damper setup.**

The rear damper setup controls the speed at which the rear suspension moves over bumps and through turns.

- If the car is poor over bumps then increasing the rear dampening effect may help.
- Increasing the rear dampening effect will also increase steering a little, remember this when making this adjustment for other reasons.
- If the inside front wheel goes light or even lifts during cornering then the damper is too thin.
- If the car is reluctant to change direction quickly enough in chicanes then reducing the rear damper effect may help.

General rule - if the car understeers whilst exiting corners then the rear damper is set too thin. If the car oversteers exiting corners then the damper is too thick.

## **Corally US differential adjustment and maintenance.**

To test the differential hold both rear wheels then try to turn the spur gear with your right thumb. If the gear turns without extreme force then tighten the diff nut in the centre of the right wheel a small amount. Repeat this process until the gear cannot be easily rotated when both wheels are being held.

### **Servicing the differential.**

Unscrew the diff nut and carefully remove each component, making careful note of the order in which they are fitted (refer to the sectional drawings if necessary). Check the bearings in the centre of the spur gear and the drive plate, clean if necessary. Clean the 1/8" balls, the diff washers, the spur gear, and thrust bearing. Worn diff balls are often the cause of poor differential action, so if they are old or if the diff has been slipping a great deal, then try a new set. If you suspect that the diff washers are worn then firstly try building the diff with the washers turned over so that the balls run on the other face of the washers. If you have already done this once or if the diff still feels rough then they will need to be replaced.

### **Ball pivot servicing.**

The I2SL utilises simple, but highly effective ball pivots on the Side Links and Base Pivot. It is important that the movement of these pivots is free and smooth. To service the ball pivots simply remove the large rubber O-ring and the Side Links or Base Pivot Plate can be lift away. The plastic socket can then be removed in two pieces. Please note that at the Corally factory these ball pivots are matched in sets to ensure that smooth, play free movement is maintained. Do not mix the ball and socket sets.

Check the system for play or binding, if the pivot system is worn or damaged then replace. There are also plastic pivot clips available as an alternative for the O-rings. It is not usual for play to be evident.

### **Basic chassis set-up.**

Most chassis tuning is to be done to give a good balance between front and rear traction. Too much front end traction will cause the car to turn too fiercely or even spin, this is referred to as 'oversteer'. Too much rear end traction will cause the car to turn far less than the front wheels are actually asking it to do. The car will 'push' or 'understeer' wide in the turns. The car will also scrub off speed due to the extra lock on the turned front wheels. It is critical that you tune your car to give a good balance between front and rear grip. The ideal situation is for the car to negotiate the turns without under or oversteering. The minimum amount of steering lock should be used as this will ensure that the car carries its speed through the turns.

Corally cars are designed to give maximum traction, with neutral and stable handling. This is a good starting point on most tracks, but not all tracks or conditions are the same.

### **Choosing the right tires**

Choose the best available highest bite tire for the rear of the car and then balance the car with the front tires. If the car pushes or understeers then fit front tires with more grip (softer). If the car oversteers or hooks then fit front tires with less grip (harder).

### **Choosing the right tire diameter**

When a tire is new and has a large diameter it will provide more grip than the same tire when it has worn down and has a small diameter.

Remember the following:

- Larger tires have more rolling resistance than smaller tires.
- Smaller tires are not so good over bumps as larger tires.
- When more steering is required use smaller rear tires or larger front tires.
- When less steering is required use larger rear tires or smaller front tires.

### **Tire additive**

Once the correct tires have been selected, you have experience of the best ways to treat them and what the different diameter achieve, you can fine tune the car by adjusting the amount of additive used on the front tires. Always apply the additive across the full width of the rear tires and on the inside of the front tires. Ensure that you treat each front tire exactly the same amount.

The more steering you need, the more additive you use on your front tires.

\* Repeated use of the same set of tires with additive can make them very soft. These tires can easily be damaged, they wear more quickly and have higher rolling resistance. The best solution is to have several sets of the same compound of tire. You can then rotate these sets of tires to prevent premature softening and they will give longer overall life.

### **Gear ratio charts**

As it is often necessary to change tires and tire sizes to get the car dialled into the track, it is therefore important that you know exactly what effect these tire size changes will have on the gear ratio. The following gear ratio charts equate motor gear ratios into linear distance travelled along the track per revolution of the motor and by doing so take into consideration the tire size used.

#### **How to use these charts.**

Measure your rear tires, find the chart for the tire size, line up the appropriate pinion and spur gears used and the chart will then show you the mm/rev travelled.

- The higher the number the further the car will travel per motor revolution, meaning it's geared higher than a lower figure.
- Smaller pinions mean lower mm/rev settings and larger pinions mean higher settings.
- Smaller spur gears mean higher mm/rev settings and larger spur gears mean lower settings.
- Higher settings mean higher top speed (using more battery energy).
- Lower settings mean less top speed but more acceleration (using less battery energy).
- A too high gear ratio setting might damage your motor and cause excessive brush and commutator wear.

The gear ratio chart can be found in the following pages 19 and 20.



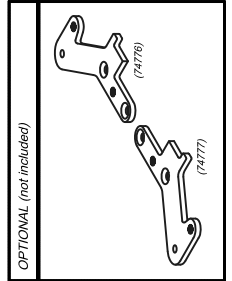
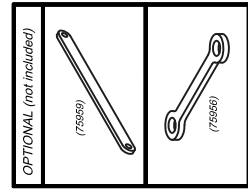
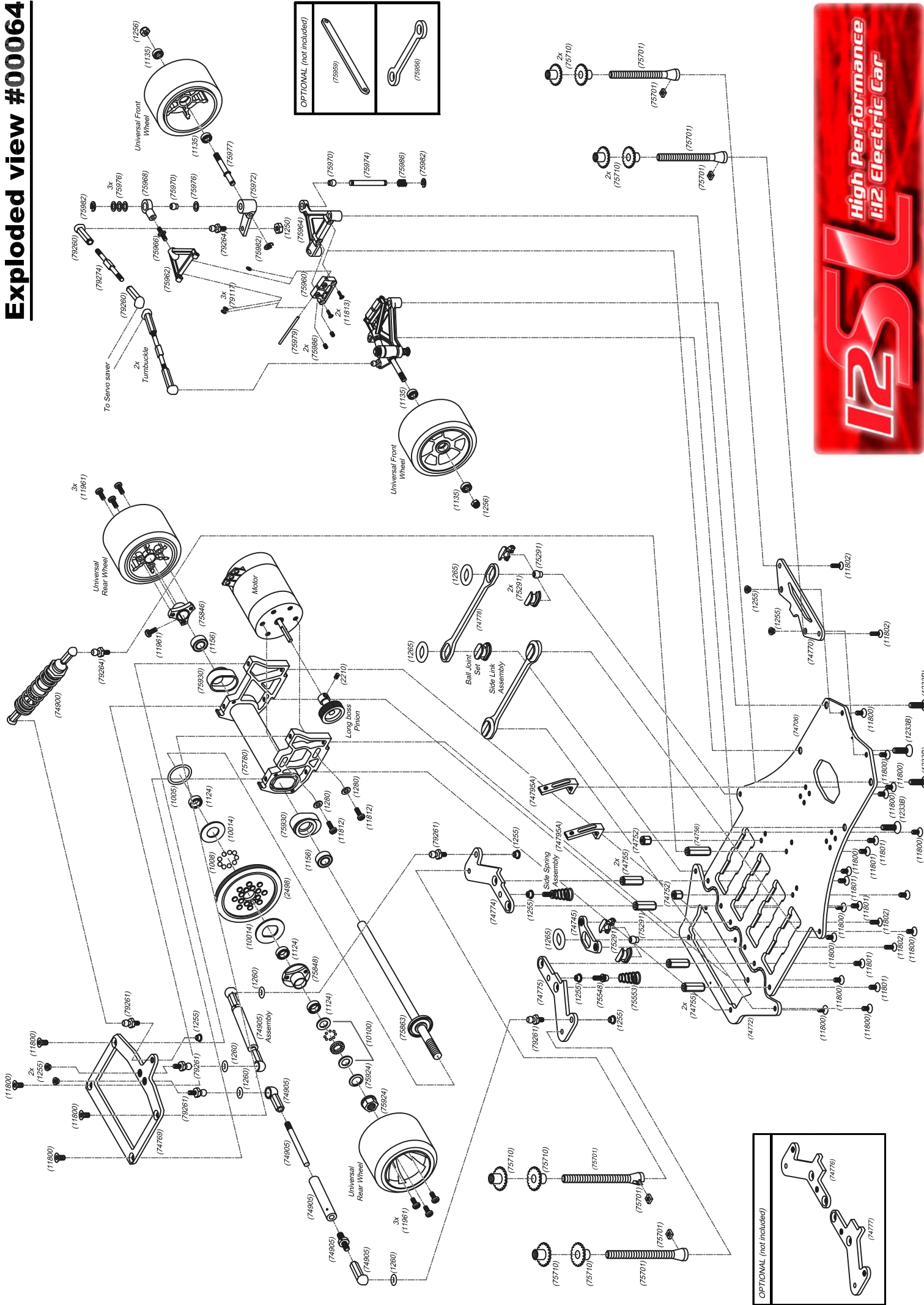
# TIRE CHART 2-2010



THIS CHART GIVES AN IMPRESSION OF THE PERFORMANCE AND CHARACTERISTICS OF THE MENTIONED TIRES UNDER AVERAGE CONDITIONS. RESULTS MAY VARY DEPENDING ON VARIABLES SUCH AS TRACK SURFACE AND TEMPERATURE. ALL PRODUCT SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

TIRES DONUTS ONLY	MOUNTED TIRES 38mm US WHEELS	MOUNTED TIRES 36mm US WHEELS	MOUNTED TIRES CORALLY WHEELS	TIRE COMPOUND	HARDNESS	GRIP		LIFE
					SHORE HARDNESS	NO ADDITIVE	WITH ADDITIVE	WEAR / BREAKAGE
				<b>1/12TH WHEELS</b>				
-	75813	-	75801	1/12 Front Wheels - without tires (1 pair)	-	-	-	-
-	75814	75815	75811	1/12 Rear Wheels - without tires (1 pair)	-	-	-	-
				<b>1/12TH REAR TIRES</b>				
1400	14600	14650	-	1/12 Rear Tires - YELLOW (1 pair)	26°	☆☆	☆☆☆☆	☆
1402	-	-	14502	1/12 Rear Tires - GREEN (1 pair)	28°	☆	☆☆☆	☆☆
1404	14604	14654	14504	1/12 Rear Tires - MAGENTA (1 pair)	32°	☆☆☆	☆☆☆	☆☆☆☆
1405	14605	14655	14505	1/12 Rear Tires - ORANGE (1 pair)	28°	☆☆☆☆	☆☆☆☆☆	☆☆☆☆☆
1406	14606	14656	14506	1/12 Rear Tires - GOLD (1 pair)	28°	☆☆	☆☆☆☆☆	☆
1407	14607	14657	14507	1/12 Rear Tires - SILVER (1 pair)	30°	☆	☆☆☆☆	☆☆
1408	14608	14658	14508	1/12 Rear Tires - PINK (1 pair)	30°	☆☆☆☆	☆☆☆☆	☆☆☆
1409	14609	14659	14509	1/12 Rear Tires - DOUBLE PINK (1 pair)	34°	☆☆	☆☆	☆☆☆☆☆
				<b>1/12TH FRONT TIRES</b>				
1412	-	-	-	1/12 Front Tires - GREEN (1 pair)	32°	☆	☆☆☆☆	☆☆
1413	14613	-	14513	1/12 Front Tires - LILAC (1 pair)	38°	☆☆	☆☆☆	☆☆☆☆☆
1414	14614	-	14514	1/12 Front Tires - MAGENTA (1 pair)	32°	☆☆☆☆	☆☆☆☆☆	☆☆☆
1416	-	-	-	1/12 Front Tires - GOLD (1 pair)	36°	☆☆☆	☆☆☆☆	☆☆☆☆
1417	14617	-	14517	1/12 Front Tires - SILVER / PURPLE (1 pair)	38°	☆☆	☆☆☆☆	☆☆☆☆☆
1418	-	-	14518	1/12 Front Tires - GOLDSTAR (1 pair)	30°	☆☆	☆☆☆☆☆	☆
1419	14619	-	14519	1/12 Front Tires - SILVERSTAR / DOUBLE PINK (1 pair)	34°	☆☆☆	☆☆☆☆	☆☆☆

# Exploded view #00064



**12SL**  
High Performance  
H2 Electric Car

SETUP SHEET



#00064:



DRIVER	
DATE	
EVENT	
TRACK	

FRONT SETUP

SPRINGS	.020	.022	.024
SYRUP	(Soft)	(Med.)	(Hard)
UPPER ARM MOUNT	(0°)	(5°)	(10°)
CASTER	CAMBER		
UPSTOP	DOWNSTOP		
FRONT RIDEHEIGHT	(3,0 mm)	(4,0 mm)	
	(3,5 mm)	(4,5 mm)	

FRONT STEERING			
SERVO POSITION	(FRONT)		(REAR)
TRACK RODS	(CENTRE)		(2-Pivot)
FRONT WIDTH	(166 mm)		(170 mm)
	(168 mm)		(172 mm)

REAR SETUP

BATTERY PLACE	(Standard)	(+5mm)
SIDE SPRING	(X-Soft)	(Medium)
	(Soft)	(Hard)
REAR RIDEHEIGHT	(3,0 mm)	(4,0 mm)
	(3,5 mm)	(4,5 mm)

SHOCK SPRING	(SILVER)	(GOLD)	
SHOCK OIL		(WT)	
TUBE DAMPER SYRUP	(Soft)	(Med.)	(Hard)
REAR WIDTH	(166 mm)	(170 mm)	
	(168 mm)	(172 mm)	

TIRES

FRONT TIRES		(mm)
FRONT TIRE ADDITIVE		(%)
FRONT WHEELS		

REAR TIRES		(mm)
REAR TIRE ADDITIVE		(%)
REAR WHEELS		

MOTOR

MOTOR	(brand)	(turns)
TIMING		(mm)
BRUSH	SPRING	

GEAR RATIO		(mm/rv)
PINION / SPUR	(teeth)	(teeth)
PITCH	(48 dp)	(64 dp)

BAT

BATTERY	
RECEIVER BATTERY	

CHARGER	
CHARGING METHOD	

OTHER

ESC	
ESC PROGRAM	
CHASSIS	

RADIO	
SERVO	
BODYSHELL	

RACE DATA & NOTES

RACE RESULT	(Qual.)	(Final)	
POSITION IN MAINS	(F1)	(F2)	(F3)
FASTEST QUALIFYER	(Laps)	(Time)	
FASTEST LAP TIME		(Sec.)	

TRACK SURFACE			
COMPOSITION			
TRACTION	(Low)	(Med.)	(High)
TEMPERATURE			

NOTES

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