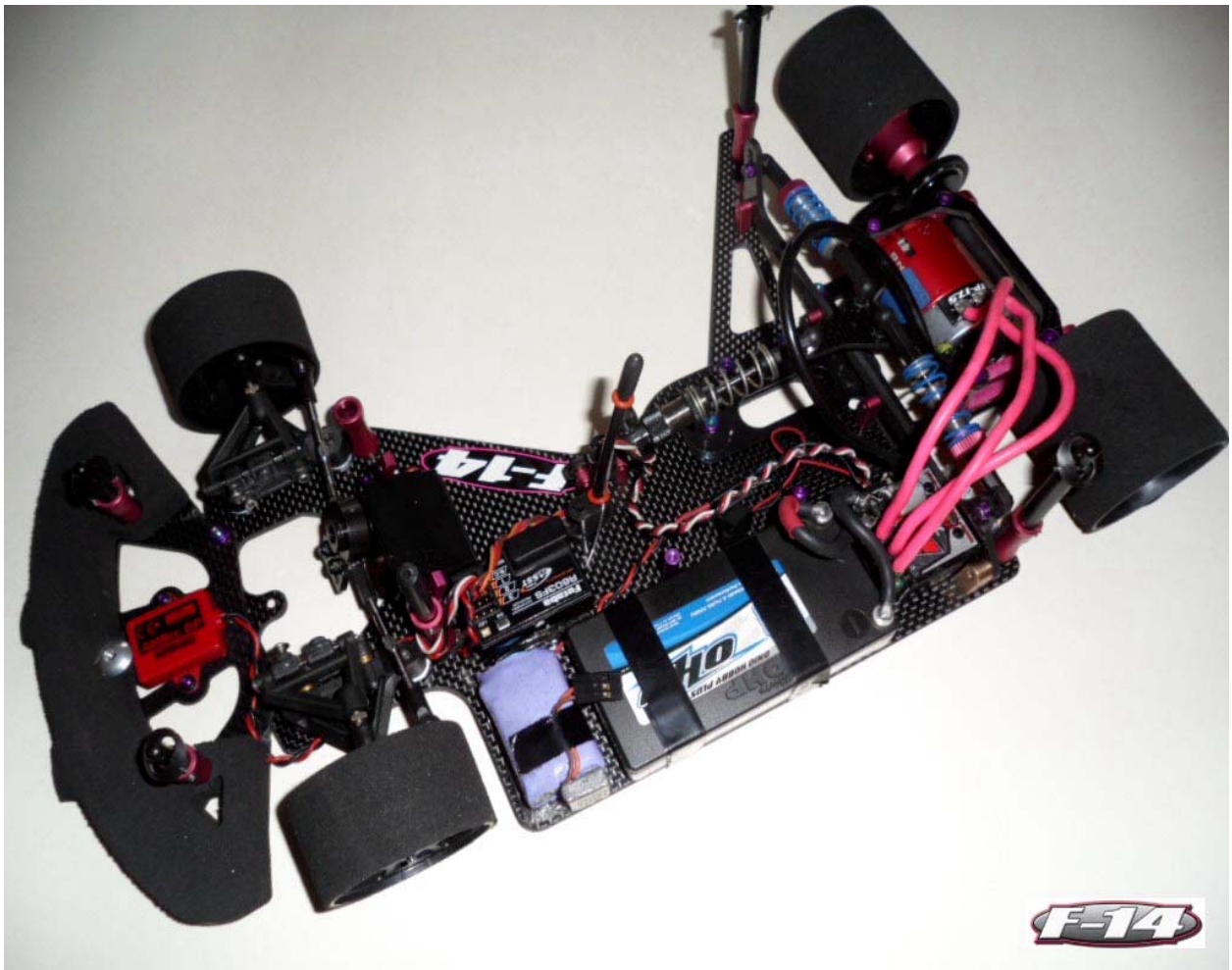
F-14

Instruction & Setup Manual



WWW.F14CHASSIS.COM

Version 1.1 11/01/11

THANK YOU!

Thanks for choosing the F-14! Let's build a winner.

IN THE KIT:

One chassis, nerf bar, upper pod plate, and 1/4 degree lower plate. Optionally, there's a 0 degree lower plate- that's strictly driver preference.

BEFORE YOU BEGIN:

Make sure ALL parts move freely. You may need to grind a little on the rear tab for the rear pivot socket- between lower pod plate and rear chassis. There's a tight gap there, and tolerance can allow enough to where it hits. Little sanding or dremeling does the trick.

On the front end, be sure that the front end kingpin moves FREELY with NO binds. Make sure the pivot balls aren't tight. Polish the kingpins, and possibly sand them with 2000 grit sandpaper to remove any high spots.

Build the shocks with NO air in them... Take the time, get 'em right.

Build the diff right- nice and smooth, and make sure the bearings are nice and fresh, too!

HEY GUYS:

We do our best to make sure that the manual provided here is the best it can be. But- we also assume YOU know how to build an oval car from the ground-up. (especially since this is a conversion kit). We'll do our best to help, but we do expect that you know the basics. ALSO, please don't forget- there's more than one way to make a racecar run. What works for us may not work quite as well for you. We feel you'll be able to drop an F-14 down and be close. But the final tweaks depend on you... :)

RECOMMENDED PARTS:

(note, attached will be a FULL recommended build sheet for the car)

Front end: "Old sytle" Associated front end. Recommend using the HD/IRS lowered arms.

T-Plate: Recommend using a fiberglass .063 plate, or the Muddslide adjustable plate. (be sure to put the adjusting screws DOWN so you can adjust them without taking the body off.

Center shock: Existing HotBodies shock will work fine. Can use the IRS Top Gun, or the HD Tamiya shock. If using the IRS shock, you either must use a Sprint Car spring, or I suggest using a .56 associated shaft- this will allow you to use standard center springs without having too much preload on the spring.

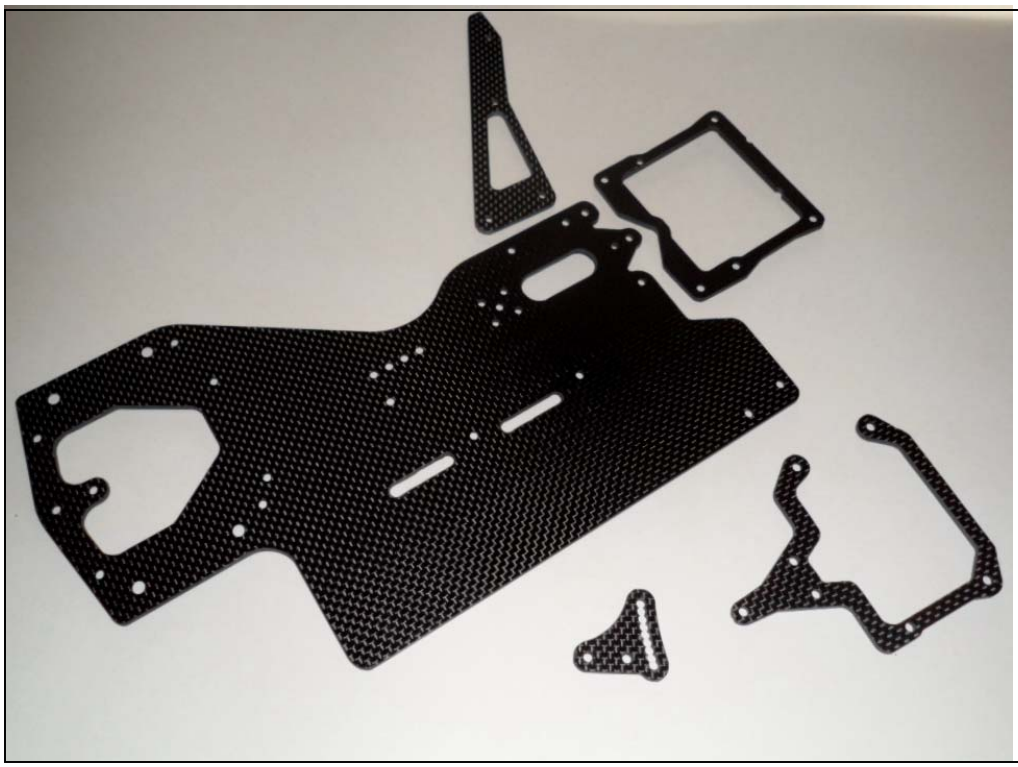
Side shocks: Associated or HotBodies work great!

Rear axle: See the notes in the instructions. If it's a standard long hub, with BSR tires, you won't get much narrower than 4.08" on the RR.

Body: For 17.5 Open, use a Protoform C-HD- don't put a lot of rake in the body. For 13.5 Open, use a Protoform T-HD with a good rear wing (Lefthander, Muddslide ProTan, etc...)

Body Mounts: Suggest using the GFRP Mounts, but use the body clip ones. Keeps the body from binding up the chassis.

Before you begin...



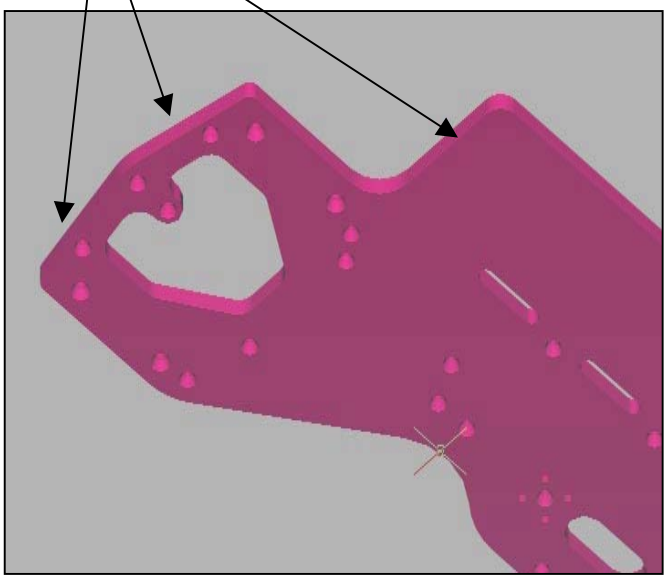
GOT EVERYTHING?

The kit comes with a chassis plate, a nerf wing, upper & lower pod plates, and a center shock mount.

CHASSIS PREP:

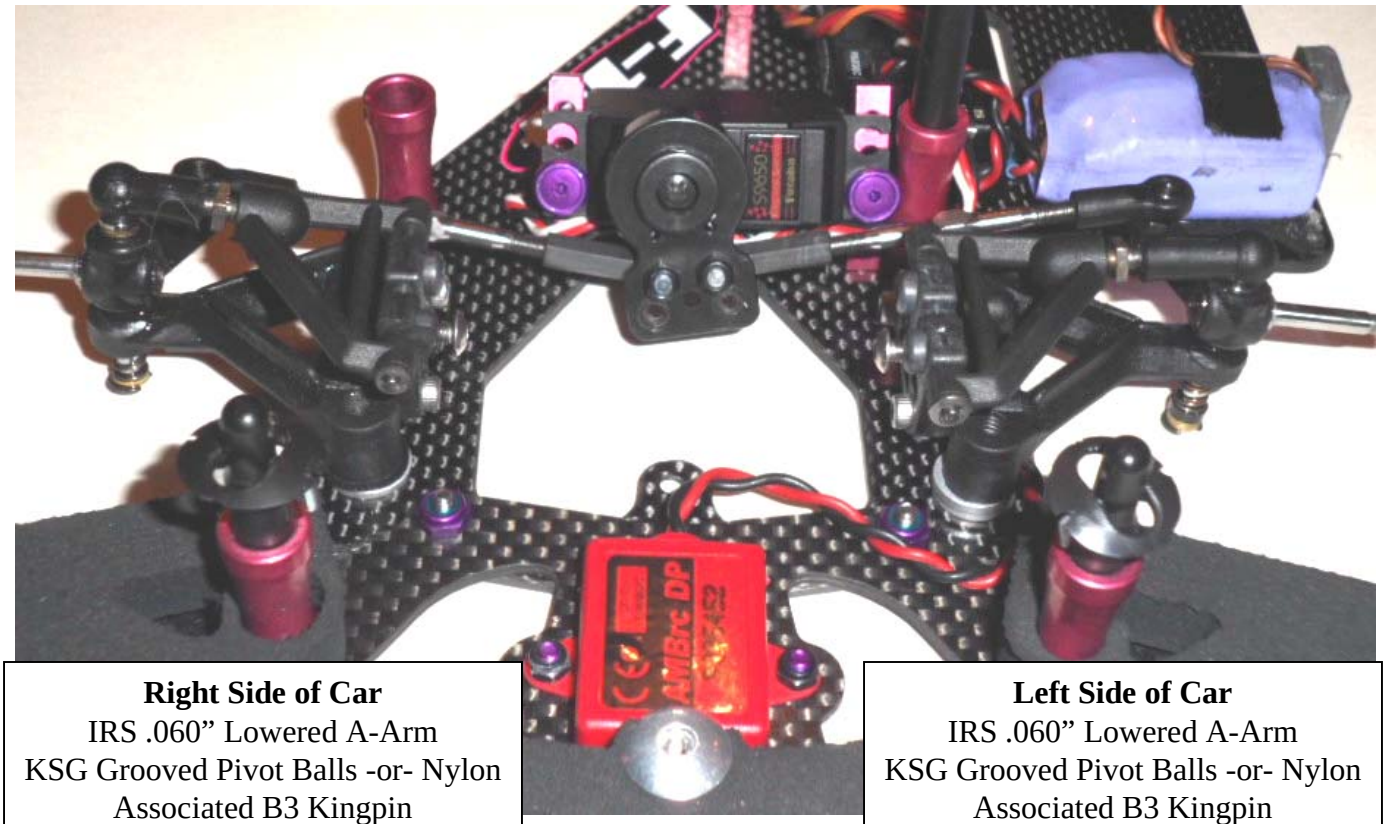
Take the time and do it right. Using up to 800 grit sandpaper, sand all the outer edges smooth. Then, using CA glue, carefully apply to the edges to seal the chassis. This glue keeps the chassis from delaminating from accidents. Try not to get the glue on the top or bottom surfaces. If you do, file it down. To make it look really clean, use up to 1500 grit to wetsand the glued edges, and then, buff it out. Here's a tip- Mother's MAG WHEEL Polish works AWESOME at putting a perfect shine on Carbon Fiber parts & glued edges!

Recommend filing chassis at an angle (chamfer) at areas pointed to. This will help keep car from digging into the "ice".



F-14

Front End Suggestions...



Right Side of Car
IRS .060” Lowered A-Arm
KSG Grooved Pivot Balls -or- Nylon
Associated B3 Kingpin
Associated 10th Scale .018” Spring
Associated Full Height Steering Arm
1/8” Axles of Choice
Associated Upper Arm
0 degree caster block of choice

Left Side of Car
IRS .060” Lowered A-Arm
KSG Grooved Pivot Balls -or- Nylon
Associated B3 Kingpin
Associated 10th Scale .018” Spring
HD 2514 Machined Steering Arm
1/8” Axles of Choice
Associated Upper Arm
0 degree caster block of choice

Other Information:

Suggest using Futaba 9650 Servo mounted on CEFX Servo Mounts. Use Rear Hole in Servo Mount. Mount servo using lower ears in servo, bottom holes in Servo Mount. Also, use Kimbrough Medium Servo Saver as shown. Use SHORT ball ends on inside, such as CEFX short ball ends, so the ball end doesn’t hit the servo case. (NOTE: You will have to grind on the servo saver a little…) You can also use the Losi JRX-S Type R rod ends as shown on the outer end of the steering links. Also note, the two countersunk holes behind the a-arms are for uprights to support the body from collapsing at speed.

Use either the stock Associated Caster Blocks, or use adjustable blocks- but start with the hole that matches the stock Associated blocks. Start with full caster in the RF, none in the LF. Shim the a-arms to the chassis to get the chassis to sit flat when the completed car is at rest on a flat surface. Lastly, we recommend starting with .140” of shim in the LF- (between e-clip and spring), and .040-.060 shim in the RF- this will be a start of setting preload. Tune with .020” shims to your liking.

The Center Section...

Center Section of Car...

CEFX .063" Fiberglass T-Plate or Lefthander SS T-Plate (shown).
HotBodies Center Shock.

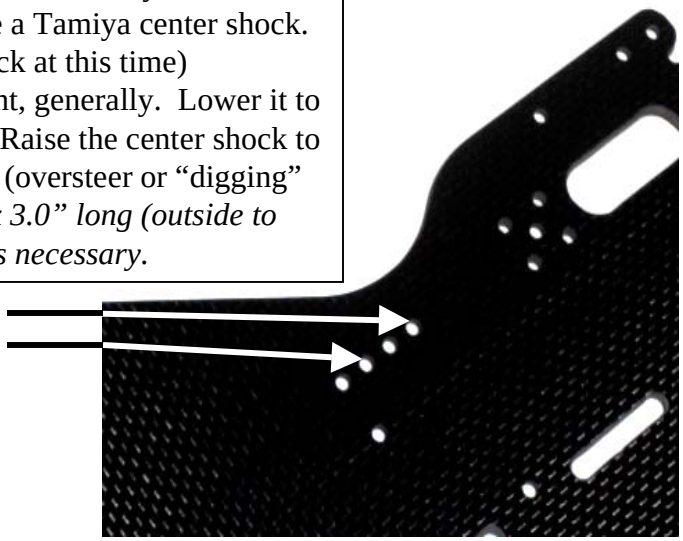
T-Bar: Best results are normally on a standard .063" t-plate. Spring steel can be used as well- it's merely preference. Use the standard pivot balls and sockets- don't use the R5 sockets- it lowers the roll center of the car. *Use .080 Spacers between t-plate and pod plate. More if using a spring steel plate (approx .020)*

Center Shock: We recommend the HotBodies shock, mainly as most are already used to it on their Lithiums. You can use a Tamiya center shock. (NOTE: We are testing the Tamiya shock at this time)

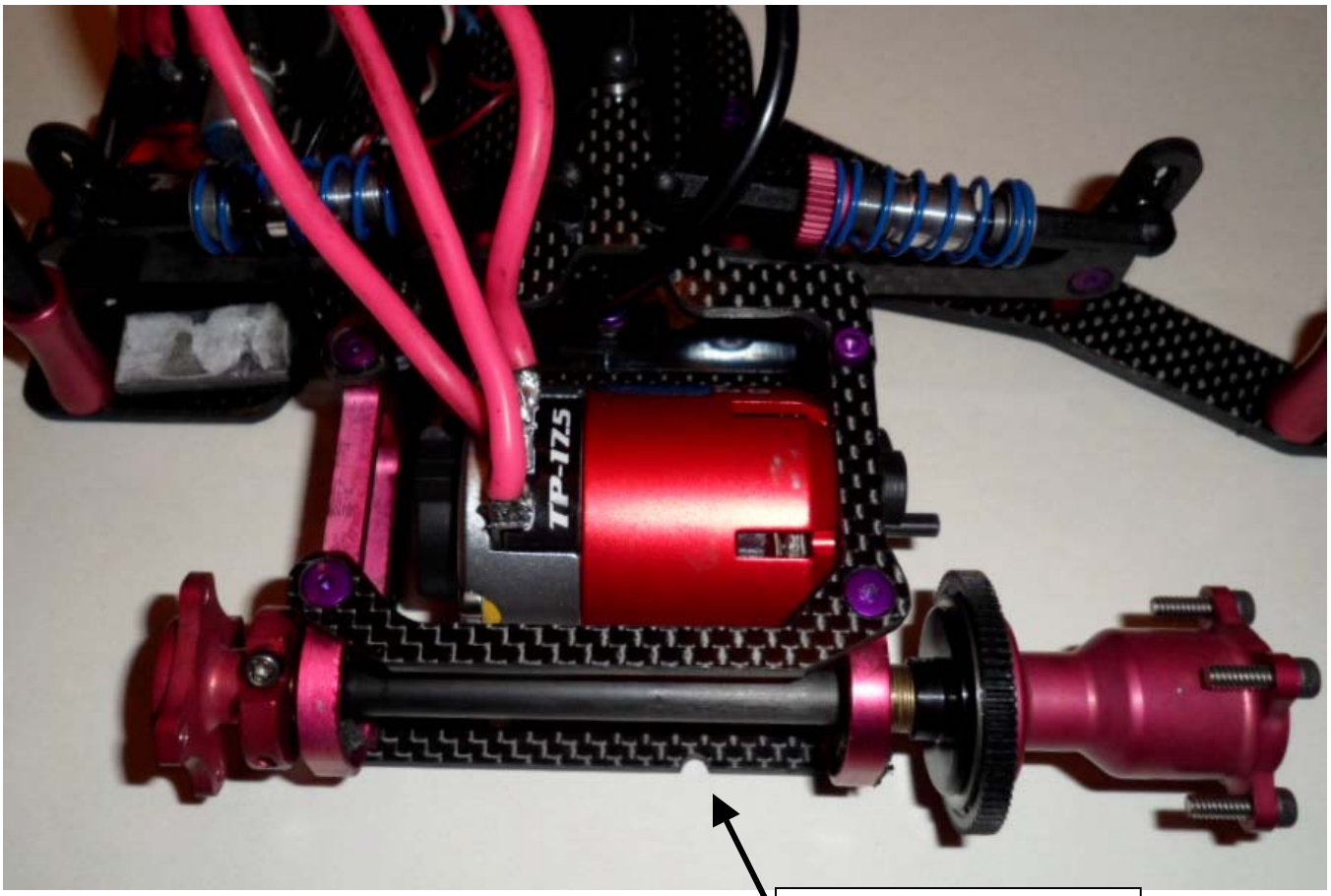
Shock Mounting: Start about 4 holes down in front, generally. Lower it to make the car more aggressive upon corner entry. Raise the center shock to reduce pressure on the front end when cornering (oversteer or "digging" conditions) *Start with the center shock approx 3.0" long (outside to outside), and increase or decrease as necessary.*

Mount Center Shock Mount
In these two holes.

(the other holes are for
future projects)



At the Rear...



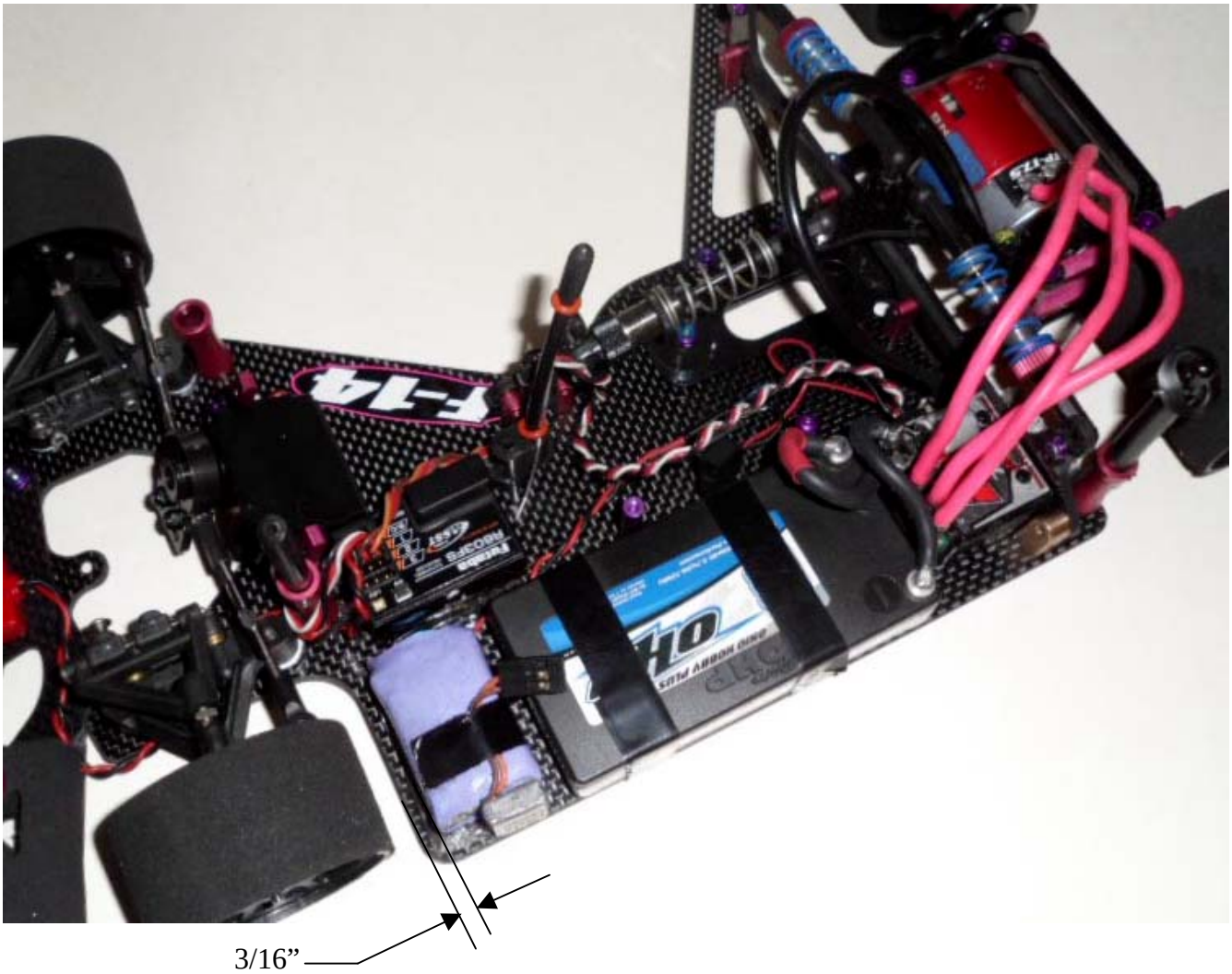
Rear End of Car...

Todd uses CEFX hubs. The RR hub is the 1.22" hub.
Travis uses ORC/Muddslide hubs. The RR hub is 1.25"
Using a LONG 1.400" RR hub with BSR tires will space the RR out 4.10"+ from center- too much! Start the LR at about 4.00" (from center measuring point to outer edge of rear rim) Start the RR at about 4.05". This will give a balanced setup. Start with #1 (or 1.0mm IRS) with the hole UP.

Mounting the Side Shocks:

You can use your preference of HotBodies side shocks, or Associated (as shown). Use CEFX Medium (or a taller IRS) ball studs on the upper plate to mount the shocks. On the shock tower, standard ball ends are fine-Start with 3 holes down to start. We often run the bottom hole.

Putting it all together...

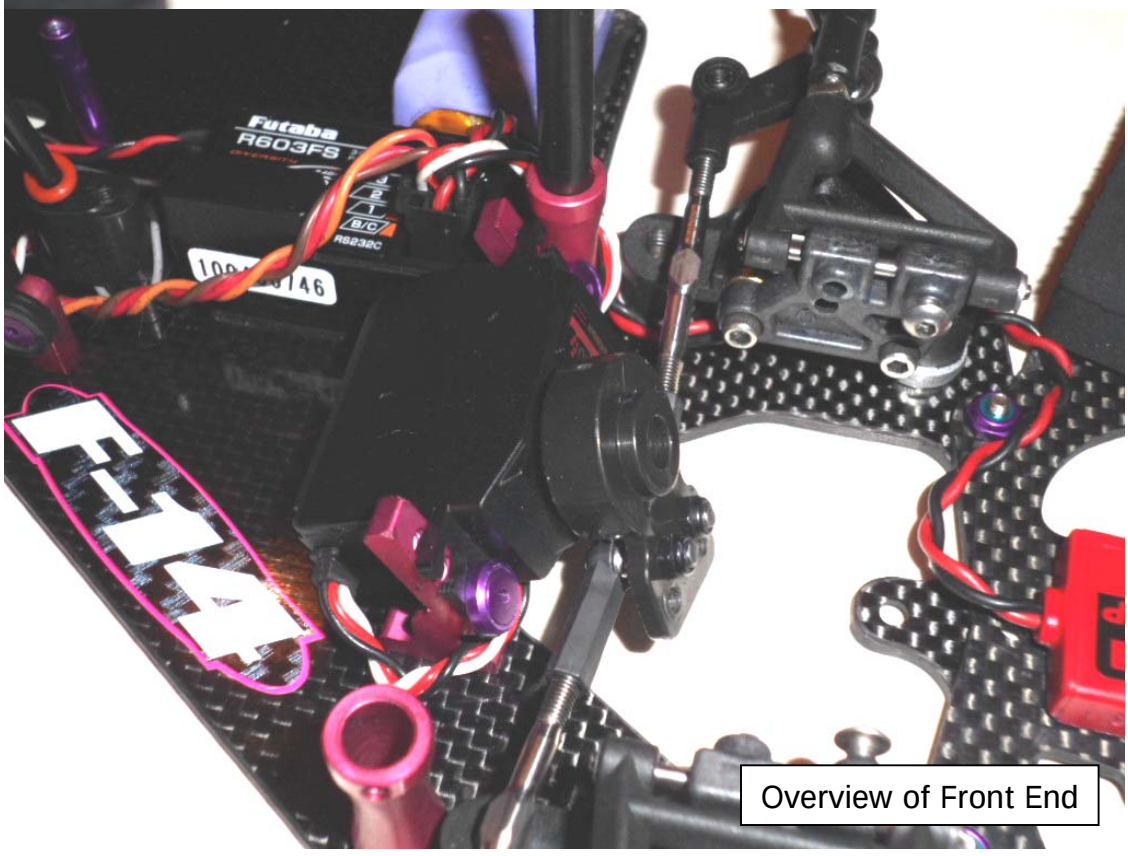


ELECTRONICS LAYOUT:

Start with the receiver pack, and any lead weight. Put the lead weight closest to the outer edge, and keep all of it 3/16” back (as shown) for tire clearance. The receiver pack and lead weight should total at max 1 1/2 oz. The speed control can be mounted just in front of the shock tower. Do NOT glue or servo tape it to the shock tower. Servo was discussed in the “Front End Suggestions” page. Be sure to keep ALL the wires neat and tidy!

Miscellaneous Pics...

Common LF Build



Overview of Front End

Tune to Win...

DISCLAIMER #1: To start, we have found much success running the basic "box stock" setup we started out with, with a few tweaks here and there. Does this mean it'll always work? No. Does this mean this is what you HAVE to do? No. We do suggest trying our way first, and going from there.

DISCLAIMER #2: EVERYONE has a personal preference of items. No different than Jeff Gordon & Jimmie Johnson like different setups, RC cars are no different. Travis & Todd like different things. So, if you see a setup sheet where Travis runs 0 rearsteer, and Todd runs the stock 1/4 degree- don't be alarmed. Many of these things are personal preference based on what we want and need our cars to do. Feel free to experiment- but do ONE CHANGE at a time... and record what it does.

DISCLAIMER #3: I will admit- a good part of this has been copied from the old Custom Works Aggressor manual. Simply put, they did a great job explaining things out. For years, I've suggested racers print that section and keep in their toolbox.

SIMPLE THINGS WE'VE LEARNED...

On race day, there's areas we will focus on, and areas we will leave well enough alone. We tune a lot with the front end shims (position 3 on the setup sheet). On the left front, less shim allows the car to dig harder out of the corner (more steering center-off). Be careful that the car doesn't overrotate, and bog the car down. On the right front, it can make the car enter more aggressively. We don't fool a lot with the caster and camber- although camber on the front end can make a car more or less aggressive in a hurry. (By the way- we ALWAYS camber the tires on the tire truer. This allows a full contact at all times, versus the tire wearing in over time. Basically, no break-in time on the fronts) The center shock we play with a bit. Spring is critical in the slower classes, such as truck. Too stiff of a spring will make the car overrotate (loose) in, and too aggressive center-off. Slower the class, softer the spring. Since this is a CEFX conversion, we have found that adding preload on this car can actually add push to the car, where on a Lithium more preload always equalled more steering. We don't fool with side shocks much, but the trend seems that the trucks like a stiffer RR spring, and the 17.5's like even springs. 13.5 Spec & Open actually seem to like a harder LR spring. We also don't fool with rear end spacing, but it can make a big difference. Spacing out the RR will make the car free in, and spacing in the LR makes the car free off the corners. Opposite movement tightens the car up. As far as LR weight goes, (tweak) we don't mess with that much, either. Do NOT go under 300g of LR weight. If you have to, you probably have something jacked somewhere else forcing you to run the car overly free- and you will lose forward drive. "Plant the rear, and make 'er steer" Better words couldn't be said in 1C racing. Lastly, tires make a BIG difference. Rarely is there as much change as you think in 1C racing. On the 17.5 cars, a (in BSR) White LF, Pearl LR are pretty much standards, with either a Black or Grey/Silver RF, and either a PW/White or White RR. In 13.5 Open and up, "X" compounds on the left, a Team Purple RF, and anything from an "X" to a Pink/XX Pink on the RR, depending on feel. We also learned more about the radios... A GOOD radio, something with D/R and Steering Speed are REAL bonuses. Guys used to use the exponential to desensitize the radio for little corrections. Problem is that the wheels will eventually make a FAST swing to complete it's travel. When that happens, it can upset the car, overpowering the front tires. Better way is to slow the servo speed down. You'll notice the car running smoother lines, and easier to hit your marks. Then, you can also increase or decrease it to fine-tune hitting your marks...

THE BASICS...

We can give you all the info in the world- but a lot of it comes to driver ability and car setup, as well as the ability of the driver to be able to diagnose what the car is doing, and doing wrong. It also comes to the mechanical condition of the car. A car with a binding front end isn't gonna run, period. If the car has chunked tires, there's air in the center shock, and a front end that sticks in place, no setup in the world will make that car win a race. You HAVE to clean and maintain these cars.