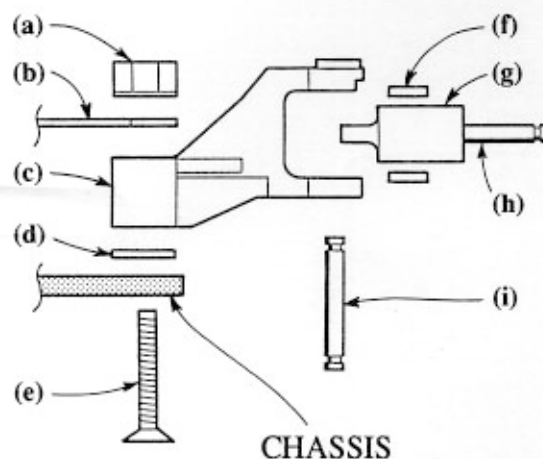


#3201

RC12E FRONT END KIT

Insert a stub axle (h) into each steering block (g) from the square hole side. Put a c-clip on the square hole end of the axle. Drive the axle through carefully until the c-clip stops the axle. Assemble the rest of the front end as shown, placing the 2 degree shim (d) (if used) with the thick end pointing forward.

RIGHT SUSPENSION ARM FRONT VIEW



REPLACEMENT PARTS

Letter	Description	Part No.
(a)	Nylon locknuts, 8-32, 6	4185
(b)	Cross brace, 1	4120
(c)	Suspension arm, screws included, pr	4115
(d)	Shim set, 0 and 2 degree	4127
(e)	8-32 x 1/2" flathead alum screws, 16	3324
(e)	8-32 x 7/8" flathead alum. screws, 6	4181
(f)	Spacer, 4	3207
(g)	Steering block, pr.	4112
(h)	Stub axle, pr.	3213
(i)	Kingpin, pr.	3213
	"E"-clips	3214

#3430 1/12 DIFFERENTIAL INSTRUCTIONS

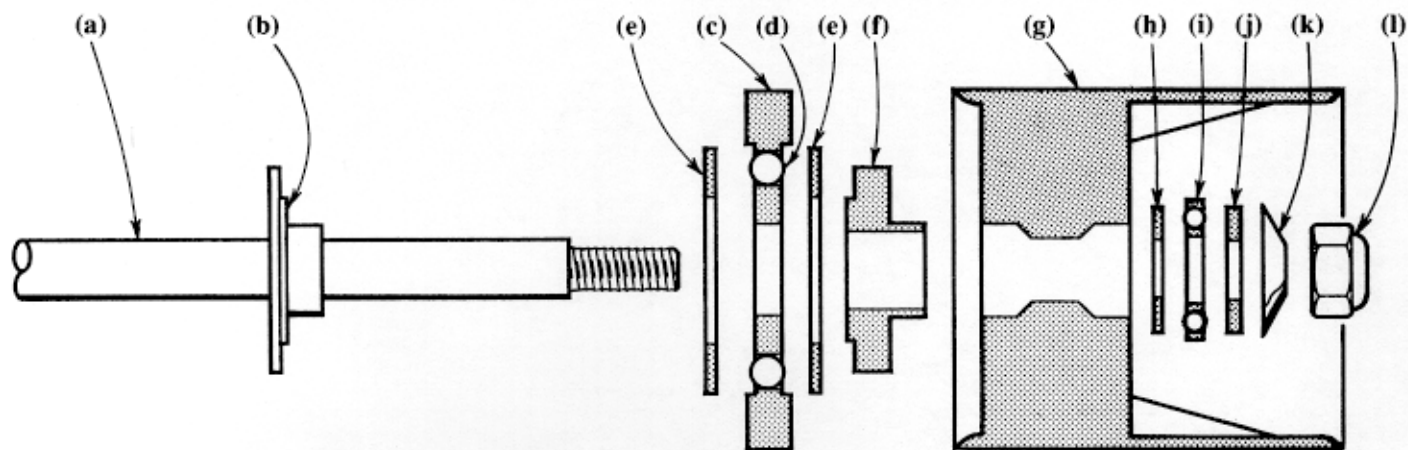


fig. 1

STEP 1 Place the gear (c) on a flat surface and take one ball (d) at a time and snap them into the square holes in the gear. (To remove the balls, simply push them with a small screwdriver or similar thin tool and they will pop out for use in another gear.)

STEP 2 To make the differential easier to assemble, we suggest you temporarily install a wheel on the axle (a) on the opposite side from the differential. Holding the axle in a vertical position, threaded end up, slide the parts on in the order shown in fig. 1. The unthreaded portion of the axle should extend into—but not through—the last thrust washer (j) (the thickest washer). If the axle extends past the last thrust washer, add the thin shim washers (included with kit) between the wheel (g) and the first washer (h) to shim the thrust bearing assembly (h, i, j, k, l) until the axle is flush or slightly inside the last thrust washer (j).

STEP 3 Tighten the 10-32 nut (l) until the differential starts to feel stiff when you turn the wheels in opposite directions. Now loosen the nut 1/8 turn; then while holding both tires, use your thumb and attempt to slip the gear (c) by pushing on it. Keep loosening and pushing until you can slip the gear, then tighten the nut 1/8 turn. The differential should work freely now and by holding the gear and rotating one wheel the other wheel will turn freely in the other direction.

STEP 4 Your differential is now set and ready to install in your car. Under most conditions this current setting will be right. Less differential action can be achieved by tightening nut (l) 1/8 turn at a time until you reach the amount of slip you need.

When you need to change your gears or wheels, you don't need to remove the differential from your car—just replace the part you wish to change and readjust as explained in step 4.

TIP: To align the outer drive ring (e) more easily, you can add a drop of super-glue to the face of the hub (f) that the ring seats on. Hold the ring firmly against the hub until the glue sets. The glue will hold the drive ring in place while you assemble the differential.

REPLACEMENT PARTS

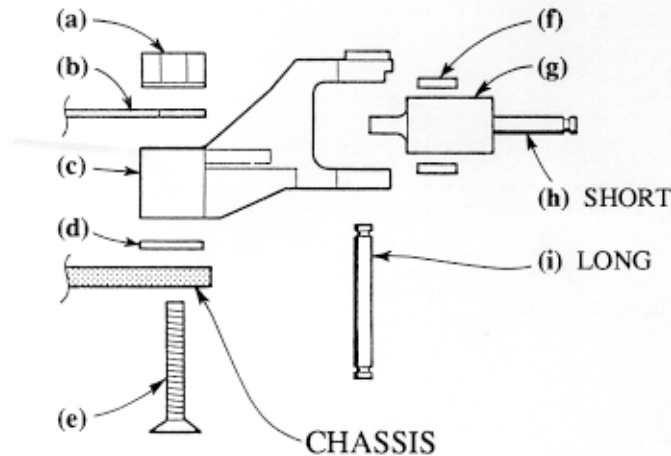
Letter	Description	Part #
(a,b)	Rear axle. Also includes shims and belleville washer (k)	3431
(c)	Spur gear, 44T, 32P	3425
(c)	Spur gear, 46T, 32P	3426
(c)	Spur gear, 48T, 32P	3427
(c)	Spur gear, 54T, 32P	6653
(d)	Ball set, pkg of 16	3432
(e,f)	Drive ring set	3433
(h,i,j)	Thrust ball bearing set	3434
(k)	Belleville washer/shim set	3435
(l)	Aluminum 10-32 locknut, pkg of 6	3436

#4110

RC12i FRONT END KIT

Insert a stub axle (h) into each steering block (g) from the square hole side. Put a c-clip on the square hole end of the axle. Drive the axle through carefully until the c-clip stops the axle. Assemble the rest of the front end as shown, placing the 2 degree shim (d) (if used) with the thick end pointing forward.

RIGHT SUSPENSION ARM FRONT VIEW



REPLACEMENT PARTS

Letter	Description	Part No.
(a)	Nylon locknuts, 8-32, 6	4185
(b)	Cross brace, 1	4120
(c)	Suspension arm, screws included, pr	4115
(d)	Shim set, 0 and 2 degree	4127
(e)	8-32 x 1/2" flathead alum screws, 16	3324
(e)	8-32 x 7/8" flathead alum. screws, 6	4181
(f)	Spacer, 4	3207
(g)	Steering block, pr.	4112
(h)	Stub axle, pr.	4122
(i)	Kingpin, pr.	3213
	"E"-clips	3214

#4111

SPRING FRONT END

STEP 1 Insert a stub axle (h) (fig. 1) into each steering block (g) from the square hole side. Put a c-clip on the square hole end of the axle. Drive the axle through carefully until the clip stops the axle.

STEP 2 Start the kingpin (i) (fig. 1) up through the bottom of the suspension arm (c), then through the steering block (g) and spring (f). Push the kingpin the rest of the way into the suspension arm.

STEP 3 Raise the spring with your fingernail or small screwdriver and install an "e"-clip (j) (fig. 2) above the steering block (g) in the top groove of the kingpin (i).

STEP 4 Raise the steering block and install a second "e"-clip in the bottom groove of the kingpin (fig. 3). Do steps 1 through 4 with the other steering block.

STEP 5 Holding the suspension arm, test for freedom of movement by pushing straight up at the far end of the stub axle. The steering block should slide easily up and down with no tendency to bind.

STEP 6 Mount the suspension arms to the chassis (fig. 1) with the 8-32 screws provided, long screws (e) through the front holes, short ones through the rear holes. Then slip the cross brace (b) on the forward screws (e), holding it down with the 8-32 nylon locknuts (a).

STEP 7 When putting on your front wheels, slide a small washer on the stub axle on either side of the wheel, locking the whole assembly in place with another "e"-clip at the end of the stub axle.

SHIMS The 0 and 2 degree shims are used as mounting pads for the suspension arms to adjust the height and caster angle of the front end. In general, high caster angles give more steering coming out of a turn, and low caster angles give more steering going in. 2 degrees is a good compromise and gives the flattest tire wear. The flat shims are normally used and result in a 2 degree caster angle, since that angle is already built into the suspension arms. The wedged (2 degree) shims can be used to get either 0 or 4 degrees caster, depending on which way they are turned. Save the spare shims—you may want to use them to tune your car to particular tracks.

SPRINGS Your kit has two sets of springs. Use the .016" silver springs on low traction tracks and the .014" black springs on high traction tracks. Try both types on your car to see how they work on your track.

LINKAGE Test the full suspension travel of each front wheel once your car has been assembled and make sure the tie rods do not hinder the wheels from moving up and down or lock to lock.

RIGHT SUSPENSION ARM FRONT VIEW

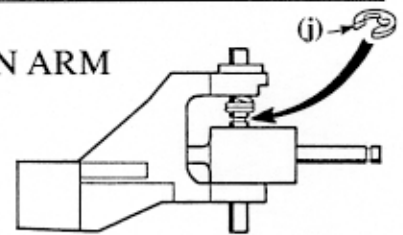


fig. 2

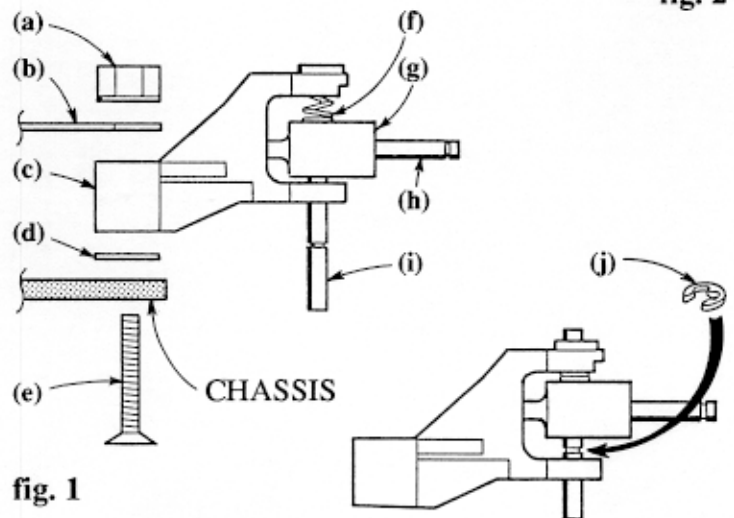


fig. 1

REPLACEMENT PARTS

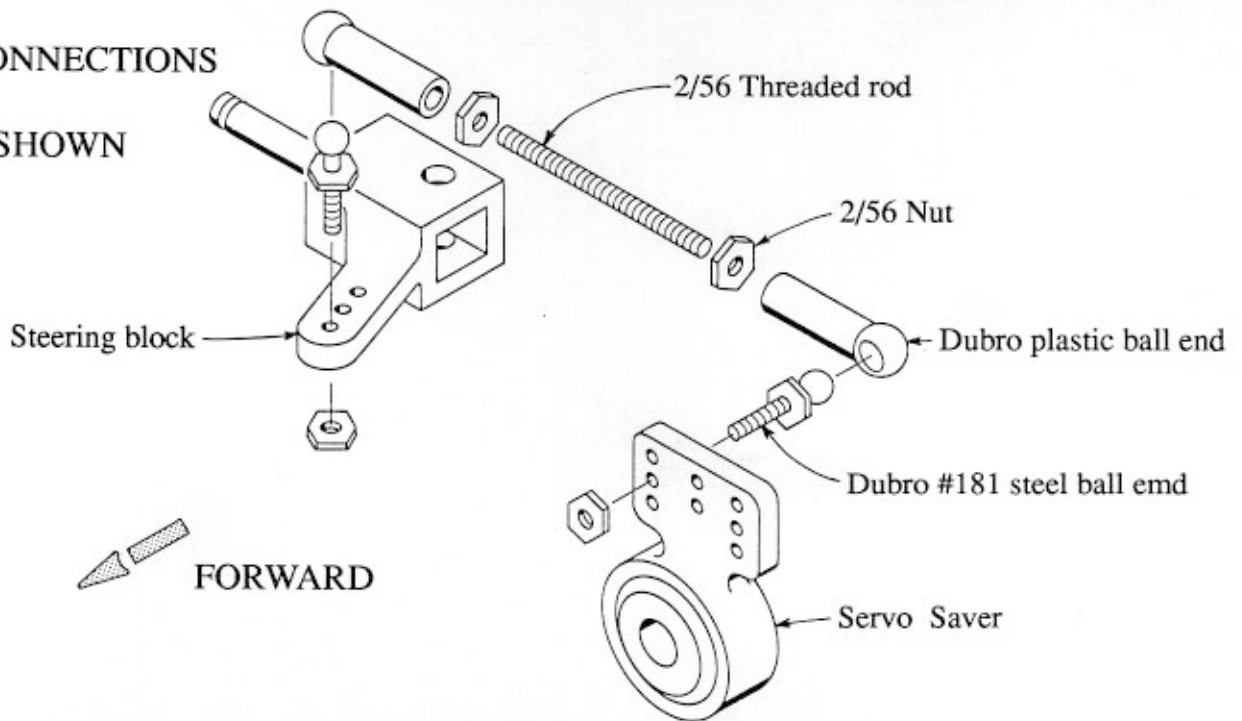
Letter	Description	Part No.
(a)	Nylon locknuts, 8-32, 6	4185
(b)	Cross brace, 1	4120
(c)	Suspension arm, screws included, pr	4115
(d)	Shim set, 0 and 2 degree	4127
(e)	8-32 x 1/2" flathead alum screws, 16	3324
(e)	8-32 x 7/8" flathead alum. screws, 6	4181
(f)	Spring, .014", black, pr.	4118
(f)	Spring, .016", silver, pr.	4119
(g)	Steering block, pr.	4112
(h)	Stub axle, pr.	4122
(i)	Kingpin, pr.	4123
(j)	"E"-clips, 10	3214

#4126

TIE ROD KIT

TIE ROD CONNECTIONS

LEFT SIDE SHOWN



#4147 RC12i CHASSIS RIDE HEIGHT ADJUSTER

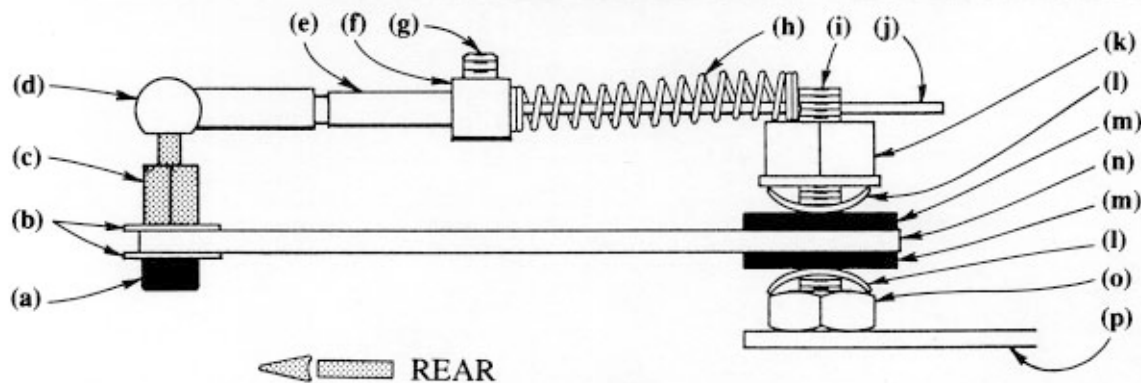


fig. 1

STEP 1 Slide the screw (i) up through the radio tray (p) and assemble the parts onto it as shown (fig. 1).

STEP 2 Screw the 4-40 screw (a) into the DuBro #180 ball socket (c), adding the two small washers (b) to either side of the damper plate (n).

STEP 3 The enclosed piano wire (j) must first be soldered inside the brass tube (e). When it has cooled, screw on the DuBro plastic ball end (d). Then slide the collar (f) and spring (h) onto

the wire and slide the wire through the hole in the screw (i).

STEP 4 Turn the locknut (k) so the fiber washers (m) have only slight pressure against the damper plate (n). This adjustment is the **most important** feature of the RC12i Ride Height Adjuster; **the damper plate must be free to move smoothly in any direction.**

STEP 5 Move the adjusting collar (f) against the spring until the chassis does not sag, and tighten in place with the set screw (g).

REPLACEMENT PARTS

- (a) 4-40 x 1/4 screw, 6 pc. #4145
 (k) 8-32 nylon locknut, 6 pc. . . . #4185

- (b) Axle washer, 12 pc. . . #3216
 (i,k,l,m,o) Damper washer set . . . #4146

- (i) 8-32 x 7/8 screw, 6 pc. . . . #4181

#4450 1:12 Stealth Diff Axle

Fits RC12:, RC12LW and RC12LS

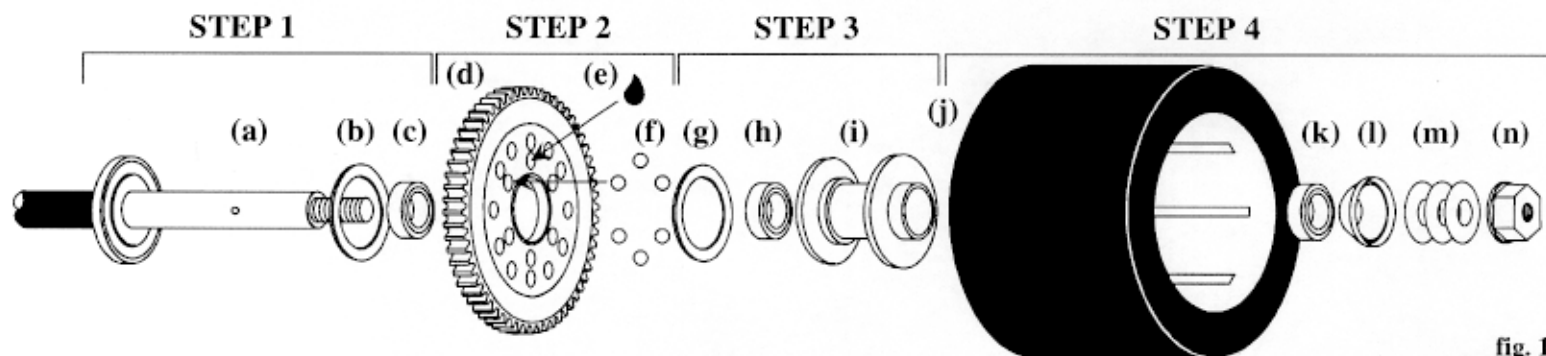


fig. 1

Additional items needed to complete the assembly:

- Three 1/4" x 3/8" unflanged ball bearings, such as Associated's #7359 (one pair).
 - Associated #6636 Diff lube. Do not use #6591 Stealth diff lube or #6588 black grease.
 - One Kimbrough 48 or 64 pitch spur gear:
- | 48 pitch | part # | 64 pitch | part # |
|----------|--------|-----------|--------|
| 72 tooth | #143 | 104 tooth | #211 |
| 75 tooth | #144 | 108 tooth | NEW |
| 78 tooth | #145 | 112 tooth | #212 |
| 81 tooth | #146 | 116 tooth | #216 |
| 84 tooth | #147 | 120 tooth | #213 |

Associated developed this kit for the serious 1:12 scale racer. With its lighter weight for reduced rotating mass, and Stealth-style differential for improved diff action and handling, your Associated 12L series car is going to be even more competitive than before. You will no longer have to worry about pinning diff drive rings because your new design locks the drive rings for you.

STEP 1 Install a diff drive ring (b) onto the axle (a), centering it on the axle hub, the shinier, rounded side of the ring against the diff hub. Slide one of your 1/4 x 3/8 unflanged ball bearings (c) onto the axle.

STEP 2 Install the six 1/8" diff balls (f) into the inner ring of the diff ball holes of your Kimbrough spur gear (d). Now fill the six holes used for the diff balls with diff lube (e) on both sides. Slide the gear onto the axle, fitting it over the ball bearing.

STEP 3 Center your other diff drive ring (g) over the diff balls (f), the shinier, rounded side facing away from the balls. Insert the 1/4 x 3/8 unflanged ball bearing (h) into the Stealth diff hub spacer (i). Push the diff hub spacer (i) onto the axle, bearing side first. Center it on the diff drive ring.

STEP 4 Install one of your Associated wheel/tire combos (j) onto the axle hub (i), then a 1/4 x 3/8 unflanged ball bearing (k) over the axle and into your wheel. Install the diff thrust cone (l) onto the axle with the small hole end first. Slide the three coned belleville washers (m) over the axle with the raised, center section pointing away from the wheel. Thread on the 8-32 nylon locknut (n) and just snug it down for now. (Note: this diff is designed for Associated rear wheels. We have not tested other brands for compatibility. If you want to use non-Associated wheels, it is your responsibility to test them to see if they will work.)

STEP 5 RACER'S SETUP: The right wheel is clamped into the diff, and not bolted onto the right diff hub as is done in most 1:10 scale cars. This is common to most 1:12 scale cars and was done to reduce weight. So the wheel doesn't slip separately from the diff, pin the wheel to the diff hub spacer with the 1/16" roll pin (o, fig. 2) as follows. With the diff completely assembled, drill a hole through one of the wheel screw mounting holes into the diff hub spacer (i) with a 1/16" drill bit and power drill. Now disassemble the diff and, using a pair of pliers, press the roll pin (o) into the hole you just drilled, enough so the pin sticks out the back of the hub spacer slightly. Reassemble the diff according to Steps 3-4.

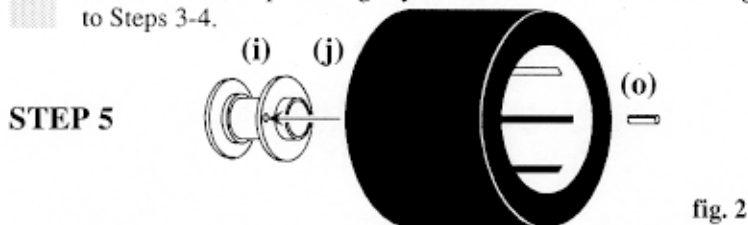


fig. 2

KIT REPLACEMENT PARTS

Letter	Description	Part #	Qty
(a)	Stealth diff graphite rear axle	4451	1
(b, g)	Stealth diff drive rings	6579	2
(c, h, k)	1/4 x 3/8 unflanged ball bearings	7359	2
(f)	1/8" diff balls	3432	16
(i)	Stealth diff wheel hub	4452	1
(j, m)	Diff thrust cone assembly	8213	set
(n)	8-32 nylon locknut	4185	6

OTHER PARTS NOTED

Letter	Description	Part #	Qty
(e)	Associated diff lube	6636	2 oz.
(f)	1/8" carbide differential balls	6619	8
(j)	Rear wheels, no tires	3610	pair
(j)	Rear wheels/tires, green, trued	3635	pair
(o)	1/16" roll pin	6572	6

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