Standard Setup for the GT and *Guide* Index

Numbers link to Guide numbers.

1. Front camber: -2 deg.
2. Front caster: 30 deg.
3. Front toe-in: 0 deg.
4. Front ride height: arms level.
5. Bump steer spacers: none.
6. Ackerman: Standard.
7. Servo Saver: Standard setting.
8. Rear camber: -2 deg.
9. Rear camber link: inside upper hole.
10. Rear toe-in: 3 deg.
11. Rear ride height: bonus level.
12. Driveshafts: dogbones or MIP CVD's.
13. Wheelbase: short.
14. Shock body: front, 1.02; Rear, 1.32.
15. Shock oil: front, 30wt; Rear, 30wt.
16. Shock shaft: front, 1.02; Rear, 1.32.
17. Shock pistons: front, #2 holes; Rear, #1.
18. Shock springs: front, silver; Rear, green.
19. Shock limiters: front, .031; Rear, .125.
20. Shock mounting, front: tower, outside. Arm, outside.
21. Shock mounting, rear: tower, 2nd from outside. Arm, outside.
22. Tires, front.
23. Tires, rear.
24. Tires, additive: none.
25. Inserts: incl. with tires.
26. Wheels: 1 piece.
27. Engine: .12cc.
28. Starter: non pull start.
29. Temperature: 220 deg.
30. Fuel.
31. Carburetor.
32. Carb Restrictor.
33. Glow Plug, #MC59.
34. Tuned Pipe: Assoc. #7750.
35. Clutch Shoes: 4.
36. Clutch Bell: 15.
37. Slipper: Assoc. ATC. Setting: standard.
38. Spur Gear: 66.
39. Weight: none.
40. Chassis: Assoc.
41. Body: GT #6134.
42. Spoiler: on.
43. Radio.
44. Steering Servo.
45. Off Road Track Conditions.
46. Race Comments.
47. Truck Comments.

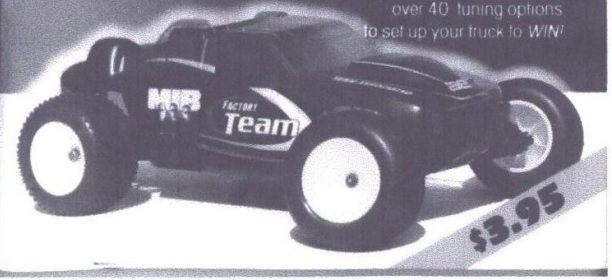
RC10GT

#7193

COMPLETE TUNING GUIDE

RC10GT

More than 50 illustrations detailing over 40 tuning options to set up your truck to *WIN!*



$3.95

The Complete Tuning Guide for the RC10GT

How this Guide got started

This *Guide* first saw the light of day online at the Team Associated R/C Cars web site. It was created in the hopes that it would answer the tuning questions that normally would be directed to us, thereby freeing us to spend more time making terrific cars.

We later decided to adapt the online section to a print version to make it more accessible to the racer (because you can't carry your computer to the track!)

The title does not mean to imply that there are no other tuning possibilites for the GT other than those contained in this *Guide*. Aftermarket companies are constantly expanding the possibilitities (and shrinking your wallet) when it comes to hopping up your car.

Who this Guide is for

Our feedback indicates that many of you feel lost in the maze of tuning possibilities.

This *Guide* is for those who wish to understand all the tuning possibilities that Associated has built into the RC10GT. It is also written for those who wish to beat the pants off the competition by superior tuning.

We chose to make this information extremely accessible to the novice. This means that the explanations we give are so basic that they may offend the seasoned racers. Sorry 'bout that!

How this Guide is organized

We have organized this *Guide* according to the different sections of the car. Every tuning option covered will have all or some of the following information:

- What the feature is.
- What tuning options are possible.
- How the changes will affect the vehicle.
- How to make the change.
- How to mark this feature on your setup sheet.
- Illustration(s) of this feature, with captions.

In the center spread is a blank setup sheet for the car. Lay the booklet flat on the copier for your copies. EVERY tuning option on the setup sheet is explained in this *Guide*. The numbers on the setup sheet are elsewhere in the *Guide* in numerical order so you can look up that feature in the *Guide* quickly.

We have also underlined certain key terms in the text—like more traction, more steering, bumpy tracks—to help you find what you are looking for, 'highlighting' information you may want to reach fast.

In short, we have tried to cut through the fluff and produce a small, practical *Guide* that you can actually use, and that will grow more valuable over time and experience.

Contents

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Costa Mesa, CA 92626-1401
(714) 850-9342
http://www.rc10.com

Book concept, design and text by Steve Husting

Contents approved by former World Champion Mark Pavidis!

Getting the best setup for your GT

This is how the expert racers tune their trucks to the track. (Former NORRCA Gas Truck World Cup Champion Mark Pavidis contributed to this booklet.) Tuning changes combined with practice, practice, and more practice makes a winner. Don't make changes that you cannot justify! With experience, you'll be able to knowingly make the best choices for setups in other track conditions and explain your changes to others.

- Copy the setup sheet in the middle of this book several times. Fill it out according to the standard GT setup at right and date it. Change your GT so it matches this standard setup. Fill out the Track Conditions section of the setup. Mark the page as "Standard Setup." Put the setup sheet aside and consider the following tips from the pros.
- Before you change any of your settings, make sure you can get around the track without crashing. None of your setup changes will work if you cannot stay on the track. Your goal at this point, as a novice, is to get consistent lap times, not to go fast. Your lap times may be inconsistent because of poor control. So get a lap counter and have a friend time your laps until they are consistent. Keep notes of your lap times so you can check your progress. You may note your best times on the back of your current setup sheet.
- After your lap times are consistent, focus on your tire type. What are the winning racers using? Read the Wheels & Tires section for basic guidelines on tire choice. Change your tires if necessary, mark the change on your setup sheet, and practice. Are your lap times the same, better or worse? If your lap times are better, then you have either become a better driver or your new tires have made a difference.
- Now you can start making the tuning changes in this booklet to your truck settings. Make changes one at a time, checking your lap times *each time* before you make another change. Read the *Guide* carefully and thoroughly to make sure your changes match the conditions of the track, and that you are addressing real problems. Mark each change on your setup sheet. When you have made real progress, you may want to make up a new setup sheet with those changes. Fill it out thoroughly. Put it in a safe place; it can be used again later if you race on a track with similar conditions.

Standard Setup for the GT and *Guide* Index

(Numbers link to Guide numbers.)

1. Front camber: -2 deg.
2. Front caster: 30 deg.
3. Front toe-in: 0 deg.
4. Front ride height: arms level.
5. Bump steer spacers: none.
6. Ackerman: Standard.
7. Servo Saver: Standard setting.
8. Rear camber: -2 deg.
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10. Rear toe-in: 3 deg.
11. Rear ride height: bones level.
12. Driveshafts: dogbones or MIP CVD's.
13. Wheelbase: short.
14. Shock body: front, 1.02. Rear, 1.32.
15. Shock oil: front, 30wt. Rear, 30wt.
16. Shock shaft: front, 1.02. Rear, 1.32.
17. Shock pistons: front, #2. Rear, #1.
18. Shock springs: front, silver. Rear, green.
19. Shock limiters: front, .031. Rear, .125.
20. Shock mounting, front: tower, outside. Arm, outside.
21. Shock mounting, rear: tower, 2nd from outside. Arm, outside.
22. Tires, front: kit tires.
23. Tires, rear: Kit tires.
24. Tires, additive: none.
25. Inserts: incl. with tires.
26. Wheels: 1 piece.
27. Engine: .12cc.
28. Starter: non pull start.
29. Temperature: 220 deg.
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33. Glow Plug, #MC59.
34. Tuned Pipe: Assoc. #7730.
35. Clutch Shoes: 4.
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37. Slipper: Assoc. ATC. Setting: standard.
38. Spur Gear: 66.
39. Weight: none.
40. Chassis: Assoc.
41. Body: GT #6134.
42. Spoiler: Yes.
43. Radio.
44. Steering Servo.
45. Off Road Track Conditions.
46. Race Comments.
47. Truck Comments.

Front Suspension

1 Camber, front

Camber describes the angle of the wheels as their tops lean to or away from each other, **fig. 1a**. Negative camber means that the tire leans inward at the top. Positive camber means that the tire leans outward at the top. (Positive camber should not be used.) Camber is measured in degrees.

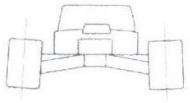


fig. 1a *Camber.*

fig. 1b *Turn this turnbuckle to adjust camber. It will change the overall length of the camber link to longer or shorter.*

How do I know which setting to use?

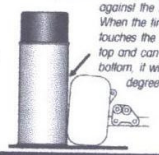
- Use more than 2 deg. of negative camber to improve stability in bumps; but this also decreases traction because less of the tire is contacting the track.
- Use less camber (0 to 1 deg.) for maximum amount of traction, but this will also be less stable in bumpy conditions.
- We suggest using between 1 and 2 deg. of negative camber at all times. Camber degrees are difficult to measure, but can be done by putting a vertical object next to each tire, and making sure that the space at the top between the tire and the object is the same for both sides of the car.

How do I change the camber? You change the front camber by turning the camber link, **fig. 1b**, which pivots the caster block at the front outer hinge pin.

On setup sheet: You mark the number of degrees of camber you used.

TIP

You can measure 2 deg. of camber by taping a nickel to a soda pop can or motor spray can and pushing it against the tire. When the tire evenly touches the nickel at top and can at bottom, it will be 2 degrees.



2 Caster, front

Caster describes the angle of the kingpin when it is leaned toward the rear of the vehicle. Positive caster means the kingpin leans rearward at the top, **fig. 2a**. Negative caster (leaning the kingpin forward) is never used.

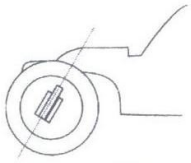


fig. 2a *Positive caster shown.*

How do I know which setting to use? We recommend using the 30 deg. caster blocks.

- Use 30 deg. of caster if you need increased steering entering corners and less steering exiting corners. Your truck will also be more stable when accelerating through fast bumpy track conditions.
- Use lesser degrees of caster to decrease the amount of steering entering the corners and increase the amount of steering in the middle of and exiting the same corner.

How do I change the caster? By changing the front block carriers, **fig. 2b**.

On setup sheet: You mark which front block carrier you are using. You have six choices, 5 deg. through 30 deg. in 5 deg. increments.

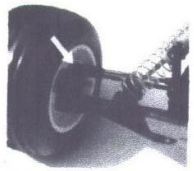


fig. 2b *Change the front block carriers to change the caster.*

TIP

30 and 25 deg. caster are normal for off road. 20 deg or less is normal for oval or road course racing.

3 Toe-in, front

Front toe-in/toe-out describes the angle of the wheels when viewed from above, **fig. 3a/3b**, the front of the wheel turning inward (toe-in) or outward (toe-out), rather than pointing straight ahead. It is measured in degrees.

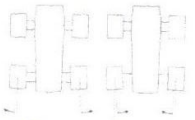


fig. 3a *Toe-in* **fig. 3b** *Toe-out*

How do I know when to use toe-in or toe-out?

- On slippery tracks use a small amount of toe-in. Add toe-in to the front tires if you need help stabilizing your vehicle under acceleration. Doing this will also decrease the amount of steering when entering a corner, and increase it coming out of a turn during acceleration.
- Add toe-out when you need more steering entering a corner. But doing this will cause instability when accelerating through bumps or down a slippery straightaway.
- We suggest using 0 to 1 degree of toe-in at all times. Yes, it is difficult to measure the degrees! Drawing parallel lines on a board and setting your vehicle next to them can help.

How do I change the toe-in or toe-out? By turning the turnbuckle shown in **fig. 3c** you adjust this setting. Your steering block will pivot around the kingpin.

On setup sheet: You note how many degrees of toe-in you have, per side.

fig. 3c *Turn this steering turnbuckle to change the toe-in angle.*

4 Ride Height, front

Front ride height describes the height of the vehicle as indicated by the a-arms with the kit fully equipped and the body off. To set the standard front ride height, push down on the front suspension and then let go. When the suspension stops, the front arms should be level with the bottom of the nose plate when you look at the front edge of the arms, **fig. 4a**. If they are not in a straight line, then adjust the ride height until it is level.

fig. 4a *Front ride height is defined by the angle of the front suspension arms.*

When should I change the ride height? You should always check the ride height after making all your other adjustments, just before you are ready to race. You should maintain your ride height level as described above.

- But if you want more steering, drop your front ride height (arms aiming downward toward the chassis).
- Raising your ride height will give you more push, and less steering.

fig. 4b *Adjust front ride height by adding or subtracting clip-on preload spacers #6475.*

fig. 4d *Adjust front ride height by sliding your shock collars up or down.*

How do I change the ride height? By adding or subtracting preload spacers,to the front shocks, **fig. 4b**, or by sliding your shock spring clamps up or down, **fig. 4c**.

On setup sheet: You mark here if your front ride height is level ("arms level"), or otherwise ("arms below level" or "arms above level").

5 Bump Steer, front

Bump Steer takes its name from the fact that when the truck goes over **bumps**, it changes the **steering**. Bump steer is the undesireable effect of extra toe-in in one tire or the other as your truck goes over bumps such as "moguls" (which are randomly-spaced hilly bumps closely spaced together in an area on the track), making your steering unpredictable. Your truck then bounces back and forth instead of going straight through the bumps.

fig. 5a *Add or subtract washers where shown to change the bump steer effect.*

When do I change the bump steer?

- When you want to keep a straight line through moguls and other bumps, or have better control of your steering through bumps.
- When you change from 25 deg. to 30 deg. steering blocks the bump steer is more pronounced. Usually adding a single washer is enough to correct the change.

How do I change the bump steer? By adding or subtracting washers under the ball end where shown in **fig. 5a**.

On setup sheet: You note the number of washers you added to adjust bump steer.

6 Ackerman

Ackerman is a term describing the effect of the inside front wheel turning tighter than the outside front wheel.

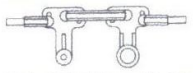


fig. 6a *Standard Ackerman for easier driving feel.*

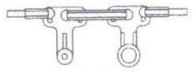


fig. 6b *Optional Ackerman.*

How do I know which setting to use?

- Use the Standard setup, **fig. 6a**, for less aggressive steering and a more forgiving driving feel.
- Use the Optional setup, **fig. 6b**, of less Ackerman if you want more aggressive steering--but this will make the truck less forgiving to drive. Try it only with very high traction tracks. This setup is rarely used!

How do I change the Ackerman setting? Remove the ball cups and ball ends from the servo saver and reposition them in the new location, either in **fig. 6a** or **6b**.

On setup sheet: You mark here which steering Ackerman setup you used. You have two choices, shown in **fig. 6a** and **6b**.

7 Servo Saver

The servo saver is just that: It acts as a buffer to absorb jars transmitted by the steering tie rods so they don't strip the gears in the steering servo. The servo saver spring tension determines how much 'give' the servo saver will have. You can adjust the tension of your servo saver by tightening or loosening the aluminum adjusting nut, **fig. 7a**.

fig. 7a *Servo saver. Turn knurled aluminum nut to adjust.*

How do I know when to adjust the tension? Standard setting is when the top of the nut is flush with the tube.

• When the standard setting results in breaking your servo, then back off the nut.

On setup sheet: This setting is not noted on the setup sheet.

Rear Suspension

8 Camber, rear

Camber describes the angle at which the tire and wheel rides relative to the ground when looked at from the front or back, **fig. 8a**. Negative camber means that the tire leans inward at the top. Positive camber (not used) means that the tire leans outward at the top. Camber is measured in degrees.

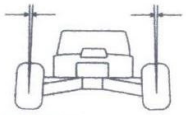


fig. 8a *Camber.*

How do I know which setting to use? We suggest using between 1 and 2 deg. of negative camber at all times. For an easy way to measure camber, please read the tip below.

• Use more than 2 deg. of negative camber to improve stability in bumps; but this also decreases traction because less of the tire is contacting the track.

• Use less camber (0 to 1 deg.) for maximum amount of traction, but this will also make the truck less stable in bumpy conditions.

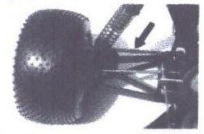


fig. 8b *Adjust rear camber with this turnbuckle.*

TIP

You can measure 2 deg. of camber by taping a nickel to a soda pop can or motor spray can and pushing it against the tire, fig. 8c. When the tire evenly touches the nickel at top and can at bottom, it will be 2 degrees.

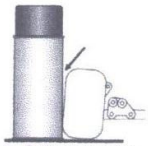


fig. 8c *Measuring camber.*

9 Camber Link Adjustment, rear

The camber link is from the rear shock tower to the ball end on the wheel hub, **fig. 9a** . Changing the mounting position of the camber links can affect traction, stability, and handling on rough tracks.

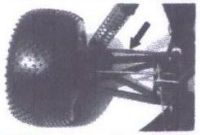


fig. 9a *You can place this turnbuckle in different holes in the rear shock tower to tune for different track conditions.*

How do I know which link is best? Use the following guidelines to find the best handling for your track conditions.

• This lower outside hole will give you the most camber change of all of them. A very good setting for very bumpy tracks.

• The upper outside hole is rarely used. It gives more camber at the end of it's travel.

• The lower inner location is used often. This setting is what works best on 90% of the tracks.

• This upper inner setting is used to gain more rear traction on high speed tracks. This gives your tire very little camber change.

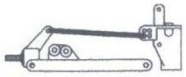


fig. 9b *Lower outside hole.*

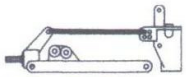


fig. 9c *Upper outside hole.*

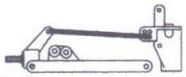


fig. 9d *Lower inside hole.*

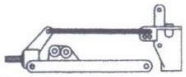


fig. 9e *Upper inside hole.*

How do I adjust the camber link? First remove the ball cups from the ball ends and unscrew the ball ends. Then screw the ball ends into the new holes. Reinsert the ball cups onto the ball ends again, twisting or untwisting the cups as necessary to fit.

On setup sheet: You mark which holes you used for your camber link from the tower to the hub carrier.

How do I make the camber link adjustment? By removing the ball cups and ball ends from the tower and reinstalling into different holes.

On setup sheet: You mark which holes you used for the camber link adjustment.

10 Toe-in, rear

Rear toe-in describes the angle of the wheels when viewed from above, the front of the wheel turning inward rather than pointing straight ahead. Rear toe-in affects front and rear traction.

fig. 10a *Change the rear hub carriers to change the rear toe-in.*

Hub carrier	*Deg.*	*Total deg.*
#7365	*0 deg.*	*3 degrees*
#6366	*1.5*	*4.5*
#7358	*3.0*	*6*

How do I know how much toe to use?

• Decreasing rear toe-in (so that the wheels are almost pointing straight ahead) decreases rear traction, increases speed and adds steering.

• Increasing rear toe-in will increase rear traction, decrease speed and remove steering.

How do I adjust toe-in? You adjust this setting by changing the rear hub carriers, **fig. 10a**. The arm mounts are already set at 3 deg. toe-in. So with 0 deg. hub carriers, you'll have 3 deg. toe-in total per side. Changing to 1.5 deg. hub carriers, you'll get 4.5 degrees toe-in. With 3 deg. hub carriers, you'll have 6 deg. toe-in per side.

TIP

To get 0 degrees total toe (such as for oval racing), simply reverse the #7358 hub carriers. Their 3 deg. toe-out will cancel out the arm mount's 3 deg. toe-in.

On setup sheet: You mark how much total toe-in you used per side, in degrees. You have three choices, 3 deg., 4.5 deg., and 6 deg.

11 Ride Height, rear

Rear ride height describes the height of the vehicle as indicated by the dogbones or CVD's with the kit fully equipped including electronics (but with body removed). To set the standard rear ride height, push down on the rear suspension and then let go. When the suspension stops, the dogbones should be level, **fig. 11a**. If they are not in a straight line across, then make adjustments.

fig. 11a *Your rear ride height is determined by the angle of your driveshafts.*

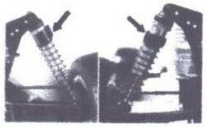


fig. 11b *Change your rear ride height by adding or subtracting preload spacers (left) or sliding your shock collars up or down (right).*

When should I change the rear ride height? You should always check the ride height after making all your other adjustments, just before you are ready to race. You should maintain your ride height as described above.

- But if you lower it (axles going down toward chassis), you will have more traction. In high traction conditions, lower ride height will also improve cornering.
- If you raise it, you will have more steering going into turns when you let off the acceleration. Raising it in low traction conditions will add high speed steering.

How do I change the rear ride height? By adding or subtracting preload spacers to the rear shocks or by sliding your shock spring clamps up or down. The spring tension then forces your chassis up or down, **fig. 11b.**

On setup sheet: You mark if your rear ride height is level ("dogbones level"), or if you raised or lowered it.

12 Driveshafts

Driveshafts, **fig. 12a**, link your transmission's outdrive to the axle to transfer force to the wheels. Performance gains among driveshafts can be extremely slight.

How do I know which driveshaft to use?

- Choose the dogbones, **fig. 12b**, if you are budget-minded. Also try them in extremely bumpy conditions, because they are loose on both ends.
- Try MIP CVD's for a slight edge on performance; they are more efficient in transferring power to the wheels.

On setup sheet: You note which driveshafts you used, dogbones, **fig. 12b**, MIP CVD's, or another type, like universals.

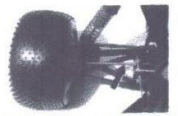


fig. 12a *Your choice of driveshafts may have a slight effect on performance.*

fig. 12b *Dogbone driveshaft.*

13 Wheelbase

You can make adjustments to your wheelbase. That is, you can shift the rear wheels forward or back. The weight transfer can increase your rear traction (with more weight toward the rear wheels) or your steering (with more weight bearing down toward your front end).

fig. 13a *Placing these spacers to the rear of the hub carriers will shorten your wheelbase (because it slides your axles closer together); to the front will lengthen your wheelbase.*

How do I know when to adjust the wheelbase?

- One spacer to the rear, **fig. 13a**, will move your hub carriers toward the front of the vehicle, shortening the wheelbase and increasing rear traction This is the standard setting.
- One spacer to the front will shift the hub carriers toward the rear of the chassis, lengthening the wheelbase and increasing steering.

How do I change the wheelbase? By moving the spacers as noted above. You must first remove an E-clip from the pin, slide out the pin, then place the parts on in a different order as you push the pin back through.

On setup sheet: You indicate short wheelbase or long.

Shocks

14 Shock Body

The shock body, **fig. 14a**, houses the oil and piston components. Its length determines the amount of piston travel. Its composition can have an impact on the smoothness of the shock action.

fig. 14a *Shock bodies come in different lengths and compositions, and will affect shock action.*

How do I know which shock body to use? Use the gray hard anodized Teflon coated shock body if you want smoother shock action. Highly recommended for competition racing.

On setup sheet: You have two choices, gold or gray. Indicate the body length used (expressed as inches in decimal form), such as 1.32 (rear shock size) or 1.02 (front shocks).

TIP

Coat the inner shock seal parts with Factory Team's Green Slime (#1105) instead of oil for best lubrication and shock action.

15 Shock Oil

Oil weight (that is, its thickness, or viscosity) determines the dampening of your car. It helps control how quickly the spring rebounds. In other words, shock springs hold your truck off the ground; oil determines how the truck regains that height after bumps and jumps. Heavier weight oil makes rebound more sluggish than lighter weight oil.

Associated sells high-quality silicone oil in 2 oz. bottles from 10wt to 80wt. The larger the number, the heavier the weight, that is, the oil viscosity is thicker. This silicone oil handles better over a wide range of weather conditions.

fig. 15a *30 weight shock oil shown. The shock oil weight will determine how quickly your truck regains its ride height.*

How do I know which weight of oil to use? Use 30 wt front and rear for most tracks.

- If your truck is bouncing too much, or bottoms out too much after the jumps, then switch to heavier oil and change to a smaller hole piston.
- Use lighter oil for smoother tracks.

Part #	Weight
5420	10wt
5427	15wt
5421	20wt
5428	25wt
5422	30wt (standard)
5429	35wt
5423	40wt
5435	50wt
5436	60wt
5437	70wt
5425	80wt

On setup sheet: You mark here which weight of oil you used. If you used the oil shown in **fig. 15a**, you would mark "30" in the space.

16 Shock Shaft

Your shock shaft, **fig. 16a**, connected to your arms, communicates the shocks' dampening effects to the arms. The shock shaft composition can affect its handling.

fig. 16a *Your shock shaft composition will determine quality of shock action.*

How do I know which shaft to use? Use the unobtainium shaft if you want smoother shock action.

Highly recommended for competition racing.

On setup sheet: You have two choices, standard or unobtainium. You indicate the shaft length used (expressed in decimal form), such as 1.02 (front) or 1.32 (rear).

17 Shock Pistons

The Associated #6465 piston has holes on either side of the shaft hole through which the oil flows as the piston travels up and down in the shock. **Fig. 17a** shows the shock piston held in place on the shock shaft with E-clips. Shock dampening has to do with the resistance of the shock as the piston moves through the oil in the shock body. Changing the piston hole size changes the dampening of the shock. The smaller holes provides the greatest dampening, also known as more "pack". The larger holes provides the least dampening, or less "pack," allowing the oil through more quickly.

Associated #6465 includes 4 each of #1, #2, and #3 pistons. The #1 piston has the largest holes and the #3 piston has the smallest holes.

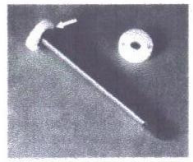


fig. 17a *Your shock pistons further fine-tune your shock dampening characteristics. The holes in the piston can be likened to doors in a store letting people in for a sale. If the doors were opened only part way, then they let people through more slowly than if they were wide open. So the smaller holes in the piston means less oil can get through, and thus means more sluggish shocks.*

How do I know which piston to use? We recommend starting with the #2 piston in front with a #1 piston in the rear for the GT.

- If your vehicle is bottoming out (becoming completely compressed) after the jumps, try using the smaller hole size piston, #3. It may help to accompany this with heavier shock oil.
- If your truck bounces too much, you may try a larger piston size. As a general rule of thumb, with certain exceptions, the smoother the track surface, the smaller the hole piston.

TIP

Some racers have experimented with drilling a third hole for more tuning options.

On setup sheet: You write here which shock piston you've added to your shocks, #1, #2, or #3. (The number is molded into the piston.)

18 Shock Springs

Springs' purpose is to keep the vehicle level. Several spring tensions are available to acheive this.

fig. 18a *Your springs help your truck level off after the bumps.*

How do I know which spring to use?

- Stiffer springs help your suspension respond more

quickly, but, because of their stiffness, will not absorb smaller bumps as well.

• Softer springs are best for tracks with many small bumps.

On setup sheet: Write in which shock springs you used by color. Each shock spring is color-coded according to the stiffness of the spring, **fig. 18b**.

Color	Rear	Front	
(top springs are softer)			
red	#7436	#7430	firmer
gold	#7435	#7425	
blue	#7434	#7429	
silver	#6478	#7428	
green	#6480	#7427	
black	#6481	#7426	softer

fig. 18b

19 Shock (Travel) Limiters

You can limit the amount of travel the shock shaft makes in the shock body. For this purpose Associated #6466 limiters has four each of three sizes of travel limiters: 1/8" (.125), 1/16" (.062), 1/32" (.031). **Fig. 19a** shows two limiters on the shock shaft. These limiters will end up inside the shock. You may also add limiters to the the shock shaft while the shaft is protruding from the shock body.

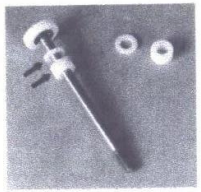


fig. 19a *Shock limiters will limit the amount of shock travel. These limiters will go inside the shock and will affect the downtravel of the shock. Placed outside the shock, they will affect the uptravel.*

When do I add shock limiters?

• When your truck leans too much in the turns, add limiters to both right and left side shocks.

• Also, try adding limiters to the rear shocks on high traction smooth tracks when your truck's front end rises on acceleration. The limiters can give you more traction this way. In the rear, limiters are used only for high traction, smooth tracks.

• Not recommended for bumpy tracks because you'll bottom out your shocks sooner.

How do I add shock limiters? You must remove your shocks from the truck and take them apart.

On setup sheet: You mark here the overall thickness of the shock limiter 'washers' you've added to your shock.

20 Shock Mounting, Front

You can mount your shocks at various angles between the tower and arm. How you mount your shocks can determine at which angle force is applied to the arms, which will affect the steering.

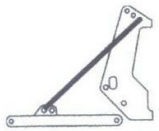


fig. 20a *Most horizontal position emphasizes better steering.*

When do I change the shock mounting position? Standard setup calls for outside hole on tower and outside hole arm position.

• On a smooth track without challenging jumps, mount your shocks closest to the wheel on the suspension arm (**fig. 20a**), and use the inside hole on the shock tower (your shocks will be more horizontal). This position will transfer more weight to the wheel for better steering.

• Try the outside position on tower (**fig. 20b**), in very high grip conditions, especially if your truck feels like it has too much steering. Your truck will probably need a softer front spring when using this position.

• For bumpy tracks, move the shock mounting inward on the arm (**fig. 20c**), and outside on the tower (more vertical).

Make sure you re-check the ride height after shock mounting changes, and check that your dogbones remain seated if you mount your shocks outside on the tower.

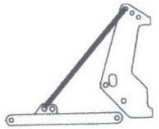


fig. 20b *For very high grip conditions.*

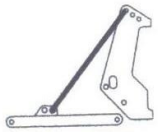


fig. 20c *For bumpy tracks*

How do I change the shock mounting position? Remove the screw on the arm and move it to another hole. Remove the nut, washers and screw from the tower and reposition it in another hole.

On setup sheet: You mark here which arm hole and shock tower hole you mounted your shock. You have two choices for the arm and three for the tower.

21 Shock Mounting, Rear

There are several mounting possibilities for your rear shocks between the shock tower and the arm.

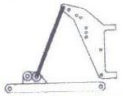


fig. 21a *Tower: outside hole. Arm: inside hole.*

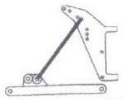


fig. 21b *Tower: inside hole. Arm: inside hole.*

How do I know which mounting position to use?

• The outside hole on the tower and inside hole of the arm (**fig. 21a**), will make the truck very forgiving on extremely rough tracks. This setup is used with 1.32 shocks.

• The inside hole on the tower and inside hole of the arm (**fig. 21b**), will make the truck very neutral in feeling on all types of tracks. This setup is used with 1.02 shocks.

RC10GT

SETUP SHEET for Team Associated's RC10GT

White numbers in squares are cross-referenced to the #7193 *Complete Tuning Guide: GT.*

driver _____

track / city _____

event _____ date _____

FRONT SUSPENSION

2 ● CASTER ☐5° ☐10° ☐15° ☐20° ☐25° ☐30°

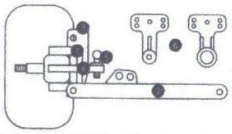
4 ● FRONT RIDE HEIGHT ☐ARMS LEVEL ☐other _____

1 ● CAMBER _____°

3 ● TOE-IN _____°

5 ● BUMP STEER SPACERS _____

6 ● STEERING ACKERMAN
☐STD ☐OPTIONAL

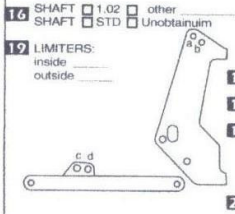


FRONT SHOCKS

14 BODY ☐ STD ☐GRAY ☐other _____
BODY ☐ 1.02 ☐ other _____

16 SHAFT ☐ 1.02 ☐ other _____
SHAFT ☐ STD ☐ Unobtainuim

19 LIMITERS:
inside _____
outside _____



17 PISTON # _____

18 SPRING _____

15 OIL _____ wt

20 SHOCK MOUNTING
tower: a / b arm: c / d

CLUTCH

35 INDICATE HOW CUT:

36 CLUTCH BELL TEETH/PITCH ___ T / ___ P

38 SPUR: _____ T

35 SHOES ☐2 ☐4 ☐other _____ ☐ Bearings ☐ Bushings

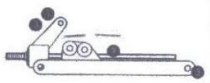
REAR SUSPENSION

8 ● CAMBER _____°

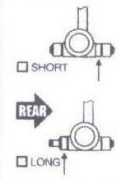
11 ● REAR RIDE HEIGHT:
☐ BONES LEVEL ☐ other _____

12 ☐ MIP CVD's ☐ DOGBONES ☐ UNIVERSALS

10 ● TOE-IN total, per side:
☐ 0°
☐ 3°
☐ 4.5°
☐ 6°



13 WHEELBASE ADJUSTMENT



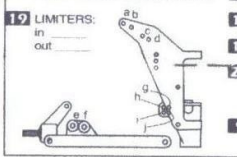
REAR SHOCKS

14 BODY ☐ STD ☐ GRAY ☐ other _____
BODY ☐ 1.32 ☐ other _____

16 SHAFT ☐ 1.32 ☐ other _____
SHAFT ☐ STD ☐ Unobtainuim

17 PISTON # ___

19 LIMITERS:
in _____
out _____



18 SPRING _____

15 OIL _____ wt

21 SHOCK MOUNTING
tower: a / b / c / d
arm: e / f

9 CAMBER LINK ADJ:
tower: g / h / i / j

OTHER

17 WEIGHTS _____ (oz/gm) 24 TIRE ADDITIVE ☐yes ☐no

41 BODY _____ 42 ☐ SPOILER

22 FRONT TIRES _____ 25 FOAM _____

23 REAR TIRES _____ 25 FOAM _____

26 FRONT WHEELS ☐1 PC. ☐3 PC. ☐other _____

26 REAR WHEELS ☐1 PC. ☐3 PC. ☐other _____

40 **CHASSIS:** ☐ STD ☐ other: _____

43 RADIO _____ 44 SERVO _____

ENGINE NAME _____

27 ☐ .12 ☐ .15 28 ☐PULL START ☐NON PULL START

29 ENGINE TEMP: _____°

34 TUNED PIPE: ☐ ASSOC. ☐other: _____

30 FUEL: _____ NITRO: ☐ 20% ☐ other _____%

31 CARB TYPE: _____ ☐rotation ☐ slide valve

32 CARB RESTRICTOR: ☐ .190 ☐ .180 ☐ .170 ☐ NONE

33 GLOW PLUG TYPE: _____

37 SLIPPER SETTING: ☐ STD ☐ LOOSER ☐ TIGHTER

45 TRACK CONDITIONS

SURFACE: ☐ smooth ☐ bumpy BUMPS: _____

TRACTION: ☐ low ☐ med. ☐ high

COMPOSITION:
☐ sandy ☐ soft dirt ☐ grass ☐ clay ☐ other _____
☐ wet ☐ dry ☐ dusty ☐ other _____

NOTES: _____

46 RACE COMMENTS

MAIN _____ PLACE _____ ☐ TQ

NOTES _____

47 TRUCK COMMENTS

NOTES _____

• The outside hole on the tower and outside hole of the arm (**fig. 21c**), will make the truck very stable on rough and smooth tracks. This setting is highly recommended to start with before trying other drastic settings.

• The inside hole on the tower and outside hole of the arm (**fig. 21d**) is never used.

On setup sheet: You mark here which arm hole and shock tower hole you mounted your shock. You have two choices for the arm and four for the tower.

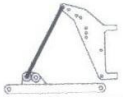


fig. 21c *Tower: outside hole. Arm: outside hole.*

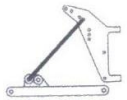


fig. 21d *Never used.*

Wheels & Tires

Tire choice (**fig. 23a**) is one of the most crucial choices a racer has to make. The proper tire choice will either hook up all your truck's setups or ruin it.

fig. 23a *When it comes to winning, your choice of tire is second in importance to practicing.*

22 Front Tires

How do I know which tire to use?

Always run a front tire with the same overall diameter as the rear tire.

On setup sheet: You write in which brand and type of tires you used.

23 Rear Tires

How do I know which tire to use?

• The harder the surface, the smaller the pin or spike on the tire. If the surface is soft or has a loose layer on top, the tire pin or spike will become longer to try and get down to the harder surface below.

• The smoother the surface, the softer the tire compound can be. With rougher surfaces, choose med. compounds. Grass calls for hard compounds.

• Rougher surfaces and many corners favor rounded profile tires for their cornering traction. Smoother surfaces favor flatter profile tires for their maximum flat surface traction.

• Choose the tire that the most successful racers are using at that track. This saves you money—it keeps you from buying tires that won't work on the track.

On setup sheet: You write in which brand and type of tires you used.

TIP

With one piece rims, glue the tires to the rims with CA. Remember afterwards to vent the tires with a small hole so they won't bounce.

TIP

Try applying tire traction compound to all four tires when encountering slick surfaces. Use traction compound when on dry, clean tracks when you need more traction, especially through the corners.

(Special thanks to Scott Guyott for some of this tire info.)

type of tires you used.

24 Tire Additive

Tire additive (tire sauce) is added to the tires for more traction on high-traction (very high bite, or 'blue groove') surfaces. Tire additive is worthless for tracks that have loose surfaces. Your tires' life may be decreased with the addition of tire sauce.

On setup sheet: You indicate if you used tire additive.

25 Tire Inserts (foam)

Today's tires are thin and need support to retain their shape. Tire inserts, **fig. 25a**, give this support.

fig. 25a *More often than not, you should stick with the foam tire insert that came with your tires.*

How do I know which foam to use? The foam insert's density is important. The foam insert that comes with the tires nine times out of ten is the insert you should use. Too firm an insert will cause your truck to bounce, resulting in loss of traction. Too light a foam will cause the car to wander and to be very unstable.

On setup sheet: Write in the foam brand that you used.

26 Wheels

Associated provides 1-piece wheels and 3-piece wheels for your kit. Associated sells these wheels (rims) in natural white, fluorescent yellow, and black.

fig. 26a *1-piece wheel.*

How do I know which wheel type to use?

• 1-piece wheels, **fig. 26a**, are used because of their lighter weight, but their drawback is that they must be glued to the tires. They allow quick change from one set of wheel/tire combos to another. We recommend using the one piece wheels because with the high speeds that the GT produces the 3 piece wheels can't keep the tires on the rims without falling off.

• 3-piece wheels, **fig. 26b**, are heavier, but they allow you to change from worn tires to fresh tires less expensively, using the same wheels repeatedly. Great

fig. 26b *3-piece wheel.*

for racers on a budget.

On setup sheet: You check here if you used 1-piece wheels, 3-piece wheels, or an aftermarket type.

Engine

27 Size

Engines come in fixed sizes. The ".12" and ".15" sizes refers to the capacity in cc's. Engines also come in different shaft lengths within each size; the GT only accepts engines with a short shaft. Many manufacturers make excellent short shaft versions of their engines for the GT. We recommend .12 engines for the GT.

On setup sheet: You note which size of engine you used.

TIP

Four rules of engine tuning
(by Paris Racing)

1 Rich is good. Blue smoke should always be coming from the exhaust.
2 Always set the high-speed needle first.
3 Never try to tune a cold engine—wait for it to get up to operating temperature.
4 Always begin your engine tuning from a rich high-speed needle setting. Never start out with a lean setting.

28 Starter

Nitro engines are started when rotational pressure is applied to the engine flywheel. The flywheel drives the piston to suck the fuel/air mixture through the carburetor into the engine. Once there, it makes contact with the glow plug wire, which ignites the fuel and drives the piston from that point on. This initial startup is accomplished either by pulling on a handle (in a manner similar to starting your gas lawn mower), or by a starter box which houses an electric-powered rotating rubber wheel that you push the car's flywheel against. The spinning rubber wheel then turns the engine's flywheel and starts your engine. So, engines come in pull start versions and non pull start versions.

How do I know which starter type to use?

• The convenient **pull start** handle means that you can start your engine anywhere, and you would not need a starter box to start the engine. The addition of the pull start system to the engine, however, does mean more wear and tear on the unit. If you choose to use the starter box later, you can do so. It is a little more expensive than the non pull start engines, but you do not have the added expense of a starter box if you don't want to purchase one. It is not for serious racing, however, because you may give up about 10 percent of your horsepower with the pull start, but what hurts the most is it also reduces the output RPM.

• **Non pull start** has its own advantages for the racer. Without the pull start feature, the engine sits lower, improving the center of gravity and thus the car's handling. And without the pull start, the engine is lighter. There is less wear and tear on the unit, so the tuning is more consistent. With a non pull start engine, you must purchase a starter box to turn the flywheel. You must also have an electrical source to power the starter box, but a gas-oriented track will supply this; if not, you can frequently plug the box into your car battery. A non pull start engine is a must for serious racing.

On setup sheet: You note which starter you have, pull start or non pull start.

29 Temperature

220 degrees

Your engine temperature is indicative of proper or improper tuning of your engine. Overheating will shorten the life of your engine. You should follow your engine manufactuer's recommendations as to temperature; 220 degrees F is usually within the range of many recommendations. Ron Paris of Paris Racing recommends that all of the following conditions of an otherwise good engine MUST be met before any temperature can be considered correct. If these conditions are met without any engine problems, then take the temperature and mark it on the setup sheet.

1 There must be a visible trail of smoke when accelerating from EVERY corner.
2 The idle is stable.
3 The glow plug wire stays somewhat shiny and its coil stays round (not distorted).
4 The engine performance is good.

How do I change the temperature? Many factors affect engine temperature. Not all of them can be changed (such as the outdoor temperature!), but should nevertheless be taken into consideration. Here are just a few factors:

• Your carb settings affect the temperature. The carburetor mixes the air and fuel before they go into the engine. Letting in more fuel than air results in a "rich" setting (turning the high speed fuel mixture screw so the opening is wider). Lesser fuel results in a "lean" setting.

Your fuel contains oil which lubricates the crankshaft; if the setting is too lean (not enough lubrication), then the engine can overheat. It is better to err on the rich side and gradually go leaner.

- The outdoor temperature will affect your engine: Hotter temperatures will let in hot air, which may overheat your engine. Change your carb settings for this, making it richer.
- Elevation makes a difference: The amount of air entering your carb will be rarer in the mountain tops than at sea level, so you may get more fuel than you think.
- The percentage of your fuel makes a difference. A lower percentage makes for a cooler engine, but lowers your top end.
- A proper tuned pipe will help your engine to stay cooler better than a poorly made or chosen pipe. This is because the back pressure in the tuned pipe, rebounding from your engine, is sucking the hot exhaust away from your engine. It's hard to beat the Associated tuned pipe.

On setup sheet: You note your ideal engine temperature. You measure the temperature with a special sensor made for the purpose.

30 Fuel

The percentage of nitro mix refers to how much combustible nitro the glow fuel contains. The higher the percentage, the more combustable, the more rpms possible (because the greater combustion drives the piston harder), but the more quickly your engine wears. (WARNING: Do not use airplane and helicopter fuels; they may not have the necessary oil types and ratios for R/C cars.) Fuel mixture, therefore, is an area of tuning for top speed and engine temperature.

When do I change the fuel mixture? 20% is standard among many fuel manufacturers. (Associated does not recommend racers themselves mix fuels together to change the mixture. For safety, buy premixed fuels.) Always follow the recommendations that came with your fuel.

- For more top speed, try going higher, but your engine wear will increase.
- For an easier to drive truck, go lower in percentage, but your top end will decrease.

How do I change the fuel? Lift up the cap on the fuel tank and pour in different fuel.

On setup sheet: You note which glow fuel mixture you used and who manufactured the fuel.

TIP
We recommend O'Donnell and Blue Thunder racer fuels.

31 Carburetor

Two kinds of carbs are available for nitro engine R/C kits, rotary and slide valve. Associated recommends the rotary carb for the GT. In general, the rotary valve is smoother; the slide valve advantages appear to be better with larger engines.

On setup sheet: You note which type of carb you used, rotation or slide valve. Carb settings are not noted on the setup sheet.

32 Carb Restrictor

Carb restrictors "restrict" the amount of air entering the carburetor. Carb restrictors can be used to help control the amount of wheel spin coming out of corners, resulting in a truck that's easier to drive. The smaller the hole, the less wheel spin, and therefore the more control. The carb restrictor goes where shown at arrow.

fig. 32a *Carb restrictor, lower left, fits here (at arrow).*

How do I know which carb restrictor to use?

- Use a smaller hole carb restrictor if you need to control your truck better coming out of turns.
- Use a smaller hole if you race at a large track and need to control tire wear.

How do I change the carb restrictor? By removing the air filter parts, inserting the restrictor where located in fig. 32a, and replacing the air filter parts.

On setup sheet: You mark which size restrictor you used, if any. You have three choices, .170" (black), .180" (blue), .190" (silver).

TIP
Using the correct size carb restrictor will give you quicker lap times. Our Team Drivers use the restrictors.

33 Glow plug

The purpose of the glow plug (**fig. 33a**) is to ignite the fuel in the engine. The battery-operated glow plug igniter heats the glow plug wire. When the fuel enters the chamber it is ignited by the "glow"ing coil. Each explosion drives the engine piston and thus your shaft, accelerating your truck. The plug wire remains glowing red hot by the continuing internal combustion of the fuel. The glow plug wire type provides several ways you can tune your engine's performance.

fig. 33a *Glow plug with copper gasket*

How do I know when to change the glow plug? Associated drivers find that the #MC59 McCoy glow plug works well under many types of conditions, from low altitude to high, from low temperature to high. It comes highly recommended as a great, all-around glow plug.

You change your glow plug before performance drops off or before it harms the engine.Here are some tips from Paris Racing:

- If wire and surrounding bottom of plug is dry, wire distorted, then change the plug.
- If wire and surrounding bottom of plug is dry, wire broken and distorted or burnt up, then change the plug.

A gray plug can still operate well. But after it has totally gone gray performance can start to fall off. To test, just put in a new plug and if there is no difference in performance, save the gray one or put it back in. If your engine does not feel or run right, try a new plug before making a major tuning change elsewhere.

How do I change the plug? Unscrew it from the engine head, and screw another one in. If your plug is not screwed in tightly enough, the engine vibrations can cause it to back off. Your engine may sputter unexpectedly and die because of the decreased pressure. Make sure the copper gasket is on.

On setup sheet: You write in which glow plug type you used.

34 Muffler/Tuned Pipe

fig. 34a *Associated's #7730 tuned pipe is the all-around favorite of Team Associated Drivers.*

The tuned pipe does more than muffle the roar that angers your neighbors at 2 a.m. As the exhaust exits your engine through the manifold and into the pipe, it backs up in the pipe and causes "back pressure" toward the engine. This back pressure creates several useful tuning possibilities for the engine, which are modified by the shape of the tuned pipe.

The pipe shape can determine your top end and other features. For instance, a longer pipe can increase your top end. A more tapered pipe can remove some of the punch, resulting in smoother acceleration. The exhaust also sets up a pressure that is forced through the tubing into your gas tank, which helps force gas into the engine more efficiently, resulting in more rpms than without the tuned pipe. Thus, a set of tuned pipes for different racing conditions is a must for serious racing.

How do I know which pipe is best? Associated's #7730 tuned pipe has proven to be the best for all-around racing conditions. Always start with that pipe, making changes to other areas of the truck first.

How do I change the pipe? Remove the fuel line from the pipe, snip off the tie, and remove the pipe. Add the new pipe and another tie to hold it in place.

On setup sheet: You write in which pipe you used, whether Standard (Associated) or another pipe.

TIP: Cleaning your engine. Oily sludge is a fact of life in gas R/C. The oil comes from the oil/nitro mixture of your fuel. It doesn't burn, but lubricates the barrel chamber and then gets spewed out. After running, clean your car with 409, Fantastik, or similar cleanser.

35 Clutch Shoes

When the engine revs increase, the clutch shoes, attached to the flywheel on the engine shaft within the clutch bell, are flung outward by centrifugal force. The shoes engage the inside of the clutch bell to turn the bell and accelerate your truck. (The arrow is pointing at the darkened area where the shoe made contact

with the clutch bell.) The shorter the clutch shoes, the longer the engine must rev before the shoes engage (a shorter contact patch contributes to this too). A clutch shoe at stock length engages the clutch bell more quickly than short ones do. To adjust when your clutch engages, you can change the number of clutch shoes or alter their length.

When do I change my clutch shoes? Changing your shoes mainly depends on the track conditions. Keep several sizes of clutch shoes on hand if you encounter different track conditions.

- In general, the better the traction, the longer the shoes (quicker clutch engagement, quicker acceleration, **fig. 35b**); the slicker the track, the shorter the shoes (slower engagement, **fig. 35c**), which prevents tire spinning. To decrease the clutch engagement, try cutting the Teflon shoes one hole shorter. Do not make the shoes too short.
- 4-shoe clutch. For the best performance, try the Associated 4-Shoe Clutch #7611 (requires two sets of #7601 clutch shoes). This clutch will allow it to accelerate harder than a 2 shoe clutch and engages more smoothly.

How do I change my clutch shoes? Remove the clip of your clutch nut, remove the clutch bell, and slide off the clutch shoes. Add new ones and reassemble.

On setup sheet: You note how many clutch shoes you used and how you cut them, if cut at all.

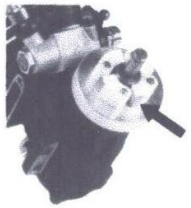


fig. 35a *You have several choices regarding clutch shoes.*

fig. 35b *Standard, for quickest engagement.*

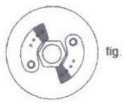


fig. 35c *Middle*

fig. 35c *Maximum cut, for slowest engagement.*

36 Clutch Bell

The clutch bell teeth transfers engine power to the spur gear to drive your rear wheels. The ratio between your clutch bell teeth and spur gear teeth (gearing) will affect how fast your truck goes (its top speed) and the rate your truck accelerates. Like a see saw effect, changing the top end will move the acceleration in the opposite direction. You can adjust your top end and acceleration by changing your clutch bell to one with a different number of teeth. You also have the choice of bushing or bearings in your clutch bell.

How do I know when to change my clutch teeth? Standard setting for clutch/ spur is: 15T clutch / 66T spur.

- For more top end, change to a larger tooth clutch bell. But this also reduces your acceleration.
- For more acceleration, change to a smaller tooth clutch bell. This will give your truck more punch. But this also reduces your top end.
- Going to a higher pitch (smaller size teeth) is usually more efficient, but for off road it is not as reliable.
- Use bearings for better performance in racing. But it will require more maintenance.
- Use bushings for budget reasons.

How do I change my clutch bell? Remove the E-clip from the clutch nut, slide off the clutch bell, and replace it with another one.

On setup sheet: You write in the number of teeth you used. This number is usually from 14 to 24. Also indicate whether you used bushings or bearings.

fig. 36a *Clutch bell attached to flywheel by large E-clip.*

#7609, 14 tooth: *for quicker acceleration on short tracks.*
#7605, 15 tooth: *recommended for small, tight, off road tracks.*
#7606, 16 tooth: *recommended for larger off road tracks.*
#7607, 17 tooth: *for oval track racing (will not fit pull start engines).*
#7608, 18 tooth: *for large oval track racing (will not fit pull start engines.)*
May require aftermarket parts and modification to truck.
#8902, 22 tooth.
#8904, 24 tooth.

Other

37 Slipper type/setting

The Associated ATC regulates the amount of wheel spin, either absorbing it itself, or letting the wheels spin. It therefore acts like a buffer between the tires and the tranny/motor, controlling the amount of traction ("slipping") of your rear tires. Tightening the slipper has the effect of locking the tranny gears to your wheels, so if you overtighten the slipper, you can damage your transmission gears landing off a jump.

fig. 37a *Adjust the slipper with this nut.*

When would I make the slipper looser or tighter?

- The purpose of the clutch is to gain traction. On a high traction surface such as carpet, you can run your slipper a little tighter than on a low traction surface.
- If your tires are spinning (slipping) too much, then loosen the slipper.

How do I adjust the slipper? You adjust the slipper on the Associated Stealth ATC by turning the torque control clutch nut, **fig. 37a**. To loosen the slipper, back off the nut. To tighten the slipper, tighten

the nut.

Beware of over-tightening the torque clutch (slipper), otherwise you may damage the differential landing off a jump.

If you recently rebuilt the Stealth tranny, then run the truck a little on the loose side for about one minute before adjusting for race settings. With a fully charged battery, your torque clutch should only spin 2-3 feet before fully engaging. If your wheels spin longer, then loosen the slipper.

On setup sheet: You check off which slipper clutch you are using, the standard Associated Stealth transmission ATC, the aftermarket Hydra or Viscous slippers, or another type. Also note if you used the standard setting, looser, or tighter.

38 Spur Gear

The spur gear, **fig. 38a,** interfaces between the engine's clutch bell and the transmission. Changing the spur gear to more or fewer teeth will make big changes to your truck's top end speed.

You need to properly match the spur gear teeth number with the pinion gear teeth number and engine.

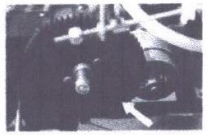


fig. 38a. Spur gear choice will affect your acceleration and top speed you can attain.

How do I know when to change my spur teeth? Standard setting for clutch/ spur is: 15T clutch / 66T spur. We suggest that on a track with many turns, go for quicker acceleration over top end.

- For more top end, gear up with fewer teeth.
- For quicker acceleration, gear down with more teeth. But you will lose some top end.

How do I change my spur gear? You remove the screws, slide off the gear, and insert a new one.

On setup sheet: You write in the number of teeth of the spur gear you mounted on your transmission. Associated sells various spur gears intermittently numbered from 56 to 66.

TIP

If you are experiencing stripped spur gear teeth, you may be experiencing chassis flex. Frequently check that the screws for the engine mount and transmission are firmly tightened to the chassis to lessen the chassis flex. Gas engines introduce severe vibrations which can loosen the screws.

TIP

Aftermarket chassis stiffener products can also help reduce gear wear.

39 Weight

Weights are an option seldom used on the GT. Nevertheless, they are another tuning option to consider. Weights, such as Associated's #1595 lead weights **(fig. 39a),** take the form of lead strips that you cut apart at the tick marks, each section weighing 1/4 ounces (7gm). They are attached by the sticky tape on back.

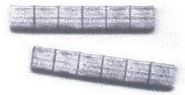


fig. 39a Lead weights in 1/4 oz. sections. These #1595 weights have sticky tape on back so they stay in one place.

When should I consider using weights?

- Attach the weights to the front for more steering.
- Add at either side to balance the truck, or to favor one side over the other.
- On the rear bulkhead to meet any minumum weight requirements.

On setup sheet: You write in how much weight you used, if any.

40 Chassis

Your metal tub chassis must protect the internal components, keep out the dirt, and absorb the engine vibration and heat (for this last reason, we will not create a graphite chassis).

fig. 40a Tub chassis.

On setup sheet: You note if you used the standard #7525 GT tub chassis or another type.

41 Body

The body, **fig. 41a,** does more than protect your components. Its aerodynamics may influence your truck's handling on different tracks.

fig. 41a GT truck body.

On setup sheet: You write here which body you used.

42 Spoiler

Your truck spoiler aids in rear traction. Always use it.

On setup sheet: You indicate if you used a spoiler.

43 Radio

Your hand-held transmitter sends signals to your servos to control your truck steering and speed. Popular radio systems include Futaba, Airtronics, and

KO Propo.

44 Steering Servo

Under your radio direction, the servo horn pivots left or right, pushing/pulling the steering tie rods connecting between the servo and the wheels to help you steer your truck. The servo is usually included with your purchase of a transmitter. Popular servos include Airtronics, Cirrus, Futaba, Hitec, Hobbico, JR Radio, and KO Propo.

What should I consider in a servo?

- Generally, for on road racing, you may want a servo with faster transit speed, because they will feel more responsive.
- For off road racing you'll want a servo with more torque. The servo's torque is measured in oz.-in. (The more ounces, the stronger the servo.) Your second consideration after that will be servo transit speed for responsiveness, but this depends upon your driving style.

On setup sheet: You write in which brand of steering servo you used in your vehicle.

45 Off Road Track Conditions

This section has detailed specifications for many different types of tracks. Marking these track conditions carefully will better help you to match your settings to other tracks that are similar. Tracks change depending on the weather, being damp or dry, etc., and such information omitted may cost you the next race if you use the same settings when the track changes from dry to damp.

Note carefully your type of track conditions, then go back over this *Guide* and look for underlined terms that match your track, such as slick tracks, or bumpy tracks. Note what changes are recommended and get ahead of the competition already!

Also, paying particular attention to this area will help others understand why you deviated from the standard setup, or used it successfully. Pay particular attention to track layout description (length, jumps, etc.) if your track layout is changed frequently.

Setup sheets without this track information is

practically useless, because the whole idea of setups is to hook up the vehicle to race to its fullest potential on that particular track.

On setup sheet: You specify the various track features that differentiate it from other tracks.

46 Race Comments

Every racer should get a feeling for why they finished where they did. Some reasons are obvious, others not so obvious.

On setup sheet: You write here your outcome of the race. Did you TQ with these settings? Did you win, but only because the racer who always beat you in the past did not show? You need to note these details. In which Main did you finish? Was it tough competition or smooth sailing? What observations can you write here that will help you race next time? These comments will help you and others who see your setup sheet.

47 Truck Comments

Every driver has to judge their vehicle's overall handling after all the settings have been made and put to the test. You should be able to express those observations on paper.

On setup sheet: You write here how your vehicle handled overall. Also, note here any new hop-ups you were experimenting with, and what impact they had on the car's performance. What made you happy about the car? How were you dissatisfied? What problems came up that you would want to consult a more experienced racer about?