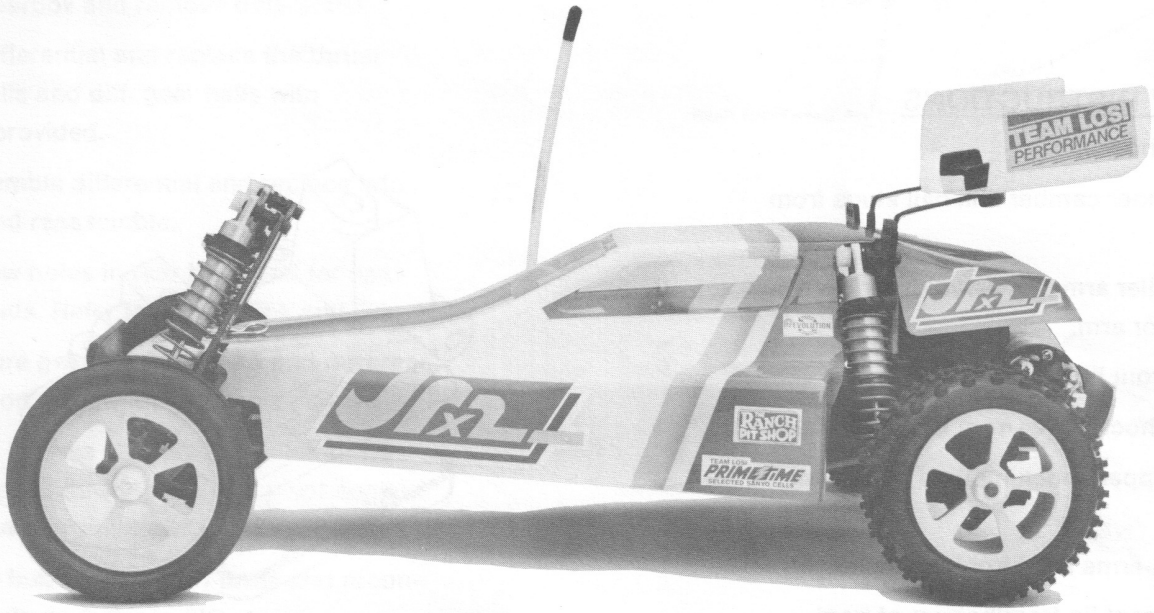
TEAM LOSI

SET-UP, TUNING AND ASSEMBLY GUIDE

JR-X2 PROFORMANANCE KIT



NATIONALS CAR SET-UP SPEC SHEET

SUSPENSION

SHOCKS

- Front oil: 30 wt.
- Rear oil: 20 wt.
- Pistons: front drilled #56

SPRINGS

- Front: kit (soft)-no preload
- Rear: blue (firm) bottom outside

RIDE HEIGHT

- Drive shaft level

ANTI-SQUAT

- 4 Deg. - pivot support #1

SHOCK MOUNT LOCATION

- Front: lower inside, upper top
- Rear: lower bottom,

BATTERIES

- Prime Time

STEERING

CAMBER

- Front: 1 deg. neg.
- Rear: 2 deg. neg.

TOE-IN

- Front:1 deg.
- Rear: 4 deg.(#1 pivot support)

CAMBER HOLE LOCATION

- Front: middle hole
- Rear: top inside

MOTOR

- Revolution

TIRES

- Front: TEAM LOSI Standard Kit
- Rear: TEAM LOSI HT 4 Row

INTRODUCTION

This kit will allow you to modify your existing JRX2 to meet the standards of the ROAR National Championship winning car of Jack Johnson's. These instructions are written with the assumption that the reader has already built a JRX2 and is familiar with the construction of the car. This guide is divided up into three general sections. The first section is the set of instructions on how to add the nationals modifications. The second section contains Jack's Tips, pivot support and H-arm information . The third section contains a spare parts list. When building the car, refer to Jack's Tips for specific information on the set-up of the nationals car. Remember that Jack Johnson's car was specially tuned to race at the nationals track and the same setup might not be optimum for a different track. This manual is to be used in conjunction with the JRX2 owners guide. Note: This kit is designed for those cars with the second generation thrust bearing in the differential. If your car is not equipped with one, a thrust bearing kit can be purchased from your local R/C store.

ASSEMBLY INSTRUCTIONS

1. Remove shocks.
2. Remove inner camber link ball studs from shock tower.
3. Remove idler arm and servo saver from steering sector arm.
4. Remove front bulkhead from chassis.
5. Remove shock tower from front bulkhead.
6. Remove upper shock mounts from front shock tower.
7. Remove A-arms from front bulkhead.
8. Grind off front lip from bottom of front bulkhead.Refer to FIG. 1
9. Secure extended shock tower onto front bulkhead.
10. Secure top shock mounts to desired position in front shock tower.
11. Replace front A-arms to front bulkhead.
12. Replace front bulkhead onto the long chassis using the 8-32 x 1/2 screws with the bumper secured between chassis and front bulkhead.
13. Resecure upper camber link ball stud into desired position on the extended shock tower.
14. Remove the E-clips that retain the idler arm and servo saver to the steering posts.
15. Remove steering posts.
16. Resecure steering posts to new chassis being sure to space them up using the spacers provided on bumper.
17. Replace the servo-saver and idler arm onto steering posts and secure with E-clips.
18. Remove rear wheels.
19. Remove rear shocks.
20. Remove motor.
21. Remove trailing links from hub carriers.
22. Remove camber links from hub carriers and camber link ball studs from rear bulkhead.

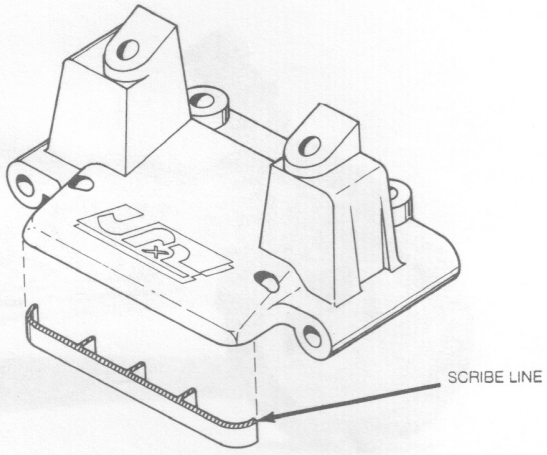


FIG 1

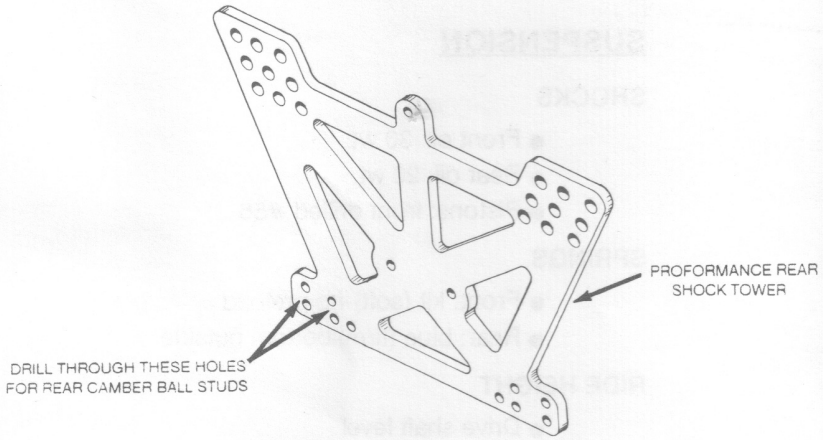


FIG 2

23. Remove the screws that secured the rear of the trailing links to the hub carriers.

24. Remove outer hinge pins.

25. Remove inner hinge pins.

26. Remove rear pivot support, gearbox and rear bulkhead from chassis.

27. Remove rear shock tower from rear bulkhead.

28. Remove rear bulkhead from gearbox.

29. Split gearbox and remove differential.

30. Split differential and replace the thrust bearing balls and diff. gear balls with hardballs provided.

31. Reassemble differential and replace into gearbox and reassemble.

32. Drill new holes in rear bulkhead for camber ball studs. Refer to Jack's Tips and FIG. 2.

33. Resecure gearbox, bulkhead and new rear pivot support to new long chassis.

34. Secure H-arms as shown by sliding the inner hinge pin through the rear pivot support and into the rear bulkhead.Refer to FIG. 3

35. Secure hub carriers to H-arms and reconnect drive shafts.Refer to FIG. 4

36. Replace camber ball studs into hole shown.Refer to **Jack's Tips and** FIG. 2

37 Secure upper shock mounts to rear shock tower and rear shock tower to rear bulkhead. NOTE: The rear shock tower has two countersunk mounting holes. If you wish to place the speed controller or receiver onto the rear shock tower. Countersunk screws are available in spares kit No. A-6210. If you wish to use the old mounting screws, simply turn the tower around so the countersinks face the rear bulkhead.

38. Construct new camber rods using the long turnbuckles provided.

39. Secure camber rods from rear bulkhead to hub carriers.

40. Remove lower shock mounts and springs from rear shocks and replace them with new lower front mounts and springs provided as shown.

41. Secure lower end of rear shocks to H-arms shown.

42. Secure upper end of shocks to shock tower.

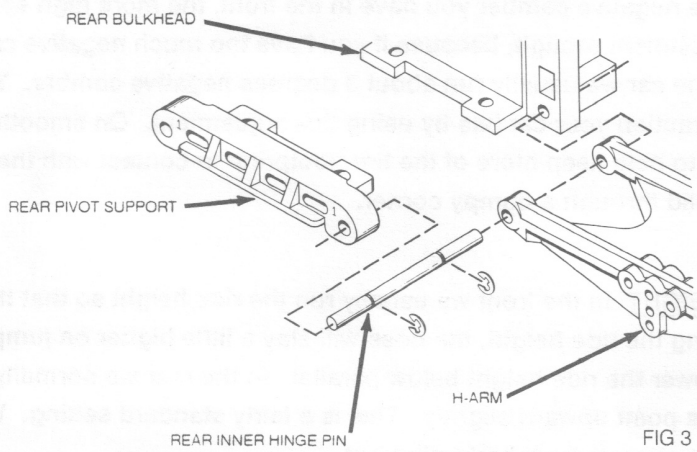


FIG 3

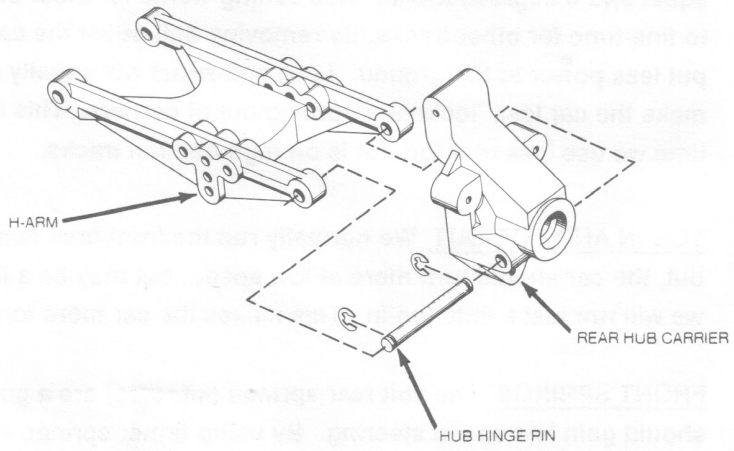


FIG 4

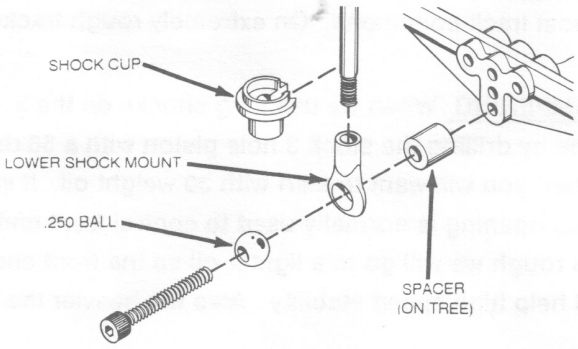


FIG 5

43. Construct new rear shocks (see original JRX2 Owners Guide).

44. Secure lower shock mounts of front shocks into A-arms.

45. Secure upper end of shocks onto upper mounts on shock tower.

JACK'S TIPS

CAMBER Normally on the front end we will run between 2 and 5 degrees negative camber. You should find that the more negative camber you have in the front, the more high speed steering you get. Care should be taken in this adjustment though, because if you have too much negative camber, you will loose steering again. On the rear end of the car we usually run about 3 degrees negative camber. You will find that you can slightly vary the amount of rear traction your car has by using this adjustment. On smoother tracks we will run just a little less negative camber to help keep more of the tire "footprint" in contact with the track. This will usually make the rear end a little more solid through a bumpy corner.

RIDE HEIGHT In the front we usually run the ride height so that the front arms are parallel with the front bulkhead. By raising the ride height, the nose will stay a little higher on jumps and there will be a little less steering. We vary rarely lower the ride height below parallel. In the rear we normally run the ride height a little below parallel so that the arms point upward slightly. This is a fairly standard setting. We usually only vary this for track roughness to keep the chassis from bottoming out.

REAR PIVOT SUPPORT When using H-arms, we usually run the number 1 support. This gives you 4 degrees anti-squat and 6 degrees toe-in. This setting works for most track conditions. Refer to chart for pivot support selection to fine-tune for other tracks. By removing anti-squat the car will loose a little acceleration because the rear end will put less power to the ground. Less anti-squat will usually give a little more high sped steering. Less toe-in will make the car less "locked-in"coming out of corners. This is almost like adding toe-in to the front end. The only time we use less rear toe-out is on high traction tracks.

TOE-IN AND TOE-OUT We normally run the front tires straight, without any toe-in or toe-out. By adding a little toe-out, the car should turn more at low speed, but may be a little unforgiving exiting corners. If a track is very slippery we will run just a little toe-in. This makes the car more forgiving and takes away a little steering.

FRONT SPRINGS The soft rear springs (kit rears) are a good place to start. By using the extra soft springs you should gain low speed steering. By using firmer springs you will gain high speed steering. If it is a high speed track where you must use a lot of brakes at the end of straights, a firmer spring will help stabilize the car while braking. Generally, firmer springs will carry the nose of the car more on jumps.

REAR SPRINGS The firm rear spring is almost always used with the H-arms . This spring performs very consistently on most track conditions. On extremely rough tracks, though, we will use the medium springs.

FRONT DAMPENING When we use long shocks on the front, we usually drill our pistons for the front shocks. This can be done by drilling the stock 3 hole piston with a 56 drill bit. Drill out all 3 holes of each piston. Once this is accomplished you will want to start with 30 weight oil. If you do not drill the pistons you will want to use 5 weight oil. Front dampening is normally used to control front end stability. We rarely go any heavier than 30 weight. If the track is rough we will go to a lighter oil so the front end will move easier. If the track is smoother, heavier dampening will help high speed stability. Also the heavier the front dampening, the more the nose will carry off of jumps.

REAR DAMPENING We normally run 20 weight in the rear. This works well on most tracks. If the track is rough, a lighter oil will let the rear end move faster and may help keep it from bouncing. If a track is smooth, a heavier oil will keep the rear end centered better.

FRONT SHOCK LOCATION We normally run the bottom of the shock to the inside hole on the "H-arm". The top of the shock is usually to the outside of the tower. By moving the top of the shock towards the inside, the car will turn in a little harder but will be a little less forgiving.

FRONT CAMBER LOCATION We run the front camber link to the center hole. Moving it outward gives the car a little less steering. Moving it inward gives it a little more steering.

FRONT SHOCK LOCATION We normally run the bottom of the shock to the inside hole on the arm. The top of the shock is usually to the outside of the tower. By moving the top of the shock towards the inside, the car will turn in a little harder but will be a little less forgiving.

REAR SHOCK LOCATION We run the bottom of the rear shock in the bottom hole of the arm. The top of the shock is usually in the bottom outside hole of the tower. By moving the shock to different locations you will get different shock rates. This will cause the shock to "pack" either more or less. Generally the less "pack" it has, the better it will work in choppy conditions, but will usually bottom out when landing on jumps. The more "pack" it has, the better it will land on jumps but it may hop a little in choppy conditions. The suggested location works pretty well for most situations, but by experimenting you may find one better for your conditions.

REAR CAMBER LOCATION We run the inside rear camber link in the top inside hole on the new shock tower. Compared to the stock locations, the car goes through bumps better and is a little more "locked-in".

MAINTENANCE It's important to keep all parts moving freely. You should occasionally disassemble your car and clean up all the moving parts. That little extra effort always pays off.

REAR TOE-IN , ANTI-SQUAT & H-ARM SELECTION INFORMATION

Two of the most important yet subtle suspension tuning adjustments in a car are the rear suspension toe-in and anti-squat. To provide for these fine tuning adjustments, the Nationals kit includes a selection of rear pivot supports to cover a variety of track conditions. Each of the supports offers a different combination of toe-in and anti-squat. When a car undergoes hard acceleration, the rear end has a tendency to drop. When this happens, the car looses some of its on-power traction. In order to overcome this, the anti-squat ability of the car must be increased. The drawback is that as the anti-squat increases the forward traction, it also decreases the off-power traction.

If the rear end of the car has a tendency to "skate" or is unstable, then adding toe-in would give the car more straight line stability and help solve this problem. The trade-off to having toe-in is a decrease in straight line speed and the car will not carry speed through the turns as well. Each adjustment to a car creates a trade-off. Performance is gained in one area and lost in another. The trick is to find the best set of trade-offs for your driving style.

Both the H-arm and five link suspensions use the same method to induce toe-in, but the means to create anti-squat differ. In an H-arm suspension, anti-squat is controlled by tilting the rear inner hinge pin. On the five link suspension, the anti-squat is controlled by the rear trailing links. By tilting the inner hinge pin on the five link, bump steer may occur in the rear wheels. Under some track conditions this might be an asset.

The suggestions given in this kit should be used only as general guidelines. There are so many variables in a car that they cannot possibly be listed in a simple instruction sheet. Go to the track, try out various combinations of set-ups and get a feel for what each one does to the handling of the car.

The pivot supports provided in this kit are secured to the chassis exactly as the stock supports are. On the back of each pivot support, there will be a number. This number corresponds to the style of the pivot support. Refer to the chart provided to determine the toe-in and anti-squat for each support.

On the bottom of the H-ARM you will find a letter and an arrow. The arrow points to the front of the car and the letter designates left and right. You'll notice that the arms are swept back slightly and that there are a number of holes for shock placement. If you reverse the arms so that they are swept forward, you will shorten the wheelbase and speed up the reaction time of the car. If you raise the shock placement, the car will handle big jumps better and be less forgiving in chop and turns. Use the adjustments provided, experiment and find out which combination works best for you.

NOTE: To insure consistent geometry, store this and all cars on a car stand or riser to keep suspension free of residual strain.

ADJUSTABLE ROD END	A-6002	ADJUSTABLE ROD ENDS
PISTON,SHOCK	A-5007	PISTON, SHOCK & E-CLIPS
BUMPER	A-4005	MINI BUMPER KIT
H-ARM/LEFT	A-2014	H-ARM CONVERSION KIT
	A-2015	H-ARM SET/ LEFT & RIGHT
SPACER,STEERING FOR BUMPER	A-4005	MINI BUMPER KIT
H-ARM/SHOCK END SPACER	A-2014	H-ARM CONVERSION KIT
	A-2015	H-ARM SET/ LEFT & RIGHT
H-ARM/RIGHT	A-2014	H-ARM CONVERSION KIT
	A-2015	H-ARM SET/ LEFT & RIGHT
H-ARM SHOCK END	A-2014	H-ARM CONVERSION KIT
SHOCK CUP	A-2014	H-ARM CONVERSION KIT
REAR PIVOT SUPPORTS	A-2016	REAR PIVOT SUPPORT KIT
SHOCK CARTRIDGE	A-5006	REBUILD CARTRIDGE
EXTENDED FRONT SHOCK TOWER	A-1010	EXTENDED FRONT SHOCK TOWER
LONG CHASSIS	A-4040	GRAPHITE CHASSIS, MONSTER TRUCK
REAR PROFORMANCE SHOCK TOWER	A-2020	REAR SHOCK TOWER
EXTERNAL O-RING, CARTRIDGE	A-5011	SHOCK CARTRIDGE-EXTERNAL O-RING
BALL JOINT	A-2006	SWIVEL BALLS .250
FRONT TIE ROD	A-1009	FRONT LINK/TIEROD L/R THREAD
LONG SHOCK BODY	A-5003	SHOCK BODY REAR(LONG)
LONG SHOCK SHAFT	A-5005	SHOCK SHAFT (REAR) LONG
STUDDED BALL .168 X .38	A-6000	BALL STUDDED W/ROD END
1/16" BALLS	TL-4017	1/16" HARD BALLS
3/32" HARD BALLS	TL-4016	3/32" HARD DIFF BALLS
.125 E-CLIPS	A-6100	E-CLIPS .125
SPRING REAR FIRM	A-5107	REAR SPRINGS
4-40 X 3/4 CAPHEAD SCREW	A-6205	4-40 X 3/4" SOCKET HEAD
8-32 X 1/2 FLAT HEAD	A-6209	8-32 X 1/2" ALUMINUN FLATHEAD
4-40 NYLON MUT	A-6301	4-40 NYLON LOCKING NUTS
JRX2 LONG BODY	A-8002	JRX-PRO BODY

PIVOT SUPPORT REFERENCE TABLE

STYLE	TOE-IN	ANTI-SQUAT
STOCK	4	0
VERSION 1	6	4.0
VERSION 2	6	1.7
VERSION 3	5	4.0
VERSION 4	5	1.7

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