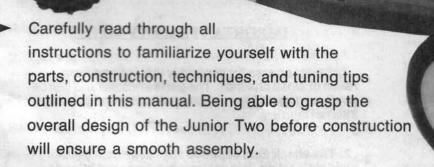




OWNER'S GUIDE



 Take your time and pay close attention to details. Keep this guide for future reference.



TEAM LOSI, INC. 13848 Magnolia, Chino, CA 91710

WELCOME JUNIOR TWO OWNER

The Junior Two should make getting involved in entry level radio controlled racing easier. Although this kit is lower in price than the all out racers, the most important features are included.

We feel this kit is competitive out of the box, and with very minor changes it can be updated with all the hi-performance Team Losi parts as found in the JRX-PRO kit. Your Junior Two comes with a molded composite chassis, rather than a layed up graphite unit. This unique molded chassis is the result of 18 months of engineering and track testing. It's superior stiffness and strength has been achieved without compromising weight, making this the best mass produced chassis ever offered.

To prove how competitive this kit is, my dad has been racing it against some of the best stock class racers in Southern California. Although he is getting up there in years and races infrequently, he has been extremely competitive having won as well as top qualifying several events. We believe Team Losi has set a new standard when it comes to entry level racing cars. We feel sure you will agree when you decide to try your luck at your local track.

Thanks to our racing team for all of the testing they have done to insure the success of this project and your future racing.

Thanks for choosing Team Losi,

Mil Josi F

Gil Losi Jr.

1. INTRODUCTION

The Junior 2 kit is composed of different bags marked Bag A through Bag G. Each bag contains all of the parts necessary to complete a certain section of the car. It is essential that you open only bag at a time and follow the right sequence, otherwise you will face difficulties in finding the right part. It is helpful to read the entire instructions for the bag prior to starting assembly. Key numbers (in circles) have been assigned to each part and remain the same in the illustration and throughout the instructions. For your convenience, an actual size hardware identification guide is included in each step. To check a part, hold it against the silhouette until it is identified. In some cases extra hardware has been supplied to replace easily lost parts. When assembling shafts to plastic parts, different fits e.g., press, net, loose have been designed into the parts. To ensure that parts are not lost during construction, it is suggested that you work over a towel or mat to prevent the parts from rolling away.

IMPORTANT SAFETY NOTES

- 1. Select an area for assembly that is away from reach of small children. The parts are small and can be swallowed by children causing choking and possible internal injuries.
- The shock fluid supplied should be kept out of children's reach. It is not toxic but it was not intended for human consumption.
- Exercise care when using any hand tools, sharp instruments and power tools during construction.
- Carefully read all manufacturer's warnings and cautions for any glues or paints that may be used for assembly purposes.

INTRODUCTION (Cont.)

TOOLS REQUIRED

Team Losi has supplied all allen wrenches and a special wrench that is needed for assembly and adjustments. A plastic set up tool is also provided to determine lengths of camber and tire rods and ride heights. The following common tools will also be required: #2 Phillips screw driver, small flatblade screw driver, needle nose pliers, regular pliers, scissors or other body cutting/trimming tool. 3/16", 1/4", and 3/8" nut drivers are optional.

RADIO/ELECTRICAL

All radio and electrical equipment varies. It is for this reason that we have not included specific instructions on radio and electrical equipment installation. We have

left this subject to the personal preference of the owner/racer. A suggested layout is provided in this manual (Page 25). If you have any further questions, your high performance R/C center will be able to answer any of your questions.

HARDWARE IDENTIFICATION

When in question, use the hardware identification guide in each step. For screws, the prefix number designates the screw size and number threads per inch e.g., 4-40 is a #4-screw with 40 threads per inch. The fraction following designates length of thread or overall if flathead type. Bearings and bushings are referenced by inside diameter X outside diameter. Shafts and pins are diameter X length. Washers are described by inside diameter. E-clips are sized by the shaft diameter of attachment.

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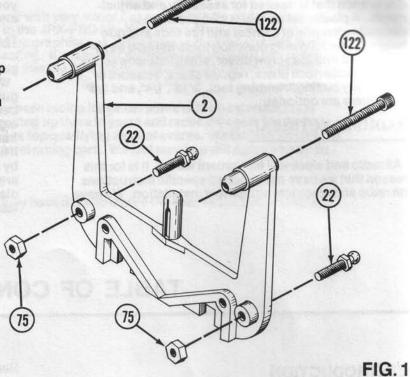
BAGA

Bag A consists of the main chassis parts. This includes the front and rear bulkheads, front and rear shock towers, bumper, battery box and front A-arms. Care should be taken when screwing in aluminum 8-32 screws to avoid stripping the heads.



1. Thread two 4-40 x 1" socket head screws (122) to top of front shock tower (2) from the rear as shown. Fig 1.

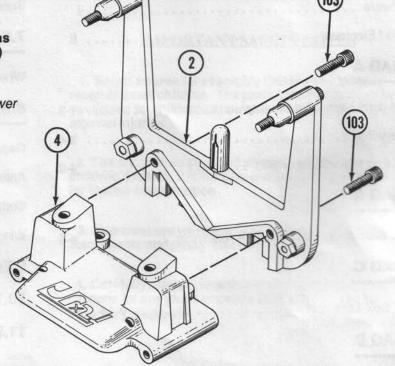
2. Thread two 3/8" studded balls (22) into lower hole in front shock tower (2) and secure with 4-40 nylon nuts (75) as shown. Fig. 1.



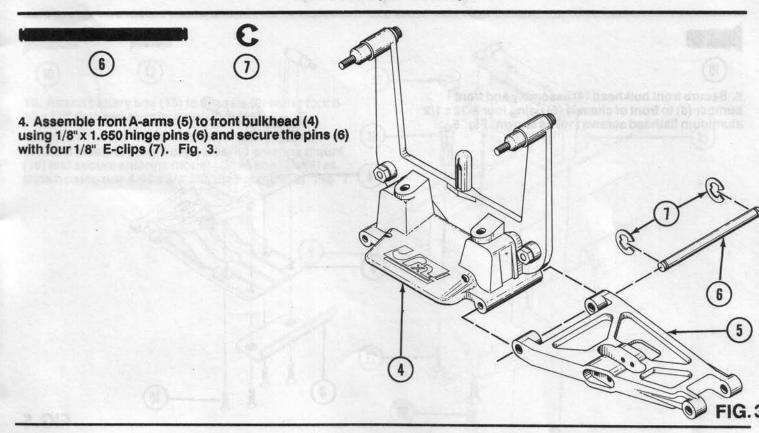


3. Secure front shock tower (2) to front bulkhead (4) as shown using two 4-40 x 5/8" socket head screws (103) Fig. 2.

* NOTE: Trim flash from bottom of front shock tower well.

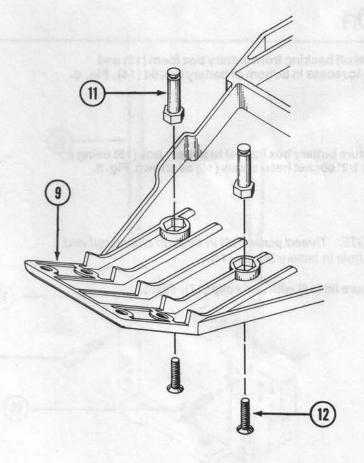


Page 1





5. Secure steering posts (11) to chassis (9) as shown using two 4-40 x 3/8" flathead screws (12). Fig. 4





6. Secure front bulkhead (4) assembly and front bumper (8) to front of chassis (9) using four 8-32 x 1/2" aluminum flathead screws (10) as shown. Fig. 5.

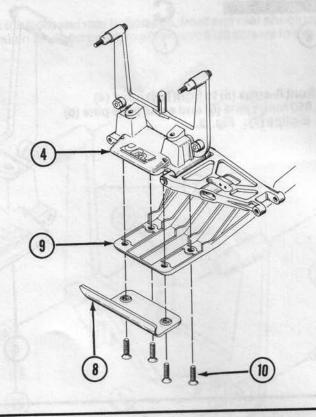
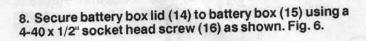


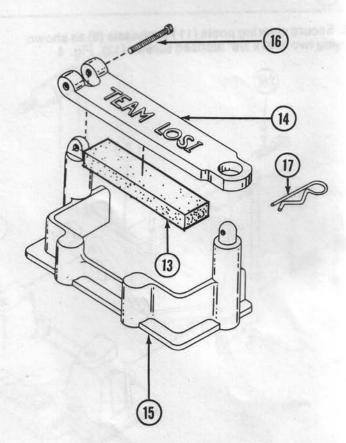
FIG.5

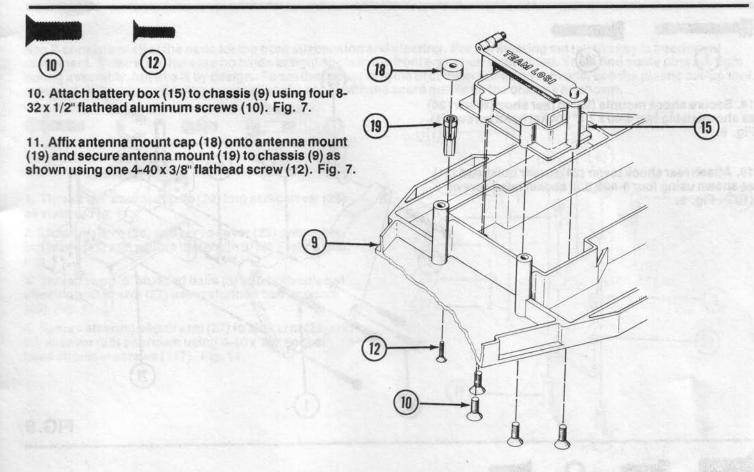


7. Peel off backing from battery box foam (13) and apply to recess in bottom of battery box lid (14). Fig. 6.



- NOTE: Thread screw (16) in through chamfered end of hole in battery box lid (14).
- 9. Secure lid (14) with body clip (17). Fig. 6.









12. Insert wing tubes (20) into rear bulkhead (21) as shown. Fig. 8.

* NOTE: They are a tight fit.

13. Install 3/8" studded balls (22) into rear bulkhead (21) as shown. Fig. 8.

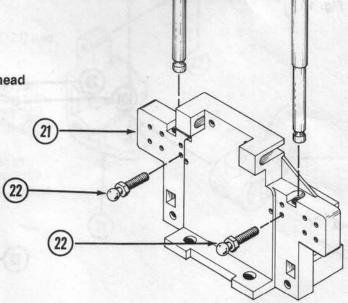
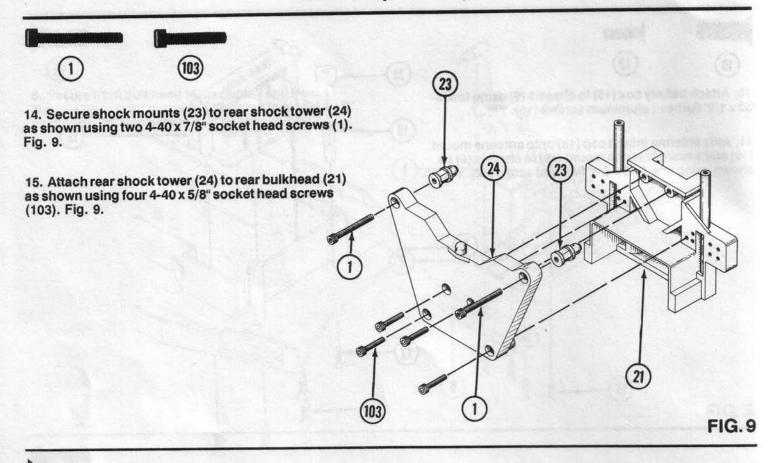
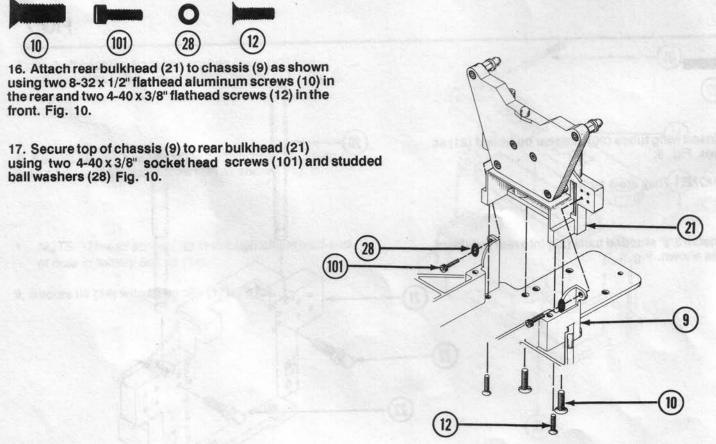


FIG.8



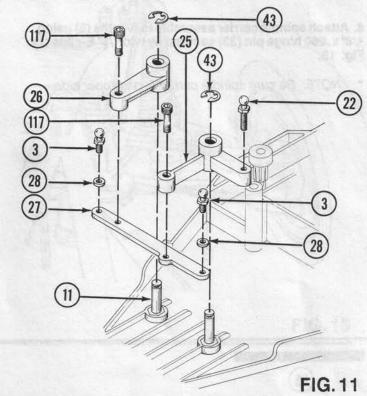


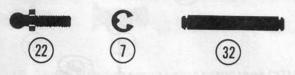
BAG B

Bag B consists of all of the parts for the front suspension and steering. For the steering set up, the key is freedom of movement. Make sure there are no binds or tight spots in the front end when assembled. You'll find some pins are tight during assembly, but this is by design. To set the proper lengths of camber links and the rods, use the plastic set-up tool provided. When mounting the servo, align the servo with the score marks on the chassis as shown.



- Thread 3/8" studded balls (22) into servo saver (25) as shown. Fig 11.
- Slide idler arm (26) and servo saver (25) onto steering posts (11) and secure them with 3/16" E-clips (43).
 Fig. 11.
- 3. Thread two 1/8" studded balls (3) into both sides of steering sector arm (27) using studded ball washers (28). Fig. 11.
- 4. Secure steering sector arm (27) to idler arm (26) and servo saver (25) as shown using 4-40 x 1/8" socket head shoulder screws (117). Fig. 11.





- 5. Slide front axle (29) into spindle (30) (121) as shown so that holes are aligned. This is now called the spindle assembly. Fig. 12.
- * NOTE: Spindle arms are marked for left (L) (121) and right (R) (30).
- 6. Place spindle assembly into spindle carrier (31) so letter on spindle (30) (121) arm faces up and insert 1/8" x .690 hinge pin (32) through spindle carrier (31) and spindle assembly and secure with two 1/8" E-clips (7). Fig. 12.
- 7. Thread one 3/8" studded ball (22) into top hole in spindle carrier (31) from the rear and one 3/8" studded ball (22) into spindle (30) (121) arm from the top. This is now called the spindle carrier assembly. Fig. 12.

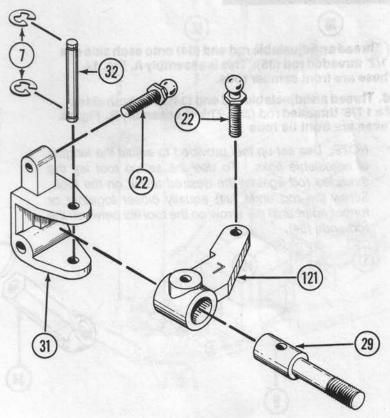
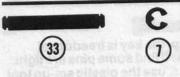
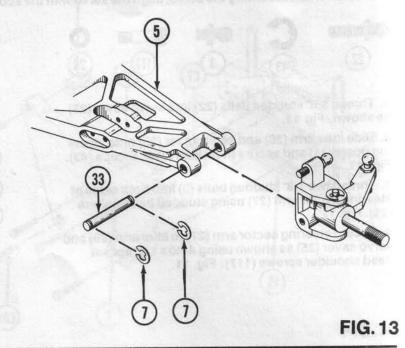


FIG. 12



8. Attach spindle carrier assembly to A-arms (5) using 1/8" x .960 hinge pin (33) secured by two 1/8" E-clips (7). Fig. 13.

NOTE: Be sure spindle carrier is on proper side.



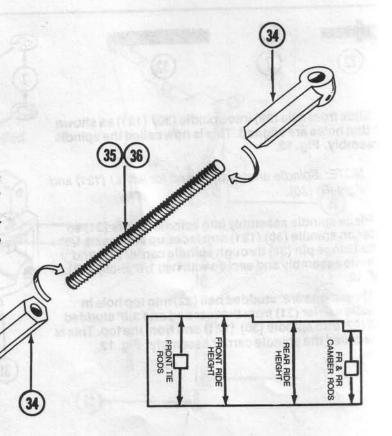




9. Thread an adjustable rod end (34) onto each side of a 1 1/2" threaded rod (35). This is assembly A. Fig. 14. These are front camber rods.

10. Thread an adjustable rod end (34) onto both sides of a 17/8" threaded rod (36). This is assembly B. Fig. 14. These are front tie rods

* NOTE: Use set-up tool provided to adjust the lengths of adjustable links. To use the set-up tool lay the threaded rod against the desired arrow on the tool. Screw the rod ends (34) equally closer together or further apart until the arrow on the tool fits between the rod ends (34).



- 11. Snap one end of assembly A onto studded ball (22) in front shock tower (2). Fig. 15.
- 12. Snap the free end of assembly A onto studded ball (22) in top of spindle carrier (31). Fig. 15.
- 13. Snap one end of assembly B onto studded ball joint
- (3) in steering sector arm (27). Fig. 15.
- 14. Snap the free end of assembly B onto studded ball (22) in spindle (30) (121)arm. Fig. 15.
- 15. Repeat steps 5-14 for other side.

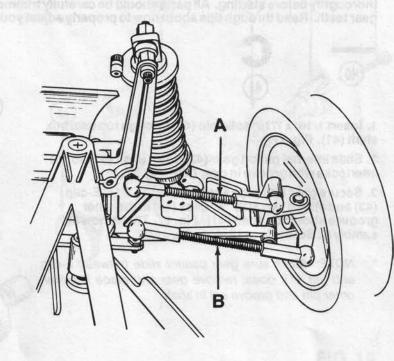
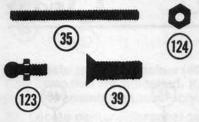
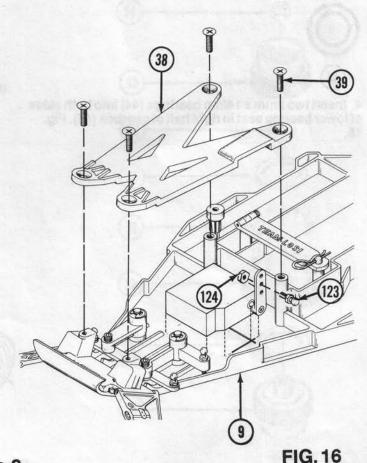


FIG. 15



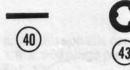
- 16. Attach steering servo using servo tape (37) to front of chassis (9) as shown. Fig. 16.
- * NOTE: Be sure servo arm is parallel and in line with the scribe marks on the chassis (9) as shown and a studded ball (22) is in steering servo arm. Fig. 16
- 17. Thread an adjustable rod end (34) onto both sides of 1 1/2" threaded rod (35).
- 18. Thread one 3/16" studded ball (123) into steering servo arm and secure with 4-40 nut (124).
- 19. Attach one end of 1 1/2" rod (35) onto studded ball (22) in servo saver (25) and other end onto studded ball (123) in steering servo arm.
- 20. Secure front stiffener (38) to chassis (9) using four 8-32 x 1/2" steel flathead screws (39). Fig. 16.
- * NOTE: Be sure servo arm can travel freely. Screws are silver.



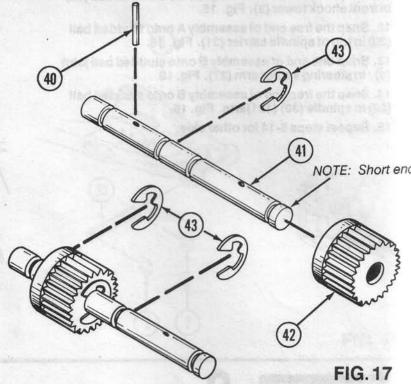
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BAGC

Bag C contains the gearbox. Extra care and patience needs to be applied to this bag. Read through Bag C instructions thoroughly before starting. All parts should be carefully trimmed and organized. Be sure to avoid getting grease on gear teeth. Read through tips about how to properly adjust your differential before running your car.



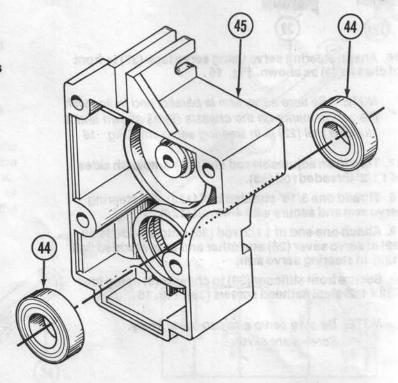
- 1. Insert 1/16" x 7/16" solid pin (40) through top gearbox shaft (41). Fig. 17.
- 2. Slide internal pinion gear (42) down shaft (41) so pin interlocks with groove in gear (42). Fig. 17.
- 3. Secure gear (42) onto shaft (41) using 3/16" E-clip (43) and attach two 3/16" "E" clips (43) in the other grooves shown on shaft (41). Fig. 17. This is now assembly C. Set aside until step 29.
- NOTE: Make sure gear cannot slide between E-clip and pin. If it does, remove gear and place between other pin and groove set in shaft.





(44)

 Insert two 8mm x 14mm bearings (44) into both sides of lower bearing seat in right half of gearbox (45). Fig. 18.





- Install output gear (46) into lower bearings in right half of gearbox (45). Fig. 19.
- Slide outdrive spacer (47) onto U-joint outdrive (48) with the large side first. Fig. 19.
- 7. Install U-joint outdrive (48) into lower bearings in right half of gearbox (45) and rotate U-joint outdrive (48) until interlocked with output gear (46). Fig. 19.
- 8. Secure the two together with a 4-40 x 1/2" socket head screw (16) threaded in through the U-joint out-drive (48) into the output gear (46). Set aside until step 27. Fig. 19.
- * NOTE: Do not over tighten.
- 9. Repeat steps 4-8 for left half (63) of gearbox.

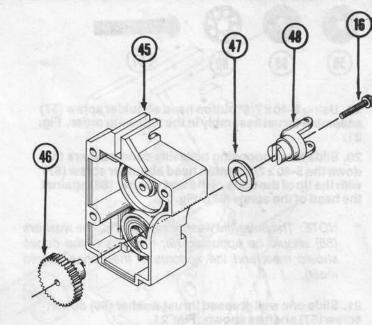
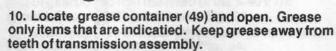


FIG. 19







- 11. Locate center differential gear (50) from small bag. Fig. 20.
- 12. Insert 3/32" differential gear balls (51) into holes in center differential gear (50). Fig. 20.
- 13. Using a tooth pick, carefully dab a small amount of grease onto each side of each 3/32" ball (51). Fig. 20.
- 14. Insert 1/4" x 3/8" bushing (52) into female half of differential (53). Fig. 20.
- 15. Insert 5-40 lock nut (54) into opposite side of female half of differential (53). Fig. 20.
- 16. Place one hex thrust washer (55) onto male half of differential (56) and other hex thrust washer (55) onto female half of differential (53). Fig. 20.
- 17. Assemble differential by placing center differential gear (50) onto male half of differential (56) followed by female half of differential (53). This now becomes assembly D.
- 18. Set aside assembly D for now with female half of differential up until step 26

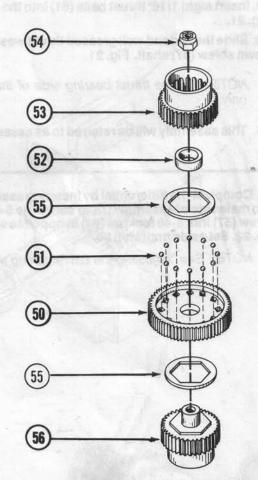
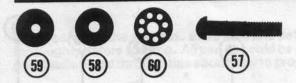


FIG. 20



19. Using 5-40 x 7/8" button head shoulder screw (57) assemble thrust assembly in the following order. Fig. 21.

20. Slide three opposing belleville cone washers (58) down the $5-40 \times 7/8$ " button head shoulder screw (57) with the tip of the cone of the first washer (58) against the head of the screw (57). Fig. 21.

* NOTE: The belleville washers are black. The washers (58) should be opposing (ie; the tops of the cones should meet and the bottoms of the cones should meet).

21. Slide one well greased thrust washer (59) down screw (57) shaft as shown. Fig. 21.

- NOTE: The thrust washer should only touch the big edge of the last belleville (58). Grease thrust bearing side of washer only as indicated by arrows
- 22. Slide well greased bronze bearing cage (60) down screw (57) shaft. Fig. 21.
- 23. Insert eight 1/16" thrust balls (61) into the cage (60). Fig. 21.
- 24. Slide the second well greased thrust washer (59) down screw (57) shaft. Fig. 21.
- NOTE: Grease thrust bearing side of thrust washer only.
- 25. This assembly will be referred to as assembly E.

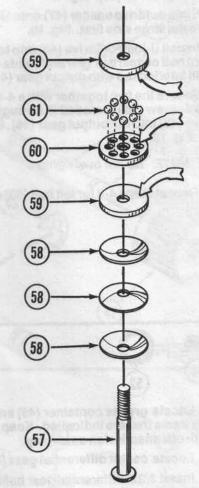
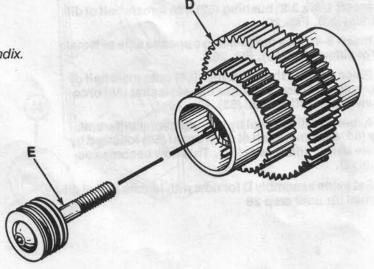
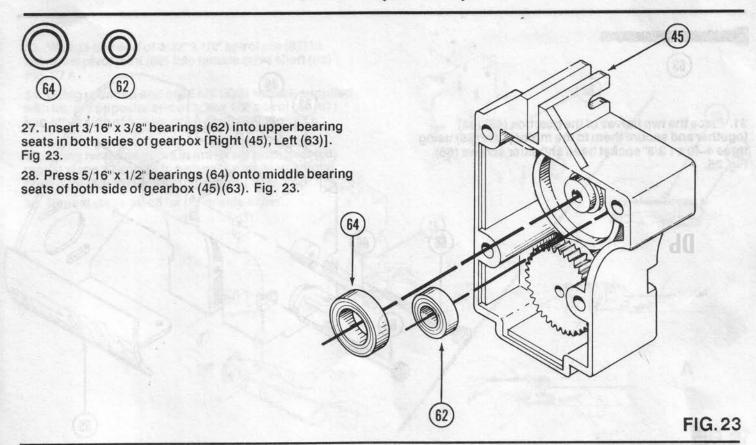


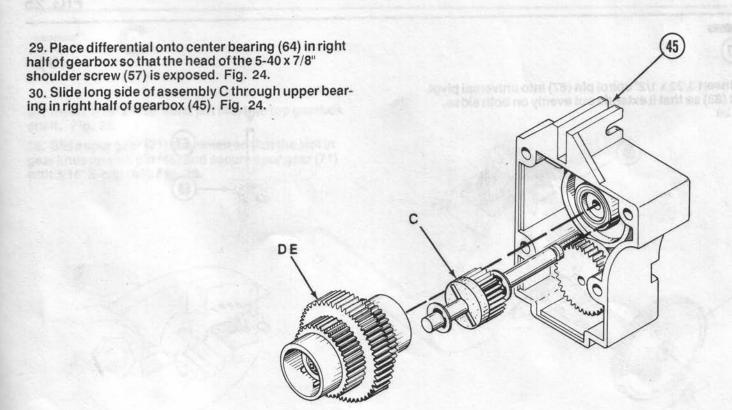
FIG. 21

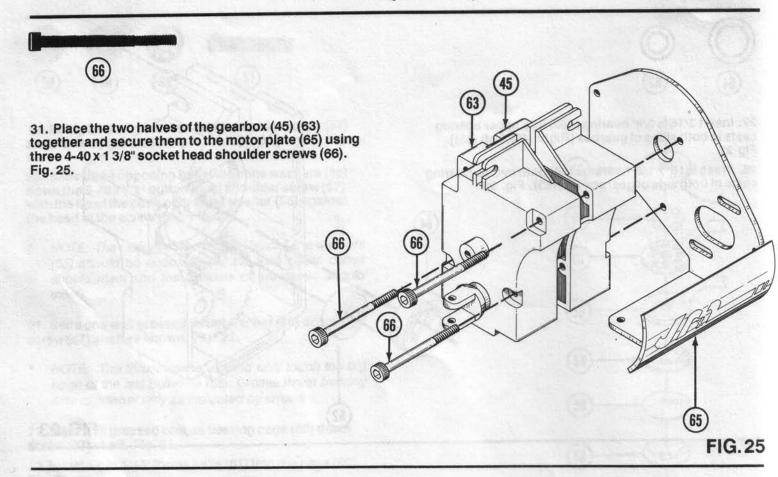
26. Complete the differential by inserting assembly E into male side of assembly D and screw the 5-40 x 7/8" screw (57) into 5-40 locknut (54) in opposite side of D. Fig. 22. Set aside until step 30.

* NOTE: See "Adjusting the Diff" in tuning tips in appendix.



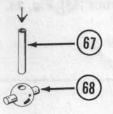


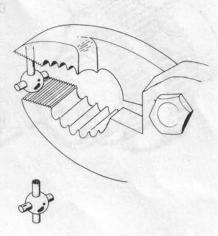


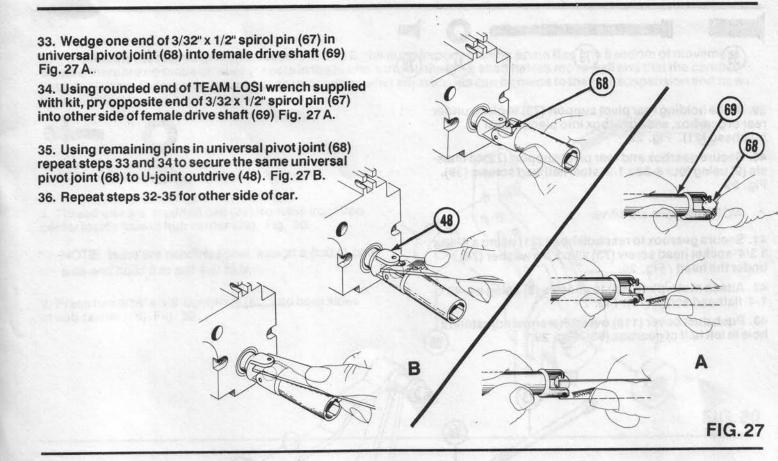


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32. Insert 3/32 x 1/2" spirol pin (67) into universal pivot joint (68) so that it extends out evenly on both sides. Fig. 26

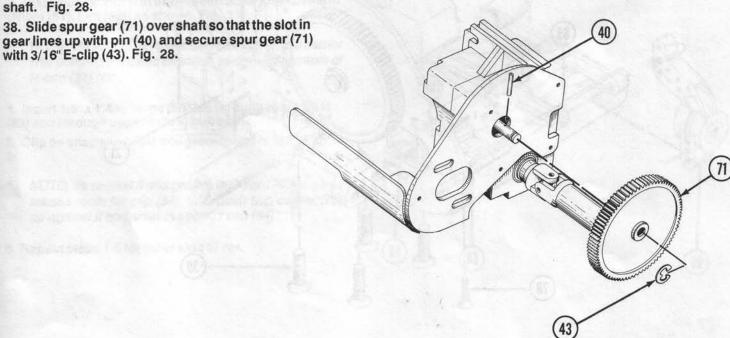


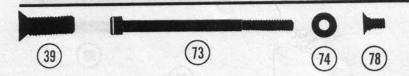




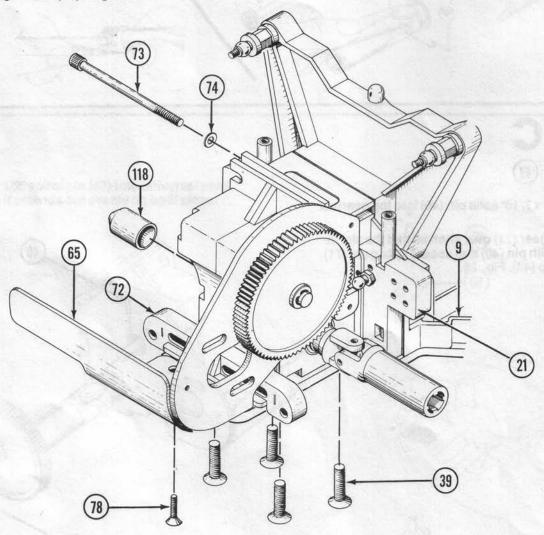


37. Insert 1/16" x 7/16" solid pin (40) into top gearbox shaft. Fig. 28.

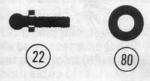




- 39. While holding rear pivot support (72) in place under rear of gearbox, slide gearbox into place in rear bulkhead (21). Fig. 29.
- 40. Secure gearbox and rear pivot support (72) to chassis (9) using four 8-32 x 1/2" steel flathead screws (39). Fig. 29
- * NOTE: Screws are silver.
- 41. Secure gearbox to rear bulkhead (21) using a 4-40 x 1 3/4" socket head screw (73) with a #4 washer (74) under the head. Fig. 29.
- 42. Attach motorplate (65) to chassis (9) using a 4-40 x 1/4" flathead screw (78). Fig. 29.
- 43. Push dust cover (118) over differential adjustment hole in left half of gearbox (63). Fig. 29.



Bag D contains the rear suspension. Just as in Bag B, the most important thing about Bag D is freedom of movement. Be sure there are no binds or "sticky" spots in the H-arm's travel, the drive shaft halves move well and that the camber links don't bind. Refer to the tuning tips to understand what adjustments can be made to the rear suspension and how they will affect the car's performance.



- 1. Thread one 3/8" studded ball (22) from the front into center inside hole in hub carrier (79). Fig. 30.
- NOTE: Hubs are nondirectional, assign a hub to one side and build it to suit that side.
- 2. Press two 3/16" x 3/8" bushings (80) into both sides of hub carrier (79). Fig. 30.

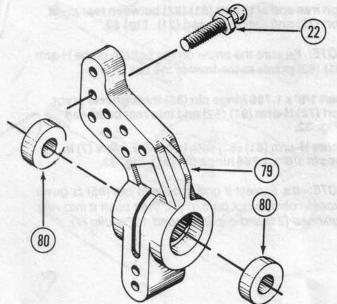
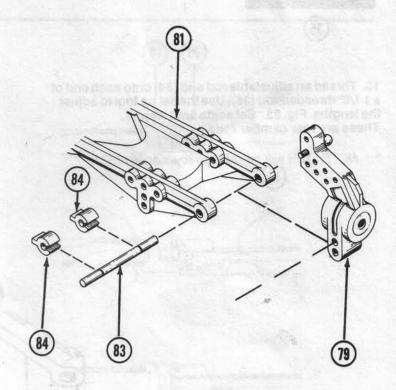


FIG. 30



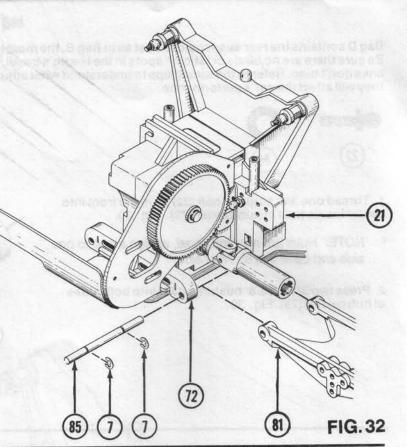
- 3. Place hub carrier (79) in-between outer rails of H-arm [Right (81), Left (82)] as shown. Fig. 31.
- * NOTE: Be sure to have studded ball (22) in hub carrier (79) pointing the same direction as arrow on bottom of H-arm (81) (82).
- 4. Insert 1/8" x 1.420 hinge pin (83) through H-arm (81) (82) and through upper hole in hub carrier (79). Fig. 31.
- Clip on snap clips (84) into grooves in pin (83). Fig.
 31.
- * NOTE: Its easiest if one groove in the pin (83) is given excess room for clip (84), then push hub carrier (79) up against it and snap in second clip (84).
- 6. Repeat steps 1-5 for other side of car.





7. Align free end of H-arm (81) (82) between rear pivot support (72) and rear bulkhead (21). Fig. 32.

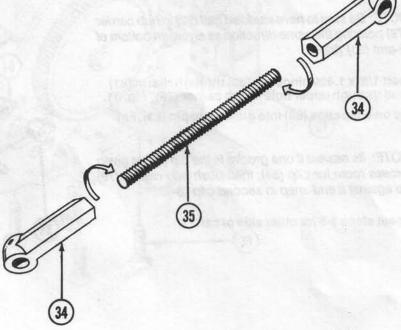
- * NOTE: Be sure the arrow on the bottom of the H-arm (81) (82) points to the front of the car
- 8. Insert 1/8" x 1.785 hinge pin (85) through rear pivot support (72) H-arm (81) (82) and into rear bulkhead (21). Fig. 32.
- 9. Secure H-arm (81) (82) with two 1/8" E-clips (7) in grooves in 1/8" x 1.785 hinge pin (85). Fig. 32.
- * NOTE: It's easiest if one groove in pin (85) is given excess room to put on clip (7), then push it into rear bulkhead (21) and clip in second 1/8" e-clip (7).





10. Thread an adjustable rod end (34) onto each end of a 1 1/2" threaded rod (35). Use the set up tool to adjust the lengths. Fig. 33. Set aside until step 17. These are rear camber rods

* NOTE: This will be referred to as assembly F.



Page 17



- 11. Place universal pivot joint (68) in rear axle (86) so that cross pin holes are aligned with holes in rear axle (86) Fig. 34.
- 12. Using pliers, push a 3/32 x 1/2" spirol pin (67) through rear axle (86) U-joint yoke and through universal pivot joint (68) until pin (67) extends evenly out of both sides of rear axle (86) Fig. 34.

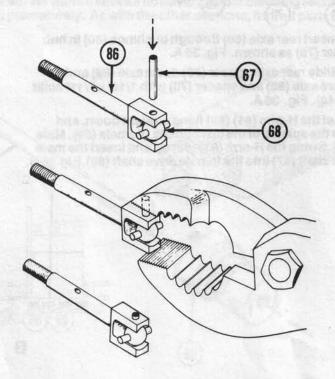
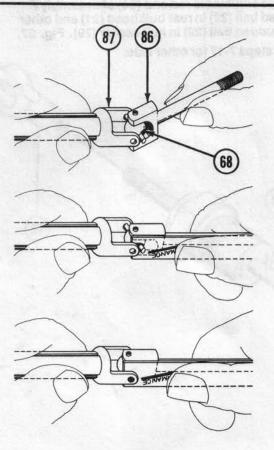
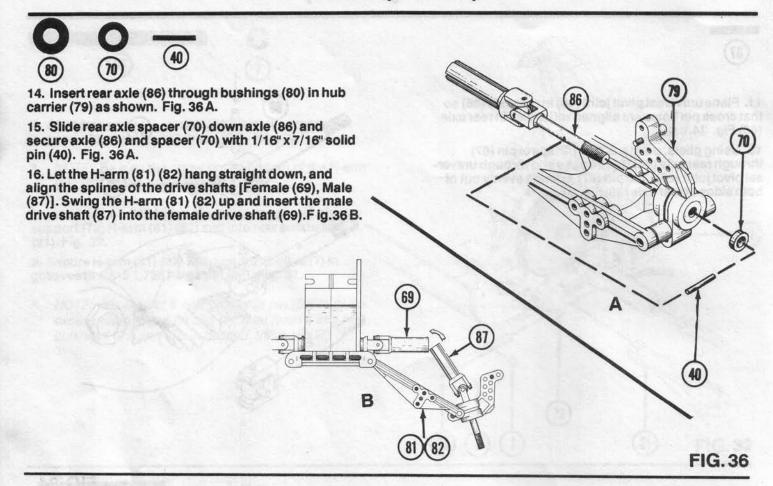


FIG. 34

13. Pry universal pivot joint (68) in rear axle (86) into the male drive shaft (87) using TEAM LOSI wrench. Fig. 35.





17. Snap one adjustable rod end (34) of assembly F onto studded ball (22) in rear bulkhead (21) and other end onto studded ball (22) in hub carrier (79). Fig. 37.

18. Repeat steps 7-17 for other side.

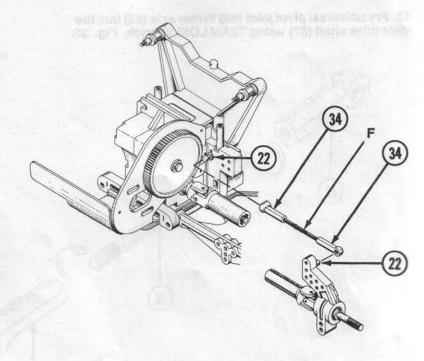


FIG. 37

BAGE

Bag E contains the shocks. Team Losi shocks are designed with performance and simplicity in mind. Our volume compensator (cartridge) is self contained with no assembly required. As with all shocks however, proper bleeding techniques must be followed or else the shocks will stop their travel prematurely. As with the other sections, trim all parts carefully and be sure there is no binding.



1. Place a drop of oil on grooved end of shock shaft [Front (88), Rear (89)] and slide cartridge (90), hex end first, down shock shaft [Front (88), Rear (89)] towards the threads. Fig. 38.

* NOTE: Be sure the external o-ring (91) is in the groove on the cartridge (90).

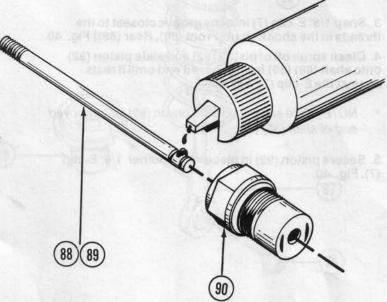
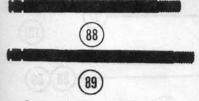
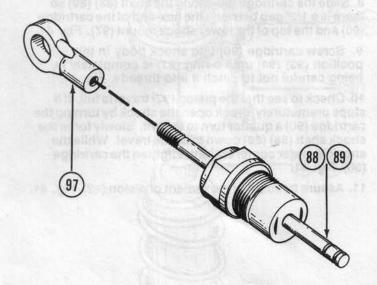


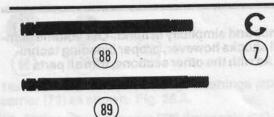
FIG. 38



2. Grasp the shock shaft [Front (88), Rear (89)] between the grooves in the end with a pair of needle nose pliers and thread on the lower shock mount (97). Fig. 39.



BAGE (CONT ...)



- 3. Snap 1/8" E-clip (7) into the groove closest to the threads in the shock shaft [Front (88), Rear (89)] Fig. 40.
- 4. Clean sprue off of piston (92) and slide piston (92) onto shaft (88) (89) from grooved end until it rests against the E-clip (7). Fig. 40.
- * NOTE: Wide ends of holes in piston (92) face grooved end of shaft (88) (89).
- Secure piston (92) in place with another 1/8" E-clip (7). Fig. 40.

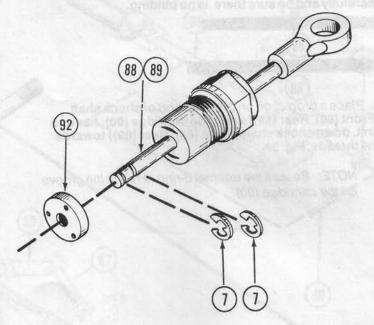


FIG. 40

- 6. Clean out shock body [Front (93), Rear (94)] with a clean, soft, lint free cloth. Fig. 41.
- 7. Fill the shock body (93) (94) with shock oil (95) up to the bottom of the threads. Fig. 41.
- 8. Slide the cartridge (90) along the shaft (88) (89) so there is a 1/2" gap between the hex-end of the cartridge (90) and the top of the lower shock mount (97). Fig. 41.
- 9. Screw cartridge (90) into shock body in this position (93) (94) until o-ring (91) is completely in, being careful not to pinch it into threads. Fig. 41.
- 10. Check to see that the piston (92) travel is full. If it stops prematurely, crack open the shock by turning the cartridge (90) a quarter turn to the left. Slowly force the shock shaft (88) (89) down to its full travel. While the shock is under compression, retighten the cartridge (90). Fig. 41.
- 11. Assure freedom of movement of piston (92). Fig. 41.

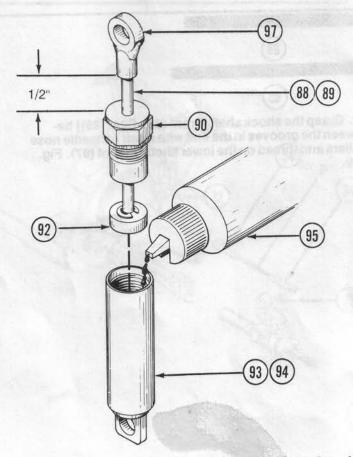


FIG. 41

12. Press the 1/4" shock mount ball (96) into the lower shockmount (97). Snap the shock cup (98) onto the shaft (88) (89) and down onto the lower shock mount (97) as shown. Fig. 42.

13. Slide the spring [Front (99), Rear (100)] down over the shock to rest on the shock cup (98). Fig. 42.

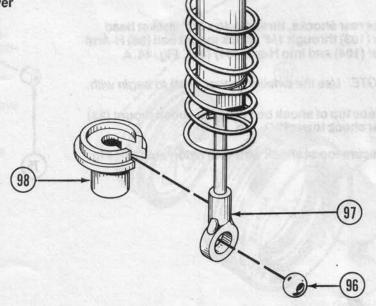


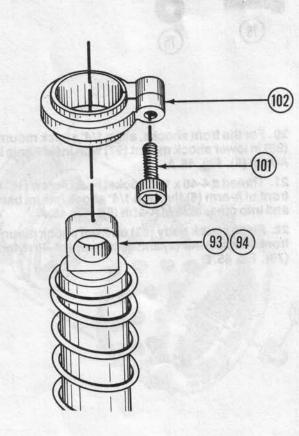
FIG. 42



14. Insert 4-40 x 3/8" socket head screw (101) into the larger clamp hole of the shock collar (102) and thread into small hole. Fig. 43.

15. With the collar (102) loose, slide it down over the top of the shock body (93) (94) and tighten. Fig. 43.

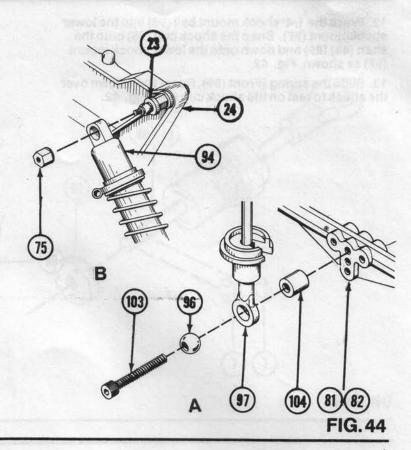
- NOTE: Do not overtighten.
- 16. Repeat steps 1-15 for 3 other shocks

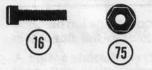


BAGE (CONT ...)

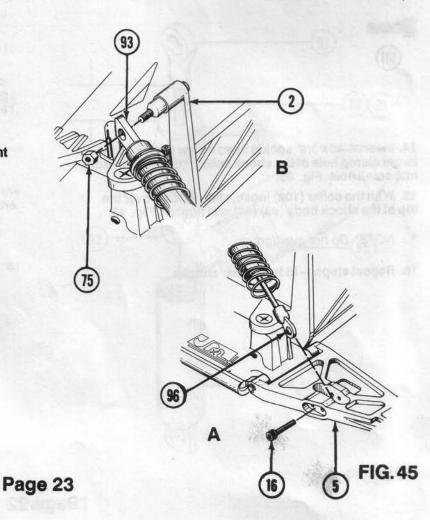


- 17. For rear shocks, thread 4-40 x 5/8" socket head screw (103) through 1/4" shock mount ball (96) H-Arm spacer (104) and into H-arm (81) (82). Fig. 44. A
- NOTE: Use the smaller spacer (104) to begin with.
- 18. Place top of shock body (94) on shock mount (23) on rear shock tower (24). Fig. 44.B
- 19. Secure top of shock with 4-40 nylon nut (75). Fig. 44.B





- 20. For the front shocks, align 1/4" shock mount ball (96) in lower shock mount (97) with inside hole in front A-Arm (5). Fig. 45. A
- 21. Thread a 4-40 x 1/2" socket head screw (16) into front of A-arm (5) through 1/4" shock mount ball (96) and into other side of A-arm (5). Fig. 45. A
- 22. Place shock body (93) on front shock mount in front shock tower (2) and secure with 4-40 nylon nut (75). Fig 45. B



BAGF

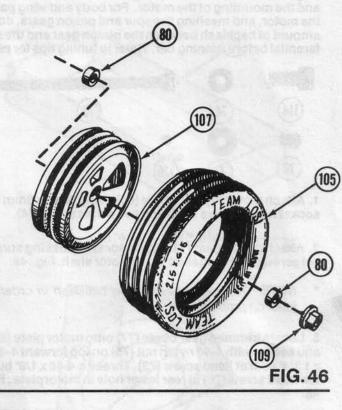








- Inspect inside of tires [Front (105), Rear (106)] for any excess material. If present, trim excess rubber to insure proper seating of tire on rim. During tire assembly make sure all lettering faces the outside of the rim. Fig. 46-47.
- * NOTE: Do not set tires upon furniture as they may leave permanent stains.
- 2. Pull front tire (105) over front wheel (107). Squeeze tire (105) to properly seat in grooves. Fig. 46
- 3. Install two 3/16" x 3/8" bushings (80) in each front wheel (107). Fig. 46.

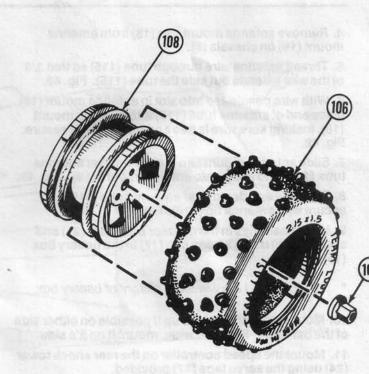






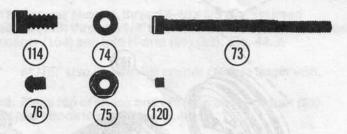


- 4. Repeat step 2 on rear tires (106) and rear wheels (108). Fig. 47.
- 5. Tires and wheels are now ready for installation on axles [Front (29), Rear (86)]. Install rear wheels (108) taking care to align 1/16" x 7/16" solid pin (40) with groove in rear wheel (108). Secure all wheels [Front (107), Rear (108)] with a 10-32 nylon nut (109). Fig. 46-47.
- * NOTE: Be careful not to overtighten and bind front wheels with 10-32 nuts (109). To prevent tire slippage, tires may be glued to rims using a cyanoacrylate adhesive or a rubber cement. IMPORTANT: Read and follow adhesive manufacturers safety warnings regarding use.

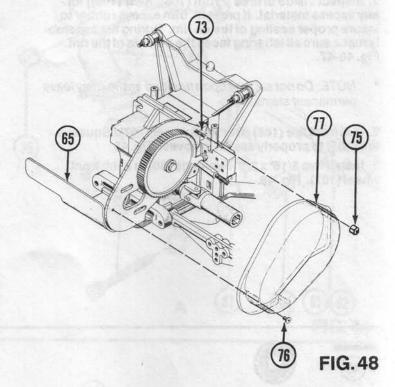


BAG G

Bag G is the final assembly bag for the car. It covers of the body, wing, gear cover, the antenna mounting instructions, and the mounting of the motor. For body and wing painting, it's best to paint the body and then trim it. When mounting the motor, and meshing the spur and pinion gears, do not press the pinion into the spur. There should be a slight amount of backlash between the pinion gear and the spur gear. IMPORTANT: It is vital that you properly adjust differential before running car. Refer to tuning tips for proper procedure.

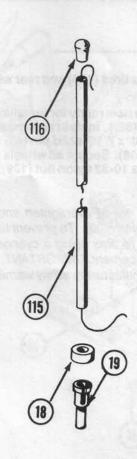


- 1. Attach motor to motorplate (65) using 3mm x 8mm socket head screws (114) and two #4 washers (74).
- Attach pinion gear (119) to motor shaft making sure set screw (120) is against flat in motor shaft. Fig. 48.
- NOTE: The gears need some backlash in order to function properly
- 3. Locate trimmed gear cover (77) onto motor plate (65) and secure with 4-40 nylon nut (75) on top forward 4-40 x 1 3/4" socket head screw (73). Thread a 4-40 x 1/8" button head screw (76) in rear lower hole in motorplate . Fig 48.
- NOTE: See trimming instructions for gear cover on Page 26.



- 4. Remove antenna mount cap (18) from antenna mount (19) on chassis (9).
- Thread antenna wire through tube (115) so that 3/4" of the wire extends out side the tube (115). Fig. 49.
- With wire positioned into slot in antenna mount (18) place end of antenna tube (115) into antenna mount (18), making sure wire is free and tube (115) is secure.
 Fig. 49.
- 7. Slide antenna mount cap (18) down over antenna tube (115) and snap onto antenna mount (19). Fig. 49.
- 8. Fold wire end down over antenna tube (115) as secure with antenna tip (116). Fig. 49.
- Mount batteries in front of rear bulkhead (21) and secure them using a body clip (17) in the battery box (15).
- * NOTE: Lead the wires out of front of battery box.
- 10. Mount the receiver face up if possible on either side of the batteries. If it is too wide, mount it on it's side.
- 11. Mount the speed controller on the rear shock tower (24) using the servo tape (37) provided.

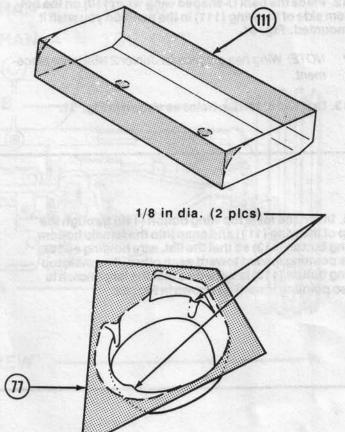
All radio and electrical equipment varies. It is for this reason that we have not included specific instructions on radio and electrical equipment installation. We have left this subject to the personal preference of the owner/racer. If you have any further questions, your high performance R/C center will be able to answer page 25 any of your questions.

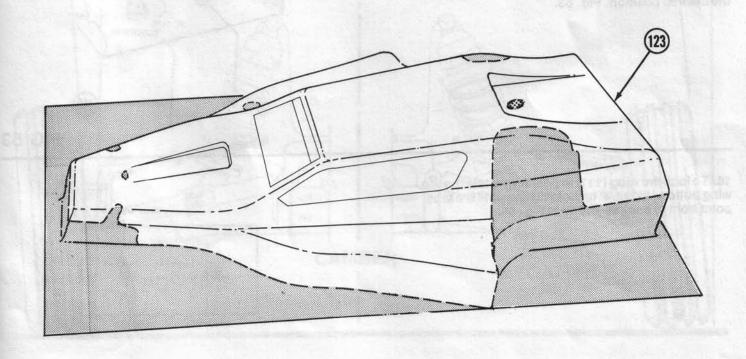


BODY PAINTING

Prepare the Lexan body shell and wing by washing thoroughly with warm water and liquid detergent. Dry with a clean soft cloth. Use the window masks supplied to cover the windows from the inside. A high grade masking tape or frosty type Scotch tape should be used on the inside to mask off any stripes, panels and designs that your wish to paint on the body. Use acrylic lacquer, acrylic enamel or any of the Lexan (polycarbonate) recommended paints. Apply paint to the inside of the body and the underside of wing. Remove the tape for the next color, etc. Try to use the darker colors first. If you use a dark color after a lighter color, apply a coat of white over the lighter color first. Trim shaded portions of wing, gear cover, and body. Install body onto car and secure it with body clips.

Cut out the stickers you wish to use and, before removing the protective backing, find your desired location. Remove the backing completely and re-attach an edge of the sticker to a shiny edge of the baking. Using the rest of the backing as a handle, move the sticker into place and press firmly to complete its application.





- 12. Place the bent U-shaped wing wire (110) on the bottom side of the wing (111) in the position you wish it mounted. Fig. 51.
- NOTE: Wing has dimples for Junior 2 wing wire placement.
- 13. Drill two 5/16" dia. holes as shown in Fig. 51.

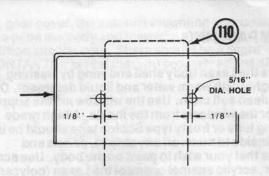


FIG. 51

14. Insert the male top wing button (112) through the top of the wing (111) and snap into the female bottom wing button (113) so that the flat, wire holding edges, are pointing inward toward each other. The male top wing button (112) is turned so that the large notch is also pointing inward as shown in Fig. 52.

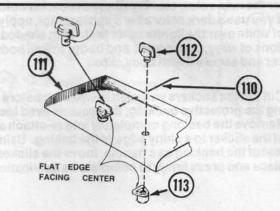


FIG. 52

15. Insert the wing wire (110) from the back and through the wing buttons (112) (113) until the wing is in the desired position. Fig. 53.

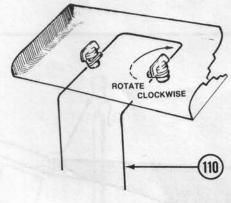


FIG. 53

16. To lock the wing (111) in position, rotate the top wing button (112) 1/4" turn clockwise until the tabs point front to back as shown in Fig. 54.

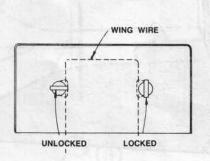
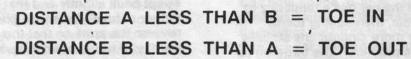
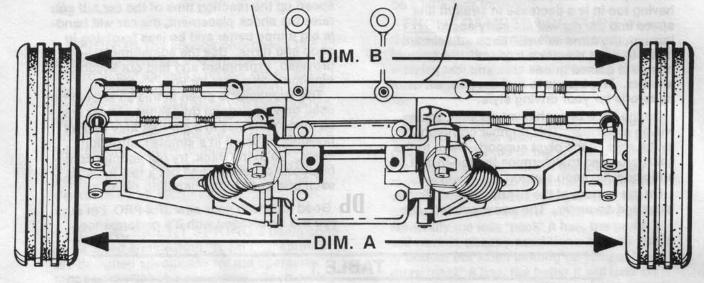
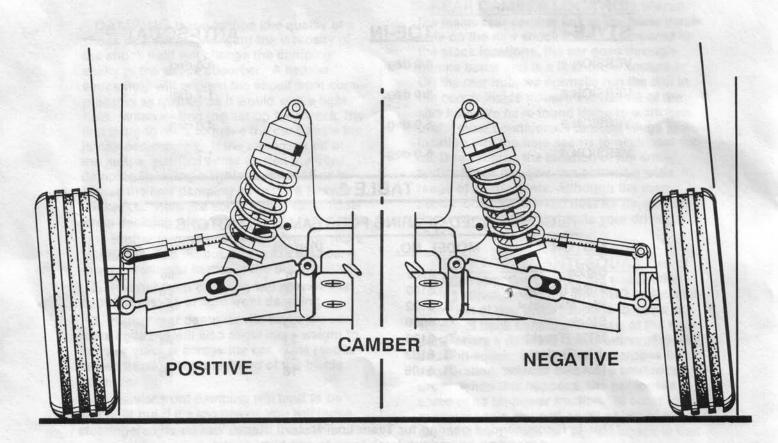


FIG. 54





TOP VIEW



FRONT VIEW -

TUNING TIPS FROM TEAM LOSI

GENERAL MAINTENANCE:

General maintenance of your car is vital to keep your car competitive. It should be cleaned and examined after every few hours of run time. All moving parts should be free of binds and obstructions. Worn parts should be replaced. Adjustable items such as camber, toe-in, and ride height should be looked at to see that they have not been knocked out of true. Check to see that the gearbox is in good order and not slipping or making odd noises. Make sure the shocks are clean and properly filled with oil. With proper care, your car will perform well for you for a long time.

THE GEAR BOX: This is the heart of every race car. The Junior Two is no exception. Although the Junior Two transmission is very efficient, there are certain adjustments that are necessary for performance. The differential is most important. Many different types of greases were tested and the one we found to be the best was included in the kit. This type of grease works extremely well.

ADJUSTING THE DIFF: Tighten the differential adjustment screw only until slight torque is felt prior to installation into the gear box. When making adjustments, start off by making a 1/4" turn, then 1/8" turn adjustments for fine turning. I also suggest that your turn the differential between adjustments to avoid flat spots. The actual final setting will vary with track conditions.

On a slippery track, a looser differential will help give more controlled acceleration. Do not run the differential too loose or damage will occur. I have won many major races on slippery tracks by changing to a milder motor or 6 cells rather than relying on a slipping differential. A loose differential setting will generally give you more off power steering and a bit less on power steering. A tighter differential setting is just the opposite in that you will get a bit less off power steering and more on power steering.

For the serious racer who wants an even smoother diff., Team Losi offers "hard balls" (Part #4016, 4017). These balls use the stock grease on the thrust bearing assembly and jammin' diff lube in the diff gear. Maintenance required for this set-up includes cleaning the balls, thrust washers, and

holes in the center diff gear with a pipe cleaner after every weekend of racing. If the proper maintenance is followed, washers and balls will have a considerably longer life span.

To adjust the differential, use a 5/64" allen wrench through the adjusting hole on the left side of the gear box. Turn clockwise to tighten, counter clockwise to loosen the adjustment screw. To check the pressure, hold both rear tires and try to rotate the spur gear with your thumb. It should be difficult to move the spur. The surest way to adjust the differential is to put on a set of used rear tires and do a punch off on asphalt. The differential should slip for about 2 feet. Only fine adjustments should be needed from this point.

CAMBER: is the angle that the tires run in relation to the track. Zero camber means that a tire is at an exact 90 deg. angle to the track. Camber is adjusted with the top link of both the front and rear suspension. Normally on the front end, we run between 2 and 5 degrees negative camber. This means that the tire leans inward as it rises from the track to the top of the tire. You should find that the more neg. camber you have in the front, the more high speed steering you get. Care should be taken, too much neg. camber will cause steering loss. 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 run less negative camber to 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.

TOE IN and TOE OUT is a very critical handling adjustment. Toe-in is when the front of the front tires point inward toward the centerline of the car. Start with the front tires parallel, 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. Too much toe-out will scrub speed. If the track is slippery, run a little toe-in. This makes the car more forgiving and takes away a little steering. This is perhaps the most sensitive adjustment on the Junior Two.

TIRES: TEAM LOSI tires are made of real rubber compounds and should work well on most track surfaces. Most tires are available in both HT and K compounds. All of the tires use innovative and care-

fully engineered tread patterns to provide the best performance on a variety of tracks and surfaces.

RIDE HEIGHT FRONT: We usually run the ride height so the front A-arms are parallel with the front bulkhead. By raising the ride height beyond this point, the nose will stay a little higher on jumps but there will be a little less steering. We very rarely run the ride height lower than parallel. Use the plastic set up tool provided to get an initial position.

RIDE HEIGHT REAR: We normally run with the drive shafts pointing downward slightly (center higher than outside). When inspecting the ride height, make sure to gage it off of the drive shaft and not the H-arms. This is a fairly standard setting. Use the plastic set up tool provided to get an initial position

REPLACEMENT SPRINGS: Using computer aided engineering, Team Losi springs are designed specifically for the operating range of the shock absorbers. Each spring has a designed spring rate and each has been certified to ensure the finest quality. Only the best materials are used and all springs are color coded for quick and easy identification.

DAMPENING: This is the friction like quality of a shock absorber. Changing the viscosity of the shock fluid will change the dampening ability of the shock absorber. A heavier shock fluid will prevent the shock from compressing as quickly as it would with a light fluid. When setting the car up for a track, the first thing to do is to make the car handle the jumps consistently. If the car noses off of the jumps, you can either thicken the front dampening by using a heavier, thicker oil. Here are some things to consider when deciding what to do:

- Heavier front dampening will give you more steering into a turn but less out. It also carries the front end higher in the bumps.
- Lighter front dampening will provide the opposite results of light front damping.
- Lighter rear dampening will make the car more agile but will also allow more weight to transfer quicker across the car. This results in less traction and lifting of the inside front tire.
- 4. Heavier rear dampening will tend to make the rear of the car feel more "solid" ut if it's too heavy, you will loose steering and the car will hop in the small ruts.

REAR CAMBER LOCATION: We run the inside rear camber link in the lower inside hole on the rear bulkhead. The car goes through bumps better and is a little more "locked-in". On the rear hub, we normally run the link in the center inside (toward the middle of the car) hole. We have found these to work best under most conditions. For outer hinge pin location, the top hole seems to work best for us. By changing the location of the link and/or hinge pin. you can achieve a wide range of adjustments. Although the mentioned locations worked best for us, you may find a combination that suits your driving style. 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.

Good luck with your new Junior Two. We are sure you will be pleased with it's performance.

TABLE

RECOMMENDED GEARING FOR TEAM LOSI MOTORS

MOTOR	MODEL NO.	PINION	SPUR
Big Ed	TL 6108	19	86
Super Insane	TL 6109	15	86
Wet Magnet 4	TL 6102	20	86
Stock	TL 6060	23	86
MTM (Truck)	TL 6104	23	86
Jr's Choice	TL 6103	21	86
Motown Missile	TL 6106	16	86

^{*}This is recommended gearing for Team Losi Motors. Ratios can be adjusted depending on various track layouts and battery styles.

SPARE PARTS LIST

REFER TO YOUR CHOICE OF CHAMPIONS PRICE LIST INCLUDED WITH YOUR KIT FOR PRICES, COMPLETE ASSEMBLIES, PERFORMANCE UPGRADES, AND OTHER TEAM LOSI RACING ACCESSORIES

KEY NO.	ITEM DESCRIPTION	PART NO.	CONTENTS
1.	4-40 x 7/8" SOCKET HEAD SCREW	A-6216	4-40 x 7/8" SOCKET HEAD SCREW (10)
2.	FRONT SHOCK TOWER	A-4048	FR & REAR SHOCK TOWERS (2)
3.	1/8" STUDDED BALLS	A-6004	1/8" STUDDED BALLS (10)
1. 17. 18. 19. 19. 19. 19. 19. 19. 19. 19. 19. 19	FRONT BULKHEAD	A-1003	FRONT BULKHEAD (1)
5. 1000 2. 22. 22.	FRONT A-ARMS	A-1001	FRONT A-ARMS (2)
6	1/8" x 1.650 HINGE PINS	A-4049	SUSPENSION PIN SET (10)
7.	1/8" E-CLIPS	A-6100	1/8" E-CLIPS (12)
B. The argon of	FRONT BUMPER	A-4045	BUMPER (1)
9.	CHASSIS	A-4046	MOLDED CHASSIS (JUNIOR TWO) (1)
10.	8-32 x 1/2" ALUM FLTHD SCREW	A-6209	8-32 x 1/2" FLATHEAD SCREW (10)
11.	STEERING POSTS	A-1511	STEERING POSTS W/HARDWARE (2)
12.	4-40 x 3/8" FLATHEAD SCREW	A-6210	4-40 x 3/8"ALUM FLATHEAD SCREW (10)
13.	BATTERY BOX FOAM	A-4001	FRONT BATTERY CUP (1)
14.	BATTERY BOX LID	A-4001	FRONT BATTERY CUP (1)
15.	BATTERY BOX	A-4001	FRONT BATTERY CUP (1)
16.	4-40 x 1/2"SOCKET HEAD SCREW	A-6204	4-40 x 1/2" SCREWS (10)
17.	BODY CLIP	A-8200	BODY CLIPS (12)
18.	ANTENNA MOUNT CAP	A-4002	ANTENNA KIT (1)
19.	ANTENNA MOUNT	A-4002	ANTENNA KIT (1)
20.	WING TUBES	A-2010	WING TUBES (2)
21.	REAR BULKHEAD	A-2001	REAR BULKHEAD (1)
22.	3/8" STUDDED BALLS	A-6000	STUDDED BALL 3/8" W/ROD ENDS (4)
23.	SHOCK MOUNTS	A-5008	SHOCK MOUNT BUSHINGS (4)
	REAR SHOCK TOWER	A-4048	FR & REAR SHOCK TOWERS (2)
24. 25.	SERVO SAVER	A-1501	SERVO SAVER & IDLER ARM (1)
	IDLER ARM	A-1501	SERVO SAVER & IDLER ARM (1)
26.	STEERING SECTOR ARM	A-1510	EXTENDED SECTOR ARM W/HDWE (1)
27.	STUDDED BALL WASHERS	A-6215	#4 NARROW WASHERS (10)
28.		A-1005	FR AXLES W/NUTS (2)
29.	FRONT AXLE	A-1002	FR SPINDLES & CARRIERS (2)
30.	SPINDLE RIGHT	A-1002	FR SPINDLES & CARRIERS (2)
31.	SPINDLE CARRIER	A-4049	SUSPENSION PIN SET (10)
32.	1/8" x .690 KING PIN	A-4049	SUSPENSION PIN SET (10)
33.	1/8" x .960 HINGE PIN	A-6002	ADJUSTABLE ROD ENDS (10)
34.	ADJUSTABLE ROD END		JR TWO TIE ROD/LINK SET (6)
35,	1 1/2" THREADED ROD	A-4050	JR TWO TIE ROD/LINK SET (6)
36.	17/8" THREADED ROD	A-4050	SERVO TAPE (3)
37.	SERVO TAPE	A-4004	MOLDED CHASSIS BRACE (1)
38.	FRONT STIFFENER	A-4047	8-32 x 1/2 STEEL FLATHEAD SCREW (10)
39.	8-32 x 1/2" STEEL FLATHEAD SCREW	A-6218	
40.	1/16" x 7/16" SOLID PIN	A-6401	1/16" x 7/16" PINS (6)
41.	TOP GEARBOX SHAFT	A-3007	INTERNAL PRIMARY GEAR, SHAFT, HDWE (1
42.	PINION GEAR (INTERNAL)	A-3022	INTERNAL PRIMARY GEAR, SHAFT, HDWE (1
43.	3/16"E-CLIPS	A-6101	3/16" E-CLIPS (12)
44.	8mm x 14mm BEARINGS	A-6902	8mm x 14mm BEARINGS (2)
45.	RIGHT HALF OF GEARBOX	A-3001	TRANS HOUSINGS L & R (1)
46.	OUTPUT GEAR	A-3005	TRANS MOLDED GEAR SET (1)
47.	OUTDRIVE SPACER	A-3017	REAR OUTDRIVE SPACER (2)
48.	U-JOINT OUTDRIVE	A-3013	MOLDED U-JOINT SET (2)
49.	GREASE	A-3012	DIFFERENTIAL LUBE (1)
50.	CENTER DIFFERENTIAL	A-3006	DIFFERENTIAL GEAR (1)
51.	3/32 DIFF GEAR BALLS	A-3009	DIFFERENTIAL GEAR BALLS (12)
52.	1/4" x 3/8" BUSHING	A-6920	BUSHING SET (1)
53.	FEMALE HALF OF DIFF	A-3005	TRANS MOLDED GEAR SET (1)

SPARE PARTS LIST (Continued)

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KEY NO.	ITEM DESCRIPTION	PART NO.	CONTENTS
54.	5-40 LOCKNUT	A-6302	5-40 LOCKNUTS (4)
55.	HEX THRUST WASHER	A-3010	DIFF DRIVE RINGS (2)
56.	MALE HALF OF DIFF.	A-3005	TRANS MOLDED GEAR SET (1)
57.	5-40 x 7/8" BTTN HD	A-6211	5-40 x 7/8" BUTTON HEAD SCREW (4)
58.	BELLEVILLE WASHERS	A-3018	H.D. SMALL THRUST BRNG ASSY. (1)
59.	THRUST WASHER	A-3018	H.D. SMALL THRUST BRNG ASSY. (1)
60.	BRONZE BEARING CAGE	A-3018	H.D. SMALL THRUST BRNG ASSY. (1)
31.	1/16" THRUST BALL BEARINGS	A-3018	H.D. SMALL THRUST BRNG ASSY. (1)
62.	3/16" x 3/8" BEARINGS	A-6903	3/16" x 3/8" BEARINGS (2)
63.	LEFT HALF OF GEARBOX	A-3001	TRANS HOUSING L & R (1)
64.	5/16" x 1/2" BEARINGS	A-6900	5/16" x 1/2" SS BEARING (2)
65.	MOTOR PLATE	A-3002	MOTOR PLATE (1)
66.	4-40 x 1 3/8" SOCKET HEAD SCREWS	A-6203	4-40 x 1 3/8" SOCKET HEAD SCREWS (4)
67.	3/32 x 1/2" SPIROL PIN	A-6400	3/32 x 1/2" SPIROL PINS U-JOINT (8)
68.	UNIVERSAL PIVOT JOINT	A-3014	UNIVERSAL PIVOTS (2)
69.	FEMALE DRIVE SHAFT	A-3013	MOLDED UNIVERSALS SET (2)
70.	REAR AXLE SPACER	A-3016	REAR AXLE, SPACER, PIN (2)
71.	SPUR GEAR 54 TOOTH		32 PITCH 54 TOOTH
72.	REAR PIVOT SUPPORT	A-2016	REAR PIVOT PIN SUPPORT (1)
73.	4-40 x 1 3/4" SOCKET HD SCW	A-6202	4-40 x 1 3/4" SOCKET HD SCREW (10)
74.	#4 WASHER	A-6215	#4 NARROW WASHERS (10)
75.	4-40 NYLON NUT	A-6301	NYLON 4-40 NUTS (10)
76.	4-40 x 1/8" BUTTON HEAD SCREW	A-6212	4-40 x 1/8" BUTTONHEAD (4)
77.	GEAR COVER	A-3003	GEAR COVER (1)
78	4-40 x 1/4" FLATHEAD ALUM SCREW	A-6213	4-40 x 1/4" FLATHEAD SCREW (6)
79.	HUB CARRIER	A-2025	HUB CARRIER (2)
80.	3/16" x 3/8" BUSHING	A-6920	BUSHING KIT (9)
81.	H-ARM RIGHT	A-2015	H-ARM SET (LF & RT) (1)
	H-ARM LEFT	A-2015	H-ARM SET (LF & RT) (1)
82.		A-4049	SUSPENSION PIN SET (10)
33.	1/8" x 1.420 HINGE PIN H-ARM HUB CLIPS	A-2022	H-ARM HUB CLIPS (8)
34.		A-4049	SUSPENSION PIN SET (10)
35.	1/8" x 1.785 HINGE PIN	A-3015	REAR AXLE, SPACER & PIN (1)
36.	REAR AXLE	A-3015 A-3013	
37.	MALE DRIVE SHAFT	A-5004	MOLDED UNIVERSAL SET (2) SHOCK SHAFT FRONT (SHORT) (1)
38.	SHOCK SHAFT FRONT	A-5004 A-5005	SHOCK SHAFT PHONT (SHORT) (1)
39.	SHOCK SHAFT REAR		
90.	CARTRIDGE	A-5006	CARTRIDGE (FRONT & REAR((1)
91.	O-RING	A-5011	OUTER O-RING (8)
32.	PISTON	A-5007	SHOCK PISTONS & E-CLIPS (4)
93.	SHOCK BODY FRONT	A-5002	SHOCK BODY (SHORT) (1)
94.	SHOCK BODY REAR	A-5003	SHOCK BODY REAR (LONG) .9" (1)
95.	SHOCK OIL	A-5203	FLUID 20 WT. (1)
96.	1/4" SHOCK MOUNT BALL	A-2006	1/4" BALLS (10)
97.	LOWER SHOCK MOUNT	A-5009 A-5023	FRONT-SPRING CLAMPS & CUPS (2) REAR-SPRING CLAMPS & CUPS H-ARMS (2)
98.	SHOCK CUP	A-5009 A-5023	FRONT-SPRING CLAMPS & CUPS (2) REAR-SPRING CLAMPS & CUPS H-ARMS (2)
99.	SPRING, FRONT	A-5100	FRONT SILVER SPRINGS (SOFT) (2)
100.	SPRING, REAR	A-5105	REAR SILVER SPRINGS (SOFT) (2)
101.	4-40 x 3/8" SOCKET HEAD SCREW	A-6206	4-40 x 3/8" SOCKET HEAD SCREW (1)
102.	SHOCK COLLAR	A-5009 A-5023	FRONT-SPRING CLAMPS & CUPS (2) REAR-SPRING CLAMPS & CUPS H-ARMS (2)
103.	4-40 x 5/8" SOCKET HEAD SCREW	A-6203	4-40 x 5/8 SOCKET HEAD SCREW (4)

SPARE PARTS LIST (Continued)

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KEY NO.	ITEM DESCRIPTION	PART NO.	CONTENTS
104.	H-ARM SHOCK SPACER	A-2015	H-ARM SET (LF & RT) (2)
105.	TIRE FRONT	A-7200	FRONT TIRES. KIT RIBBED (K) (2)
106.	TIRE REAR	A-7300	REARS. KIT 4-ROW SPIKE (K) (2)
107.	WHEEL FRONT	A-7001	FRONT RIMS-NATURAL (2)
108.		A-7101	REAR RIMS-NATURAL (2)
109.	10-32 NUT	A-6303	10-32 NYLON LOCKING NUTS (8)
110.	WING WIRE	A-8101	WING WIRE (PRE-BENT) (1)
111. ID YEAR	WING	A-8100	STANDARD WING (1)
112.	MALE TOP WING BUTTON	A-8102	ADJUST WING BUTTON SET (1)
113.	FEMALE BOTTOM WING BUTTON	A-8102	ADJUST WING BUTTON SET (1)
114.	3mm x 8mm SOCKET HEAD	A-6201	3mm x 8mm SOCKET HEAD (10)
115.	ANTENNA TUBE	A-4002	ANTENNA KIT (1)
116.	ANTENNA TIP	A-4003	ANTENNA TIPS (8)
117. (a) TIAS	4-40 x 1/8" SOCKET HD SHLD SCW	A-6200	4-40 x 1/8" SHOULDER SCREW (4)
118.	DUST COVER	A-3003	DUST COVER (1)
119.	PINION GEAR 14 TOOTH	TL-4214	32 PITCH 14 TEETH
120.	5-40 SET SCREW	A-4011	5-40 HARDENED SET SCREW (10)
121.	SPINDLE LEFT	A-1002	FRONT SPINDLES & CARRIERS (2)
122.	4-40 x 1" SOCKET HEAD SCREW	A-6223	4-40 x 1" SOCKET HEAD SCREW (4)
123.	CAR BODY	A-8004	BODY JUNIOR 2 (1)
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