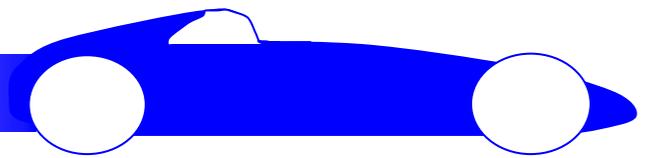


MASTERS DIVISION
SCOTTIE SPECIAL
&
OPTIONAL
SCOTTIE SPECIAL



2004 Plans
All-American Soap Box Derby



Title Sponsor

SM-1.00 Body Dimensions:

- a. The minimum height and girth of the body are measured on the outside of the car on the hatch anywhere in front of the hatch foam.
- b. All measurements are to be taken at the same location.
- c. The minimum height dimension is 14" high.
- d. Minimum girth (circumference) dimension is 53½.
- e. The minimum height of the nose shall be 8 ½" high and 4 ½" back from the front of the car.
- f. A width dimension will be taken on the inside of the car 1-1/4" off the floorboard and directly behind the body seam. The minimum width dimension is 17".
- g. There shall be no concave surfaces within 12" to the front side only of the area where the height, width and girth measurements are taken.

SM-1.01 Length:

- a. The overall length of the car, including wheels, cannot exceed 84-1/16" with Z-glas wheels.
- b. Wheelbase must be a minimum 65" from spindle to spindle.

SM-1.02 Road Clearance:

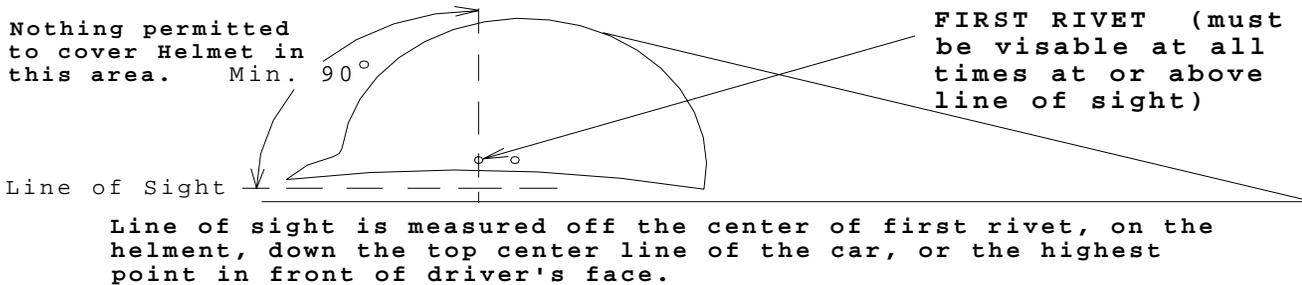
- a. The car must have no less than 3-1/16" road clearance with Z-glas wheels. Road clearance will be taken beneath the cars lowest point with the driver in car. This includes the brake pad.

SM-2.00 Shell:

- a. AASBD (Scottie) fiberglass shells only. No cutting of the shell other than the axle openings, hatch and head rest areas. Rounding of floorboard to attain 53 ½" minimum circumference will result in removal of some shell material.
- b. **No coatings** are permitted to be used on the inside of the car **except a thin coating of wax**.
- c. **Only fiberglass and "Bondo" type body filler may be used on the outside of the car body and/or floorboard. No other material of any kind may be used on the outside of the car body and/or floorboard. Voids between the original fiberglass shell and fiberglass covering will not be permitted.**
- d. You may add a ¼" fillet of epoxy between the nailer strip and car body.
- e. Tape and/or other material, such as rubber, may be used to cover the gap between the axle fairings and car body.
- f. An inspection/repair access hole must be provided in the front end of the car. The access hole must be located at the top center of the car and must be large enough to put your arm in to make any repairs to brake or suspension components (3" x 3" min. opening).
- g. **Sharp burrs in the fiberglass may be knocked down and covered with a thin coat of wax. Otherwise, interior sanding is prohibited.**

SM-2.01 Headrest:

- a. In the reclined driving position, the rear portion of the car must protect your head at all times. Your official helmet must not be recessed into the headrest so as to restrict the driver's vision. You must be able to view the race course at an angle over the front wheels.
- b. You may raise, lower, shorten or lengthen the headrest. You may put in a helmet cup that conforms to the driver racing position.
- c. With the helmet in position in the headrest, it must not be distorted or crushed. With the helmet in position, it must measure a minimum of 7 ¼" on the outside across the width at the center (between the rivets), or 7" on the inside at the same location.
- d. The helmet should fit into the headrest and stay in position without the use of tape during the race. The helmet must be strapped to driver's head before entering the car.
- e. The first rivet must be visible at all times and above the line of site. Foam may protrude into 7" helmet cutout to help secure the helmet into position.



SM-2.02 Hatch:

- a. The minimum opening in the car must be 12" wide and 21 1/2" long all the way to the floorboard.
- b. The side of the cockpit opening, on the body, may be reinforced with 1" high by approx 3/4" wide piece of wood. The top of the side reinforcement cannot be any lower than 1 1/2" below the cockpit top edge, and must follow the contour of the opening. You must maintain 12" width through out the entire cockpit opening. Do not fill the area between the side reinforcement and the cockpit top edge with epoxy or body filler.
- c. You must use a single pin hinge for the cockpit hatch. The hatch and body may be reinforced with a block of wood, max size 2" x 3" x 3/4", where the hinge screws are attached to the hatch or body.
- d. Velcro, magnets, or a button pin may hold down the hatch. No sharp objects will be allowed.
- e. If the hatch opening needs to be larger in length, for ease of entering and exiting the car with a large driver, you must extend the hatch opening a minimum of 1". You may remove the front lip of the cockpit opening and replace the lip with a 3/4" thick X 1" wide piece of wood. The wood to replace the front lip may not extend down past the cockpit side opening by more than 3/4". The hatch cover may be extended by adding 1" of fiberglass to the front or rear end of the cover. You may add (1) 3/4" Sq. bulk head on the under side of the hatch cover also.
- f. The sides of the cockpit opening behind the hatch and in front of the headrest must be a min 3/4" thick. You may use foam or wood to thicken or pad this area.
- g. The area in front of the helmet must be padded with dense foam. Foam must be 5/8" thick, 7" wide and min. 6" long. You must be able to open and shut the hatch with the helmet in driving position. No painting over foam will be permitted.
- h. If a sight groove in the foam is used, it must be a min. of 5" wide by 1/2" deep.

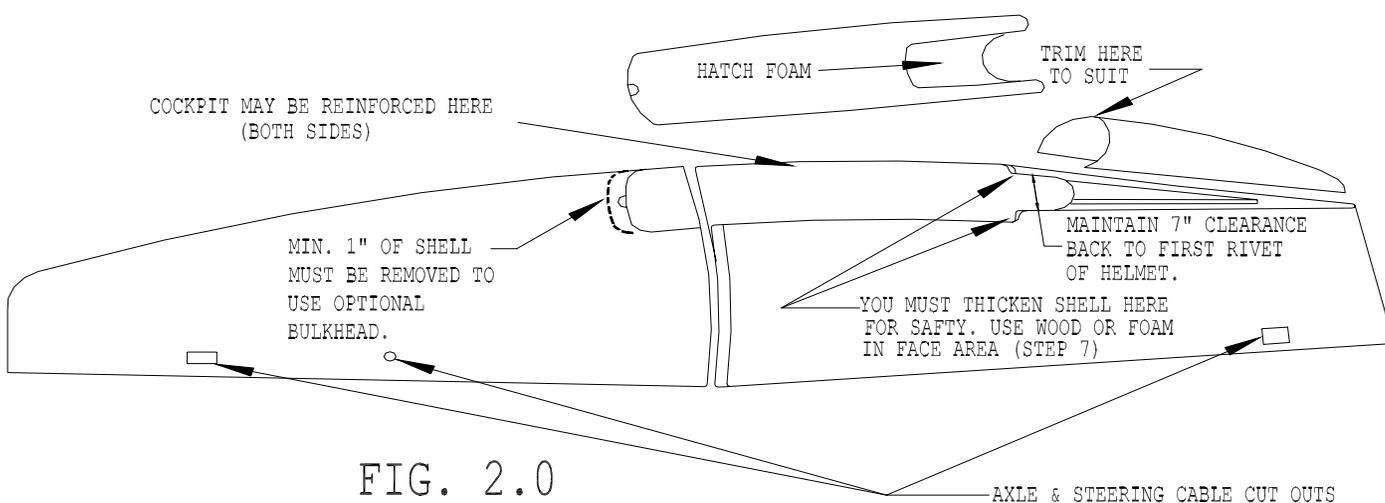


FIG. 2.0

SM-2.03 Shell Assembly:

- a. Inspect all fiberglass sections of your racer for excessive flashing. Sand off flashing where the body parts overlap with rough sand paper.
- b. Place two main body halves together and then attach the hatch to the front half with hatch hinge K. You may use a 2" x 3" x 3/4" wood backer plate for additional support for hinge inside of car. For hinge mounting reinforcement only.
- c. With the hatch installed to the front half, slide the back half into position until the hatch is totally closed and in proper alignment. Now mark the sides of the shell along the overlap. Permanently attach the two shell halves together by aligning the marks that you previously marked. It is suggested that you use a two-part epoxy to join the two halves. (PC-7, PC-11 or similar epoxy) You may screw, bolt, or rivet the sides together. After the epoxy has dried, you may remove the fasteners. If you choose not to, you should cut off excess inside of car and sand smooth the fasteners on the outside of car. You may fiberglass the outside of your car only. No fiber glassing of the inside seam.
- d. At this time, place the body over the floorboard. You should maintain a height of 12 1/2" between the top of the floorboard and the top of the shell at the foam cut out area. Make sure that you maintain the minimum overall height of 14". For a larger driver you may add a 1" x 1" nailer strip on top perimeter of the floorboard that will enable you to raise the shell for additional space.
- e. With the shell in place, have the driver get into the car with their helmet on. Adjust the headrest to the helmet. It will probably be necessary to trim the headrest length and height, as all drivers are not the same size. After appropriate adjustments are made secure the headrest in place using the screws.

NOTE: Original contour of shell may not be altered by heating, sanding too thin, or changing contour of optional bulk head. Adding fiberglass to outside of shell is not considered altering shell.

SM-3.00 Floorboard:

- a. AASBD issued floorboards must be used. Floorboards are manufactured at 83 1/4" long x 17" wide x 1 1/2" thick. The floorboard or top of the nailer strip must have the same profile as the issued floorboard.
- b. You cannot add to nor groove out bottom of the floorboard to incorporate wood, steel or other materials into the floorboard. You may sand the bottom of the floorboard to desired roundness. You may not disturb the top contour of the nailer strip.
- c. No continuous plate is permitted in the car, steel or any other material.
- d. Axle mounting plates may be used, maximum length of 12", no width dimension given. Plates may be epoxied to the floorboard.
- e. Steering, brake and all other hardware must be mounted directly to the floorboard. You cannot mount steering, brake or any other hardware on top of plates used for weight. Maximum length for plates used for weight shall be 12" by width of car. The plates must be removable without removing any hardware.
- f. You may plug the kingpin holes with **wood** of your choice, 1" diameter max plug.
- g. Floorboard may be sanded or cupped out for driver's seat and or feet.
- h. A width dimension will be measured 1-1/4" off the floorboard and directly behind the body seam. This dimension must be 17" wide.
- i. A max 1" x 1" nailer strip of wood may be added around the top perimeter of the floorboard. The nailer strip may not cover the mounting plates.
- j. You may seal the inside of the floorboard with tung oil and or wax. No material buildup is permitted.

SM-3.01 Driving Position:

- a. The car body and floorboard must be built so that the driver has quick and easy operation of the steering wheel and brake, and a clear view to the front. Your eyes must be on a level above the top of the front cowling at all times. Your hips must be parallel to the ground. Your feet must be the forward most part of your body, when in a lay back position. You must steer with both hands on the steering wheel.

SM-3.02 Positioning of Steering & Brake Assembly:

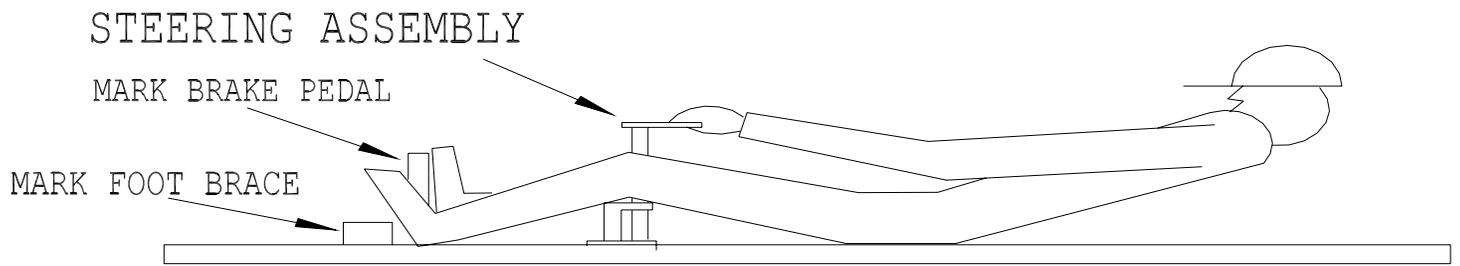


FIG 3.1

- a. The driver should lay on the floorboard with steering assembly, brake pedal, and foot brace as shown in Fig. 3.1.
- b. Move steering assembly until the driver can reach the steering wheel comfortably.
- c. Mark the position of the brake pedal, and foot brace.
- d. Drill (4) four 1/4 inch holes as shown in Fig. 3.2, 5.1, & 5.2.
- e. Mark floorboard for the brake plunger. Drill a 1" hole through the floorboard.
- f. Drill the steering shaft hole into the floorboard 3/8" deep: (NOT all the way through).
- g. Put a washer or a quarter in hole for a wear surface.
- h. Mark then drill the holes for the Foot Brace and Brake Pedal.
- i. Install the Foot Brace with (2) E2 bolts, lock washer M & nut V.
- j. Install the brake pedal and hinge as shown in figure 5.0.

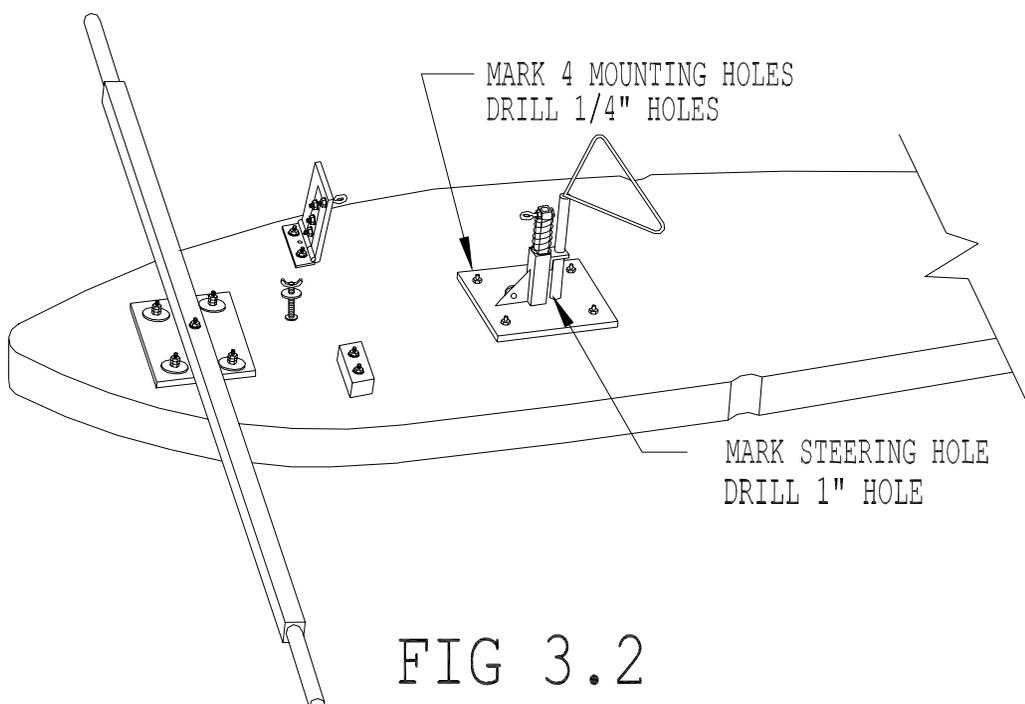


FIG 3.2

SM-4.00 Steering:

- a. The steering system must be designed and installed within the car in order to insure easy positive control and safe operation. A single bolt is not enough to secure steering wheel to shaft. You must also have a vertical or horizontal pin or bolt to secure the wheel to the shaft.
- b. The steering shaft must be located under the top level of the cowling. No part of the steering wheel and shaft assembly can be placed behind you.

SM-4.01 Steering Wheel:

- a. The car must be equipped with a full or partial wheel. It cannot be less than 6" in diameter. If made of metal, it must be a continuous loop. Cross bars or prong-type handles are not permitted. The steering wheel must be firmly attached to the steering shaft. Hinged or collapsible steering wheels are prohibited.
- b. There must be sufficient clearance between the steering wheel and any part of the car or your body to permit free and safe operation of the steering wheel, regardless of the position of the steering wheel, while you are in the driving position and when you apply your brake.

SM-4.02 Steering Shaft:

- a. A metal steering shaft must be used with an approved type of steering wheel. The steering shaft must be not less than 3/4" in diameter for the full length. Telescope-type shafts are prohibited.
- b. The steering shaft assembly may be cut to the proper length, drilled, and threaded at a workshop by an adult.
- c. The steering shaft may be installed in a horizontal or vertical position but steering wheel must be above legs.

SM-4.03 Steering Cables:

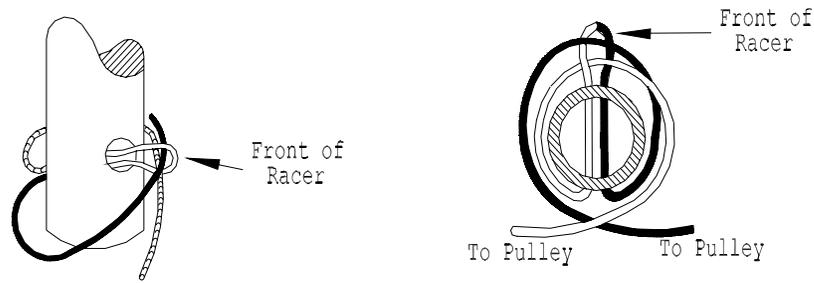
- a. 1/16" airplane cable may be used for steering cable. Any other type of steering cable must be flexible, woven, 1/16" in diameter. The use of rope, chain or clothes line is prohibited. Steering cable may not have any type of covering.
- b. Cables must be firmly attached. Soldered connections are prohibited. Cables must be wound on the steering shaft or drum, so the car will steer in the same direction, as the steering wheel is turned, same as in an automobile.
- c. Cables must be routed so as not to interfere with safety of operation. Pulleys or metal tubing must be used for guiding steering cable. Screws, screw eyes, staples and nails cannot be used to attach or guide the cable. Eyebolts must be of at least 3/16" diameter steel.
- d. 3/16" diameter steel or other approved adjusting devices can be used to permit ease of adjustment and tightening. All turnbuckles must be wired so they do not unscrew.
- e. Cable clamps ARE NOT considered adjusting devices.
- f. Cable clamps that attach the steering cables to the front axle must be visible.

SM-4.04 Axle Movement:

- a. Movement is limited so that the front wheels cannot be moved more than 1" nor less than 3/8" off center (straight-ahead position) in either direction, forward or back. Measure at the end of the axle spindle.

SM-4.05 Steering Assembly:

- a. Insert the two loose cable ends through the steering shaft making a loop, then run the two ends around the shaft and through the loop. Pull cable ends so the loop pulls snug to the cable passing through it. See Fig. 4.2.



Steering
Fig.4.2

- b. Run cable to the pulley and then to the axle as shown in Fig. 4.4. These pulleys must be at least 24" from the front center of axle to center of pulley. If your steering shaft assembly is 24" or more from front axle you may run the cable directly from the steering shaft to the axle.
- c. At this time, mark on the floorboard where the cable crosses the floorboard going to the axle. Use a square to extend that line down the side of the floorboard. Mark the rear axle exit points in the same manner. Add 1/2" in front of and behind the front axle for minimum steering swing and mark.
- d. Install axle stop blocks after you have determined your 3/8" swing in both directions. You may install blocks of your choice as long as you use two bolts per block and at least two blocks in front of or behind the front axle. These blocks must be as high or higher than the axle and may be glued to the body. If you use the bolts supplied in the kit, install them as viewed in Fig. 4.3.
- e. Remove axles now to mount shell.
- f. Temporarily put shell over floorboard and mark the shell for cable and axle exit holes.
- g. Remove shell and cut holes as marked.

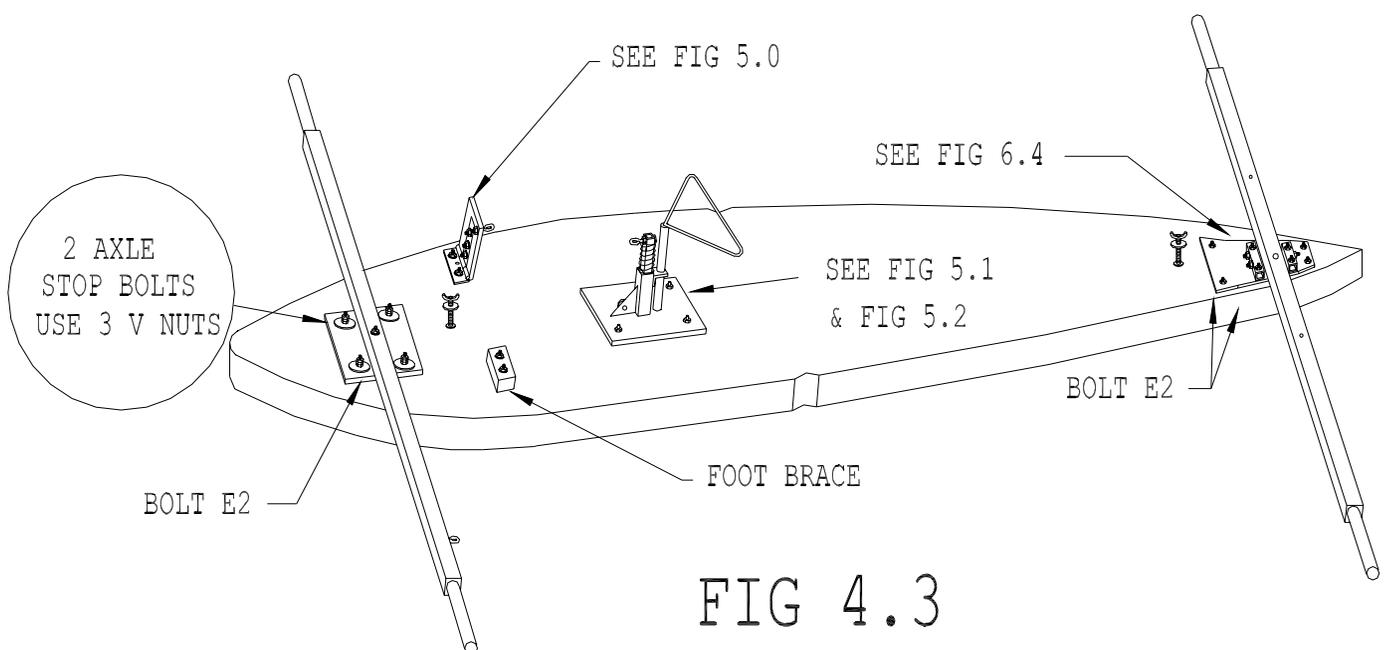


FIG 4.3

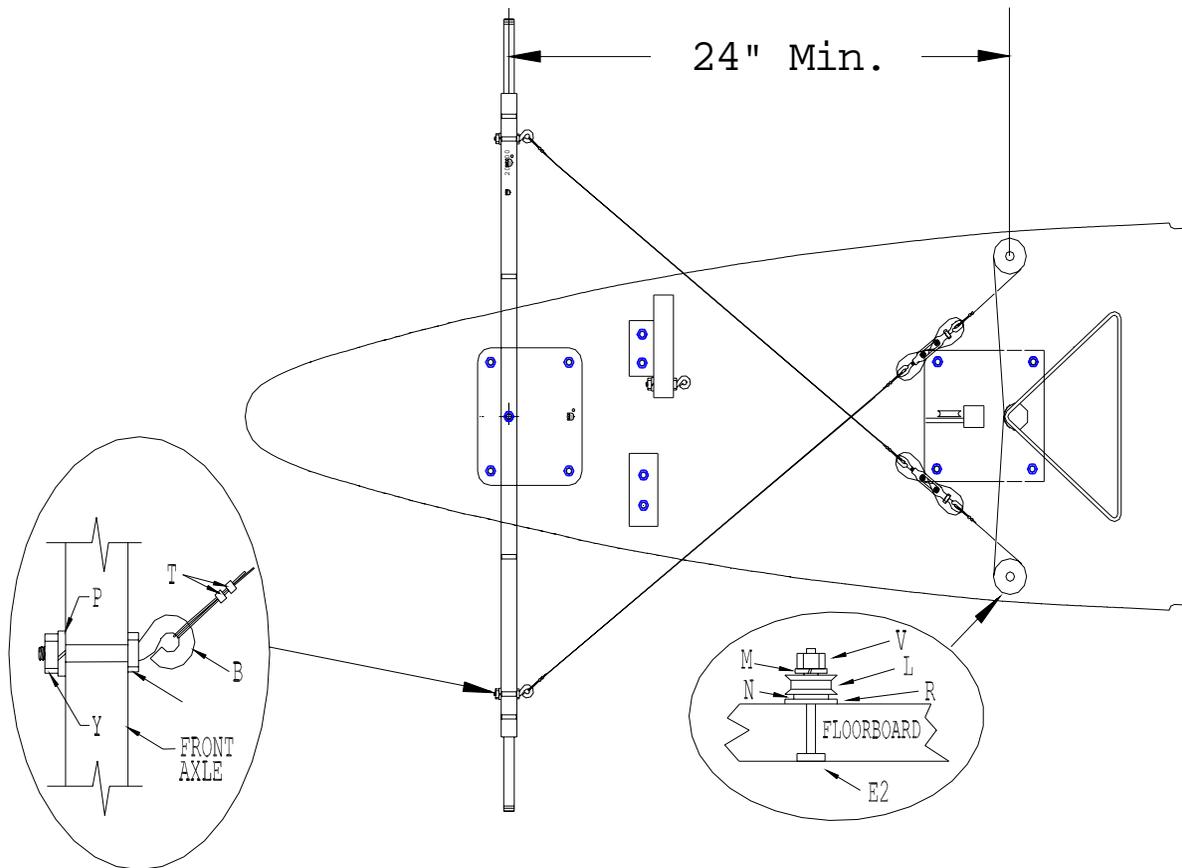


FIG. 4.4

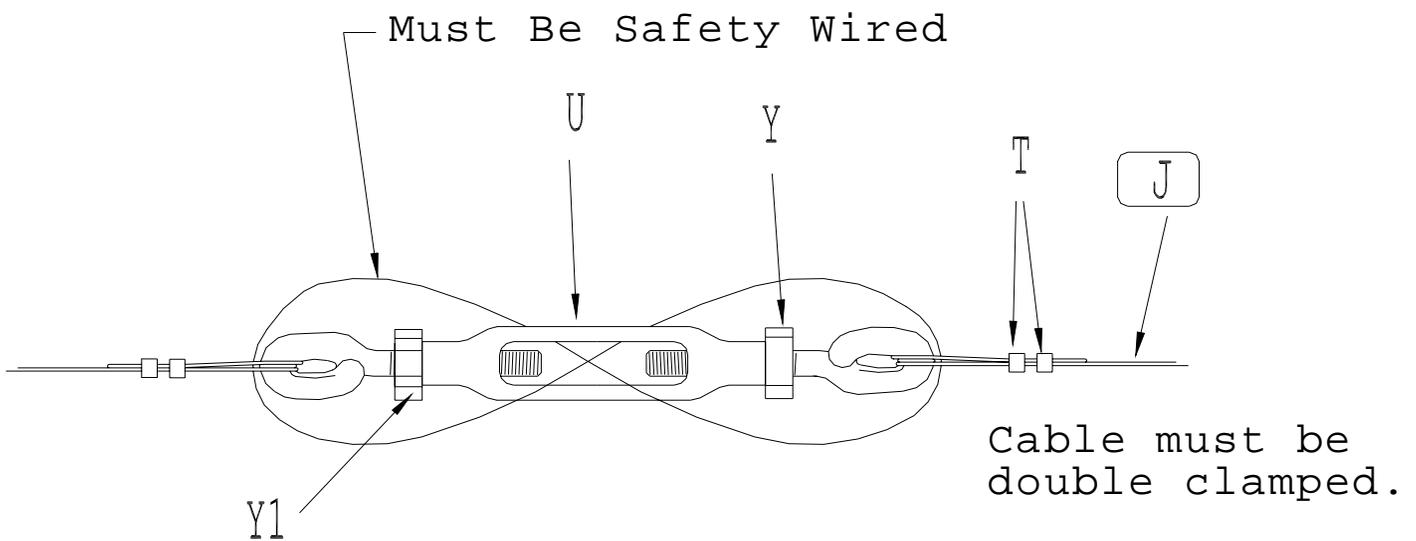


FIG. 4.5

SM-5.00 Brake:

- a. The car must be equipped with a single drag brake capable of stopping the car safely. No other type of brake is permitted. Design it so that the brake, when pulled up, will meet the 3" ground clearance rule.
- b. The brake pedal, if made of wood, it must be 3/4" thick and be hardwood or plywood. Brake pedals made of metal plates; bars, rods, angles, etc. are acceptable. A minimum 3/16" eyebolt must be used to attach the brake cable. Nuts, flat washers and lock washers must be on the eyebolt on each side of the brake pedal. A foot pedal designed and installed without obstructing inspection of the car must operate the brake. Hand operated or hydraulic brakes are not permitted. No part of your legs or feet may extend outside the car when applying the brake. No covering over the brake facing or across the brake opening is allowed.

SM-5.01 Foot Brace:

- a. A functional foot brace must be installed 3/4" height x 3" length minimum. The 3" length must be parallel to the axle. The brake pedal is not considered a foot brace. The brake pedal may be constructed on top of the foot brace.

SM-5.02 Brake Facing:

- a. The brake must be faced with a piece of tire tread, or equally effective material, having contact area of at least 9 square inches flat on the ground when the brake is applied. Leather is not permitted as facing material. Facing must be bolted to the brake shoe and the bolts must be recessed so they cannot touch the ground when the brake is applied.

SM-5.03 Hinges:

- a. Any hinges in the brake mechanism must be the "tight pin" type, and must be attached with bolts, locks, washers, and nuts (not with wood screws).

SM-5.04 Brake Cable:

- a. Brake cable must be 1/16" woven and flexible. Brake cable may not have any type covering. Rope, chain, or clothesline cable is prohibited.
- b. Pulleys or metal tubing must be used to guide the brake cable. An eyebolt at least 3/16" in diameter wide must be used to attach the brake cable.

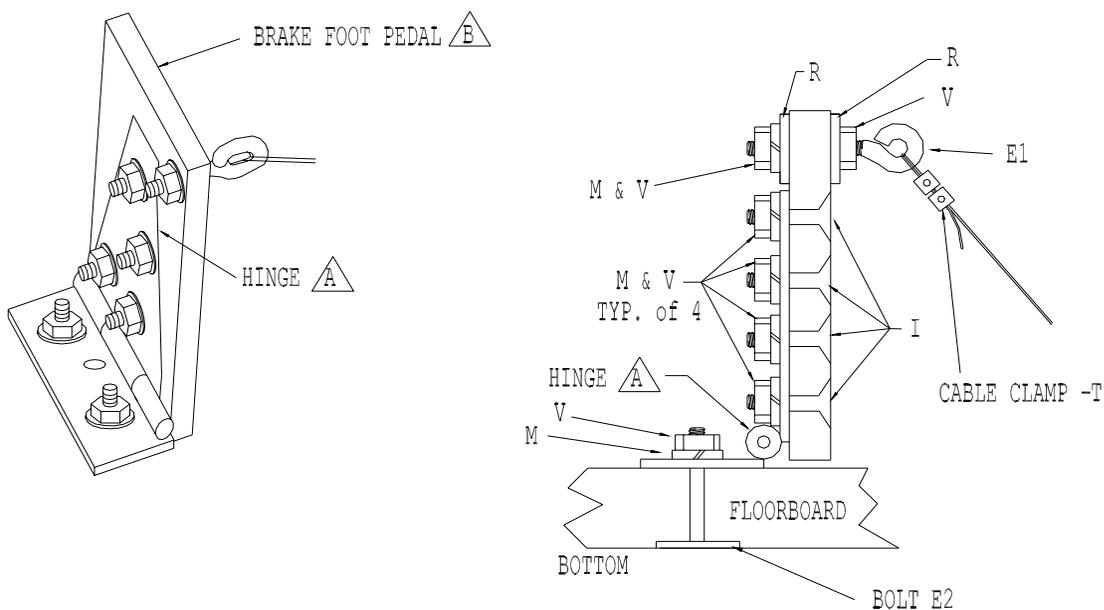


FIG. 5.0

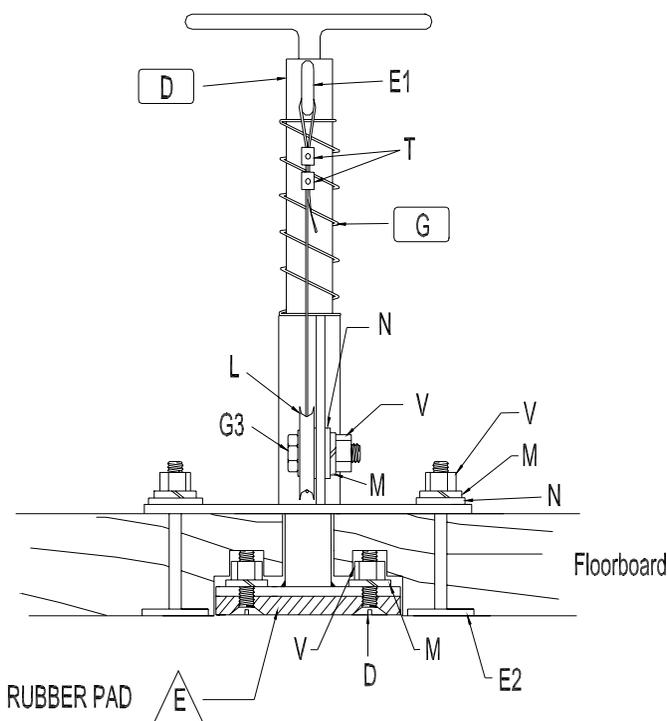


FIG. 5.1

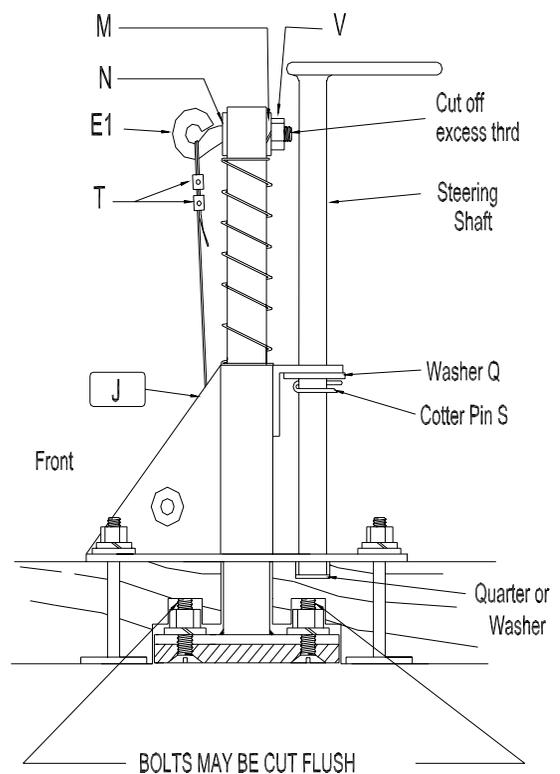


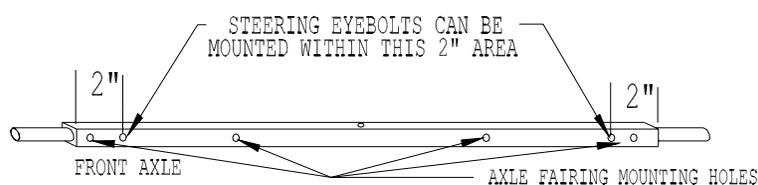
FIG. 5.2

SM-5.05 Brake Assembly:

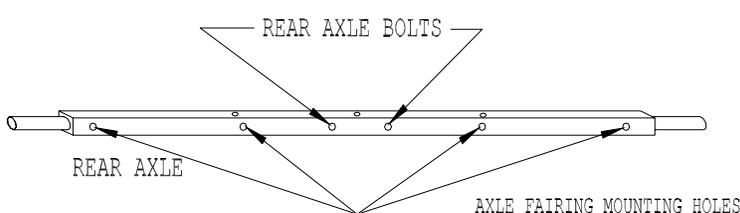
- Use Screws I, Lock washers M, and Nuts V to install Brake Foot Pedal B to Hinge A as in Fig. 5.0
- Bolt Hinge and Foot Pedal to Floorboard.
- Insert Eyebolt E1 in the Brake Foot Pedal as in Fig. 5.0
- Bolt Rubber Pad E to the bottom of the brake plunger using Bolt D.
- Bolt assembly D to the floorboard.
- Insert the Brake Plunger into the assembly from the bottom and install Coil Spring G. Insert Eyebolt E1 in place as in Fig. 5.2.
- Insert Steering Shaft as shown in Fig. 5.2 using Cotter Pin S and Washer Q.
- Route the Brake Cable J to Center pulley then to the Brake Pedal as in Fig. 4.4. (Cable may be cut & taped)

SM-6.00 Axles Dimensions:

- Axles cannot be older than 8 years on race day (**1997 or newer**).
- Only official unaltered $\frac{3}{4}$ " Soap Box Derby axles supplied by the All-American with the official logo and date stamp may be used in the racer.
- Mounting holes in the axle may not be larger than $\frac{1}{4}$ " diameter.



Front Axle Fig. 6.1



Rear Axle Fig. 6.2

SM-6.01 Alterations:

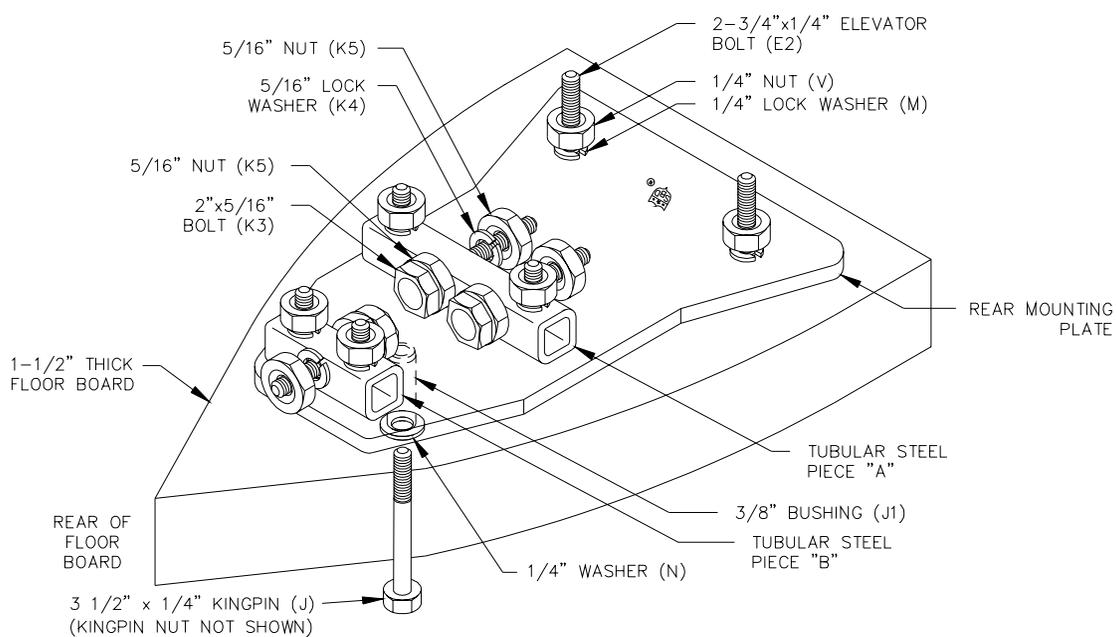
- a. Axles may not be altered in any way. Sanding, filing, shaving, peening, plating, coating, polishing, bluing, or rusting, etc. of axles is not permitted unless otherwise specified. A coat of auto type wax or oil is permitted to prevent rusting.

SM-6.02 Prebowing:

- a. Prebowing is allowed. Pre-bowing is the arching of the axle to compensate for vertical loading. Under full load (car and driver) the axles are allowed to have a maximum- 1/8" arch in the vertical dimension. No arch will be allowed in the horizontal direction. Axles must be pre-bowed by bending only. Other methods such as a peening, heating, etc, are not accepted.

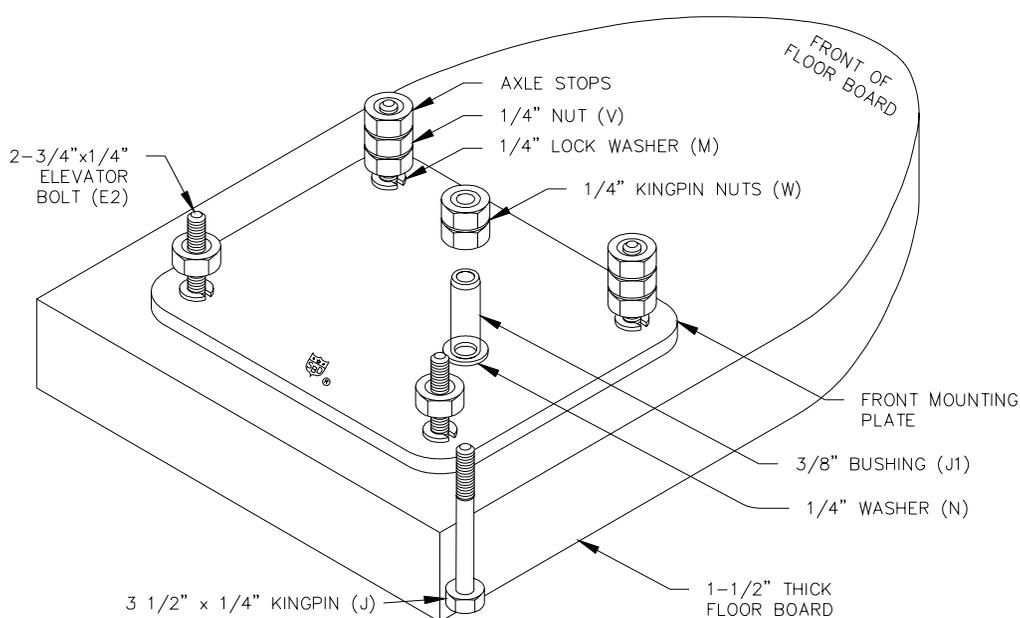
SM-6.03-Axle Mountings:

- a. Only AASBD issued axle mounting plates, tubular brackets, bushings, kingpins and hardware may be used (see figures 6.3 & 6.4).
- b. The bottom plate in the front and rear may be epoxied to the top side of the floorboard.
- c. One additional mounting plate may be added to the top of the first required mounting plate, in both front and rear locations. No more than 2 plates (one required and one optional) will be permitted at each axle. The 2nd plate can not be epoxied.
- d. Drilling of holes in the optional plates will be allowed to reduce weight. The outside shape and AASBD logo shall not be removed or altered.
- e. Builder may mount brake hardware and axle stops to the mounting plates.
- f. Builder may use the washer stack of choice on both axles and brackets – AASBD issued only. Washer stack is limited by the length of the 3 1/2" kingpin.
- g. The (3) K3 bolts in contact with the rear axle may have the grade markings removed.
- h. Builder must provide axle stops. See SM-4.05 for detail.
- i. Elevator bolts may be countersunk into the floorboard.



REAR RUNNING GEAR DETAIL

FIG. 6.3



FRONT RUNNING GEAR

FIG. 6.4

SM-6.04-Axle Kingpins:

- Kingpins must be grade 8 with AASBD standard markings. Kingpin must be visible but may be countersink. You may use your own nut on the kingpin.
- Only kingpin bolts (Grade 8) with one of the marking patterns illustrated below will be permitted in the Scottie Masters Division cars.

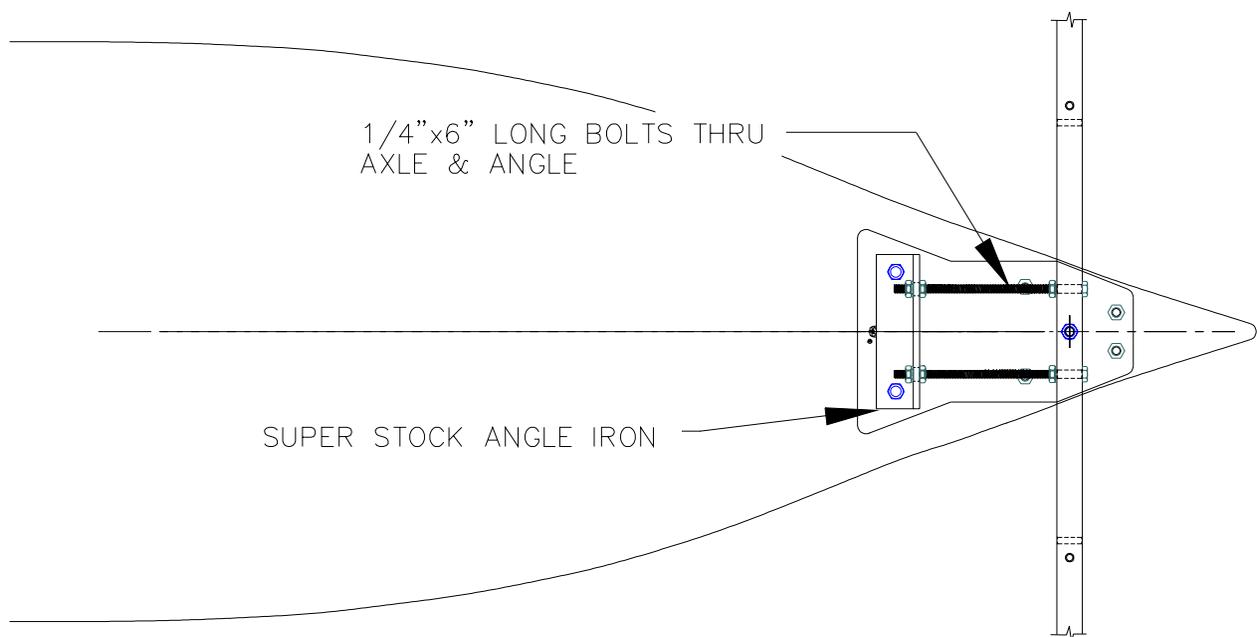
Top view of bolt



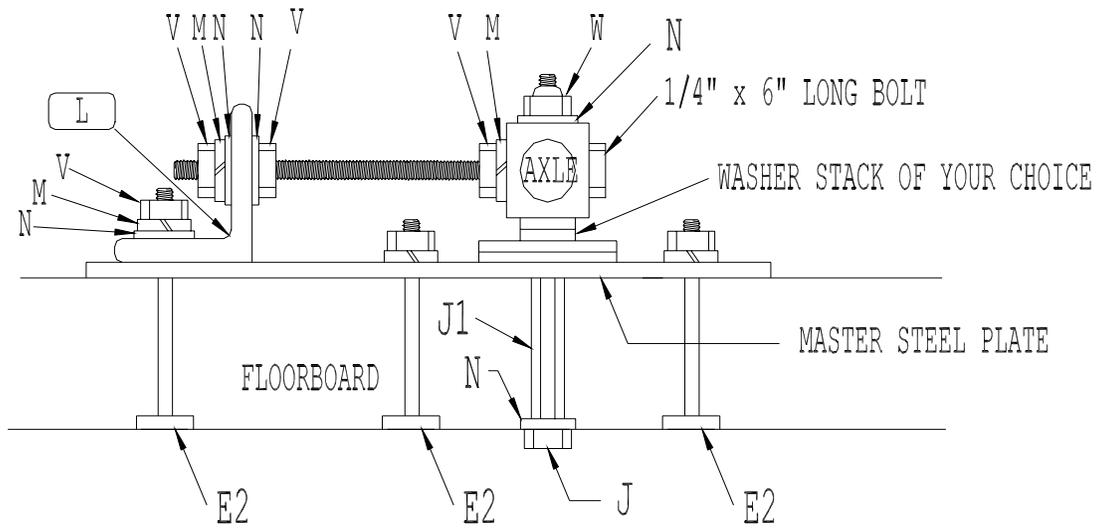
SM-6.05 Mounting Plates & Axle Assembly:

AXLES:

- Look at Fig. 6.1 and Fig. 6.2 to determine which axle goes in the Front and Rear.
- Mount both axles. Fig 6.3 for front, and Fig 6.4 for rear. These two figures are examples of mounting configurations only. (No metal plates may be countersunk into floorboard.)



ALTERNATE SUPER STOCK
AXLE MOUNTING
FIG. 6.5



ALTERNATE SUPER STOCK AXLE MOUNTING
FIG 6.6

SM-6.06 Aligning the Axles:

- AXLE - Get a straight board or curtain rod. Drill a 1/4" hole in one end, and place a nail in the other end as in Fig. 6.5.
- Slide the 1/4" hole over the Kingpin and use the nail as a pointer. Swing the board or rod from side to side and adjust bolts in angle bracket L until the measurement is EXACTLY the same on both sides.
- Secure the bolts with 2 V nuts as in Fig. 6.4.
- FRONT AXLE - Measure from the front edge of the Rear Axle. Adjust the steering turnbuckles by tightening one and loosening the other until the alignment is correct. NOTE: Make sure the steering wheel is straight as shown in Fig. 6.5. Also make sure the axles turn the same direction as the steering wheel. The steering cable should be TIGHT and have NO sag in the cables.

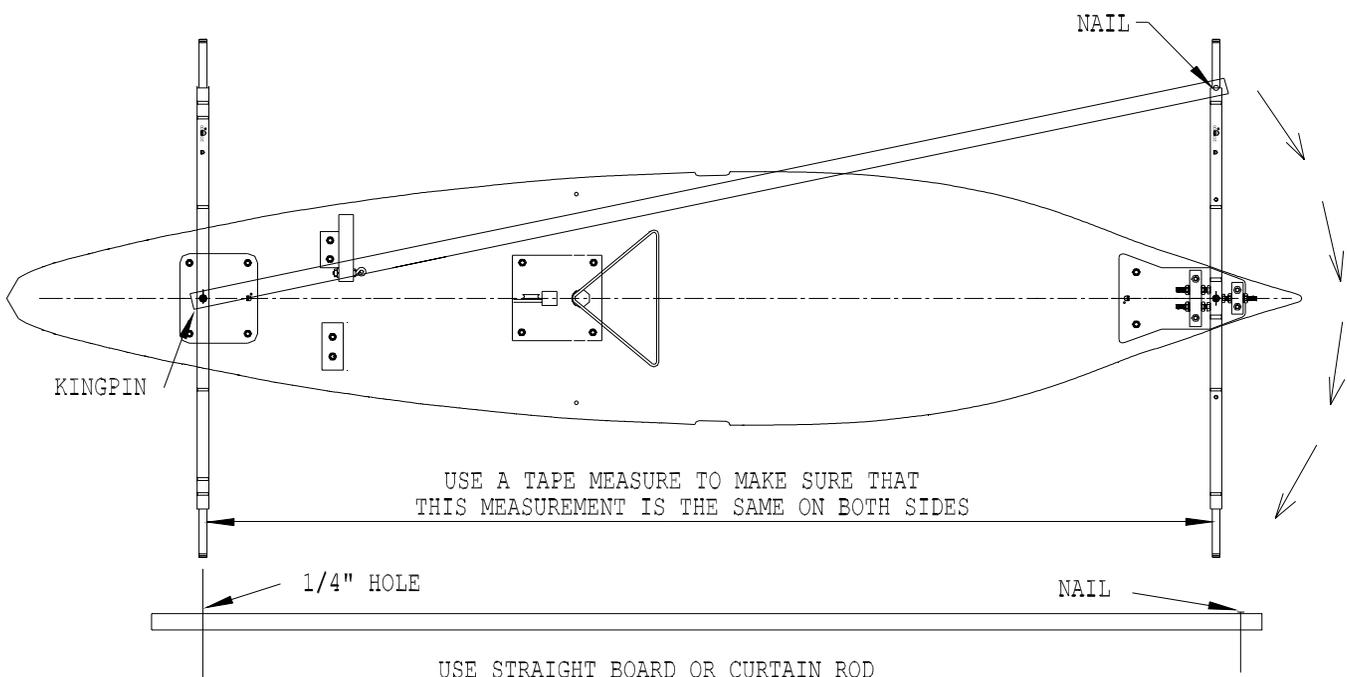


FIG 6.7

SM-7.00 Airfoils:

- a. Unaltered AASBD issued airfoils are permitted on the leading and trailing edges of the front and rear axle. Airfoils may be mounted flush to the axles. Airfoils may not extend beyond the square stock of the axle. No more than four 3/16" holes per axle may be used to mount airfoils. Airfoils may be painted.
- b. Airfoils may extend into the body of the car or builder may the foils to match the body shape.
- c. AASBD axle logo must be visible on both axles for inspection.
- d. Airfoils must be installed with the smaller fairing as the leading edge.
- e. Foam may be used to fill the gap between the airfoils and the car body. Foam must be installed on the end of the airfoil and must conform to the same profile as the airfoil.

SM-8.00 Wheels:

- a. Four wheels must be run on the car; two front, two rear. ALL FOUR WHEELS MUST BE TOUCHING THE GROUND AT ALL TIMES.
- b. Only Official Unaltered Soap Box Derby wheels can only be used. (Also see rule C-6.10 in rule book).
- c. Tampering with or altering in any way, any part of the wheels, bearings or tires is prohibited and may be cause for disqualification.

SM-9.00 Weight:

- a. Combined Weight of the car and driver cannot exceed 255 pounds with Z-Glass wheels.
- b. The car may be built up to the maximum combined weight of the driver and car by the addition of wood, metal or masonry material. (The masonry material must be cased in a metal or plastic container and secured in the car in that container). The additional weight must be securely bolted down with no less than 5/16" diameter bolt, and must pass all safety requirements of the inspection committee. Suspended weight is illegal. The weight may be placed anywhere in the car as long as it does not move or obstruct view of front or rear kingpins. No cushion (sponge, rubber, springs, etc) may be used between the weights or the weight and the floorboard. **Weight must not exceed 12" in length and may not touch each other, the sides of the car, nor any other assembly.**

NOTE: All weight used in the car must be painted and the weight of each piece must be marked.

SM-9.01 Adjustable Weight:

- a. Each car must have at least one anchoring bolt or threaded rod with a wing nut safely installed in the car body for quick adjustment of weight. The weight of the cars may be adjusted by adding or removing weight to make the combined weight no more than 255 pounds with Z-Glass wheels.
- b. The recommended amount of adjustment weight is ten pounds (suggested increments of (3) two-pounds; (3) one-pound and (2) eight-ounces) mounted securely by a 5/16" diameter bolt, held by a "wing nut" and installed within reach of the cockpit area for easy adjustment. No wing nuts are permitted on weights under driver's body. **Weight may not exceed 12" in length.**

SM-9.02 Prohibited Weight:

- a. Pouring of melted metal into the car floorboard or body is prohibited. Within the interior of the car all weight must be removable. No welding of weights together will be permitted.

WEIGHT:

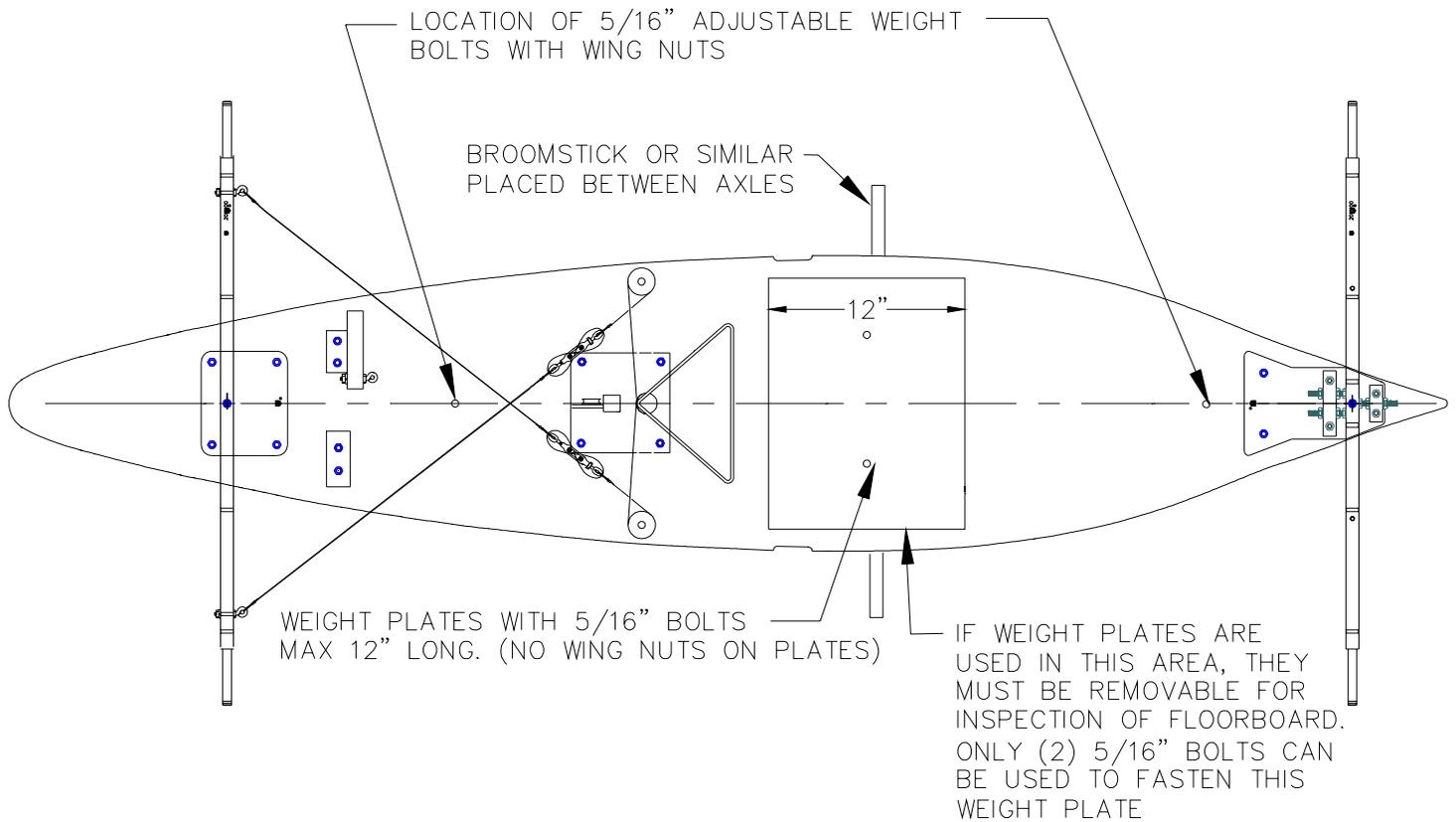


FIG. 9.0

- b. There are two 5/16" bolts that will hold any adjustable weight you may need. Use the wing nut Z to hold weight down.
- c. Place a 2 x 4 or broomstick under the center of the floorboard. Have the driver lay down on the floorboard and get in driving position. Add weight so that the car is balanced. (See Fig. 9.0)
- d. All weights must be mounted on top of floorboard. (No countersinking of weight into floorboard.)

SM-10.0 Lettering and Decorations:

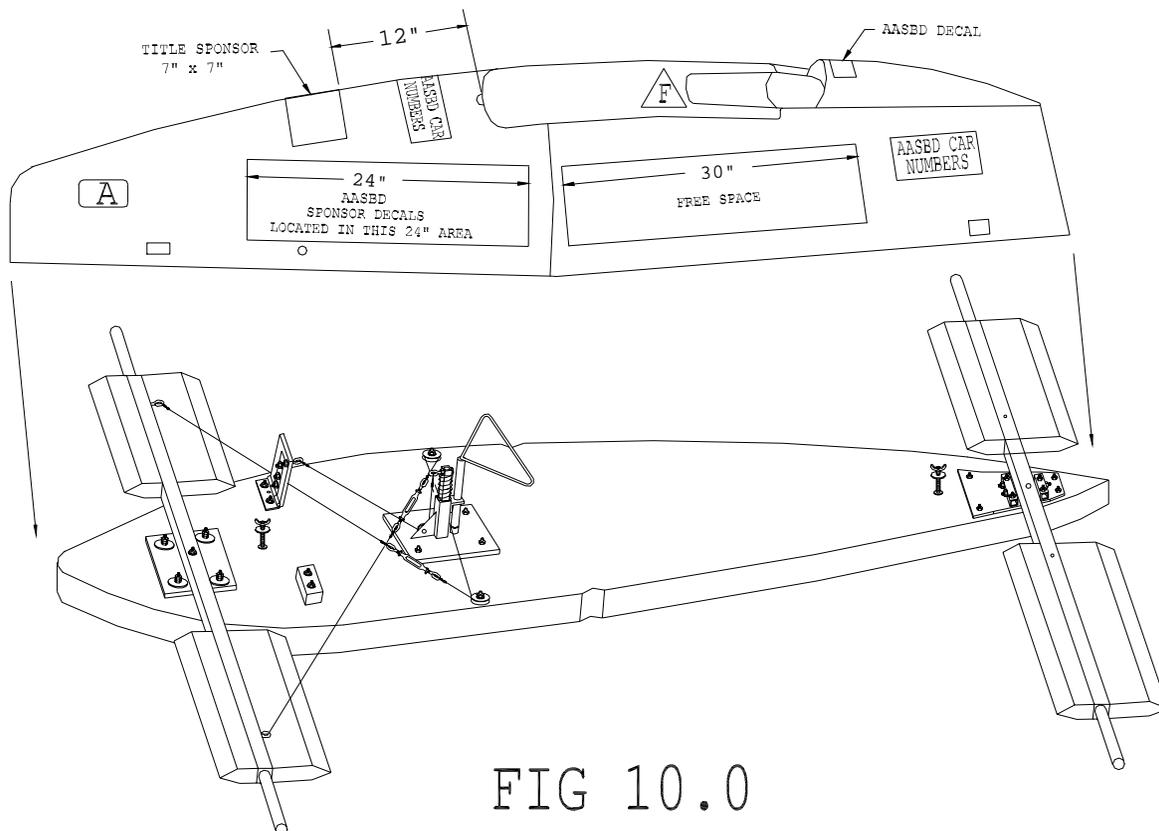


FIG 10.0

1. Title Sponsor (Home Depot) Decal Size and Placement
 - a. 7"x7" (49 sq. in. maximum) Home Depot decal issued by the AASBD must be centered and placed 12" in front of the hatch opening on the top side of the shell. It must read toward the front of the racer. The Home Depot logo is to be displayed as a square - not a diamond. See figure 11.0 for diagram.
2. AASBD National Sponsor Decals, Size and Placement
 - a. Decals will be placed in the area located 2" above the bottom of the floorboard, not covering any screws attachment and continue up 10" toward the top of the race car. This area will begin at the front of the hatch and continue forward for 24". See Figure 11.0 for diagram.
3. Local sponsor and city decals
 - a. The car sponsor, local sponsor, race city, and driver's name can be placed on the left and right side of the racer. This area will be 30" in length and placed below the hatch opening. The car sponsor, local sponsor, race city, and driver's name are not mandatory decals; however, if you wish to have them on the car and would not like them covered in any way by mandatory decals, the cockpit area is the guaranteed free space. Race city name is mandatory at the AA race on championship cars. See Figure 11.0 for diagram.
4. AASBD Logo
 - a. The AASBD (3"x3") decal will be placed on the top of the shell directly behind the headrest area. See figure 11.0 for diagram.
5. ALL DECALS MUST BE ON ALL RACE CARS DURING ANY LOCAL RACE, RALLY RACE, AND THE ALL-AMERICAN RACE. THIS RULING MAY NOT BE WAIVED BY LOCAL OFFICIALS. ALL DECALS MUST REMAIN IN THEIR ORIGINAL CONDITION – ALTERATIONS OR COATINGS ARE NOT PERMITTED.
6. Shell may be painted on the outside only – overspray on inside of shell is not permitted.

SM-11.00 Prohibited Construction:

THE FOLLOWING IS NOT PERMITTED

- a. No welding or brazing, of any type of any part of the racer. The only exceptions to this rule is welding or brazing required in parts supplied by the AASBD.
- b. Raising or lowering the car body mechanically throughout the suspension system.
- c. Windshield of any kind.
- d. Glass other than fiberglass anywhere in the car.
- e. Starting or propelling devices of any kind, including any kind of nose extension.
- f. Attachments, sighting devices and decorations such as pennants, ornaments, etc.
- g. Loose materials or unsafe construction.
- h. Ready-made purchased parts designed for Soap Box racing not approved by the AASBD.
(This includes axle mountings, axles, & steering assemblies.)

SM-12.00 Inspection:

- a. Racers with hidden material or miscues in construction that cannot be corrected in a one hour timed period, must expose a min. of 2 ¼" of axle stock on all four axles the same as on existing custom designed lay down cars.
- b. Floorboard dimension will be measured on the inside of car. Any alteration to the original shape of the floorboard will result in 2 ¼" axle square stock exposure on all four-axle exposures.
- c. There is a one time plus or minus 1/16" honest error permitted. If balance of car has building errors then all errors must be corrected.

SM-13.00 Clarifications or Questions:

**ANY QUESTIONS DIRECTED TOWARD
THE NATIONAL CONTROL BOARD
PERTAINING TO ANY RULE MUST BE REQUESTED IN WRITING**

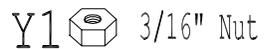
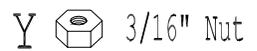
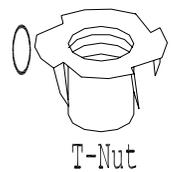
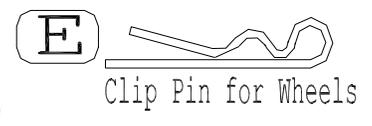
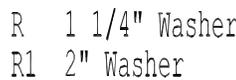
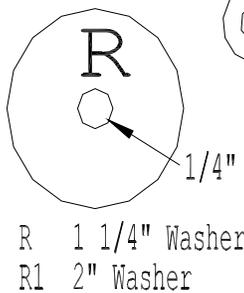
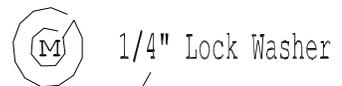
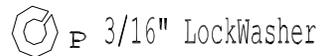
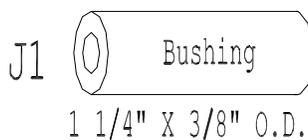
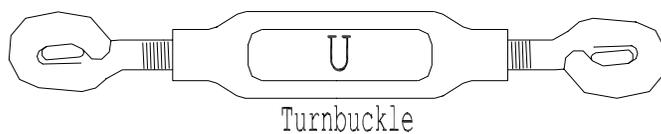
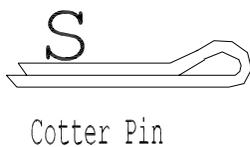
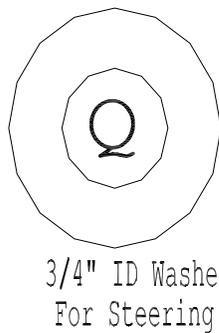
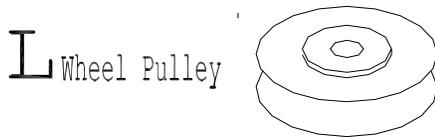
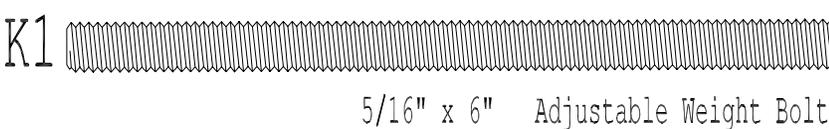
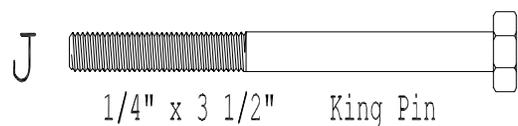
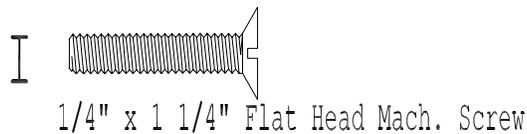
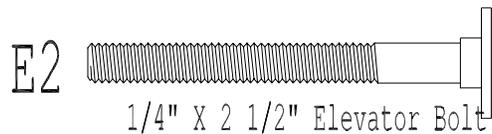
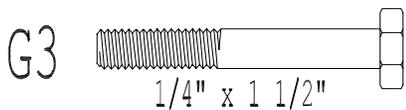
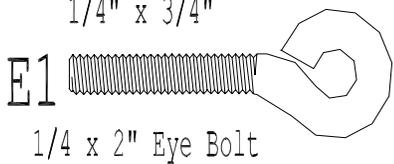
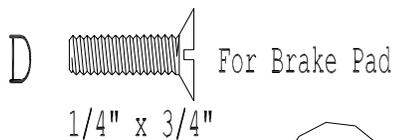
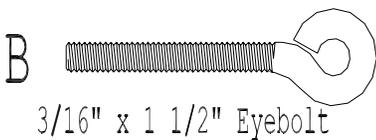
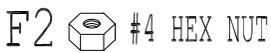
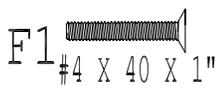
MAIL TO: AASBD, PO BOX 7225, AKRON, OH 44306

E-MAIL: SOAPBOX@AASBD.ORG

FAX: 330-733-1370

**ANSWERS WILL ONLY BE GIVEN TO QUESTIONS THAT
HAVE BEEN SUBMITTED IN WRITING.**

Part Description	Qty.	Part Description	Qty.	Part Description	Qty.
(A) Body	1	I 1/4" x 1 1/4" Flat Head Screw	4	S 1 3/4" Cotter Pin	1
(B) Axles	2	J 1/4" x 3 1/2" King Pin Bolt	2	T Cable Clamp	8
(C) Floorboard	1	J1 1 1/4" x 3/8" O.D. Bushing	2	U 3/16" #2 Turnbuckle.	2
(D) Steering & Brake Assy.	1	K1 5/16" x 6" Hex Head Bolt	2	V 1/4" Nut	38
(E) Wheel Clip Pins	4	K2 1 1/4" x 5/16" ID Washer	2	W 1/4" Lock Nut	3
(F) Wheel Washers	4	K3 2" x 5/16" Hex Head Bolt	3	Y 3/16" Hex Nut	6
(G) 8" Coil Spring	1	K4 5/16" Lock Washer	3	Y1 3/16" Left Hand Hex Nut	2
(J) Steering Cable	2	K5 5/16" Nut	6	Z 5/16" Wing Nut	2
(M) Front Mounting Plate	1	L Cable Pulley	3	(A) Brake Hinge	1
(N) Rear Mounting Plate	1	M 1/4" Lock Washer	24	(B) Wood Brake Pedal	1
(P) Tubular Steel Piece "A"	1	N 1/4" Flat Washer	33	(E) Rubber Brake Pad	1
(Q) Tubular Steel Piece "B"	1	O 5/16" T-Nut	2	(F) Foam 1" x 7" x 9"	1
B 3/16" x 1 1/2" Eyebolt	2	P 3/16" Lock Washer	2	(G) Safety Wires	2
D 1/4" x 3/4" Bolt	4	Q 1 1/2" x 3/4" Flat Washer	1	(I) AXLE FAIRINGS	4
E1 1/4" x 2" Eyebolt	2	R 1 1/4" x 1/4" Flat Washer	10	(K) HATCH HINGE	1
E2 1/4" x 2 3/4" Elevator Bolt	20	R1 2" x 1/4" Flat Washer	2		
G3 1/4" x 1 1/2" Hex Head Bolt	1	F1 #4 X 40 X 1" FLAT HEAD	6		
		F2 #4 X 40 HEX NUT	6		
		F3 #4 Flat Washer	6		



SCOTTIE CHECK LIST

<u>Inspection Area</u>	<u>Inspection Item</u>	<u>Description</u>
___ Car Dimensions	Height	14" Minimum
___	Girth	53 1/2" Minimum
___	Width	17" Minimum inside 1 1/4" off floorboard.
___	Nose Height	8 1/2" high, 4 1/2" back Minimum
___	Road Clearance	3" Steel, 3 1/16" Z-Glass Minimum
___	Car Length	84" Steel, 84 1/16" Z-Glass Maximum
___	Wheel Base	65" Minimum, spindle to spindle
___ Shell	Inspection Hole	3" x 3" Minimum top center of car
___	Fiberglass	On outside only
___	Interior Coatings	Thin coating of wax only
___	Inside Shell	No fiberglass
___ Headrest	Helmet	First rivet must be visible
___	Helmet cutout	7" wide to first rivet.
___	Helmet cutout	Must be padded with foam or wood, 3/4" x 1".
___	Helmet Width	7 1/4" outside between rivets
___ Hatch	Opening	12" wide by 21 1/2" long
___	Side Reinforcement	Max 1" x 3/4" wood, Max 1 1/2" down from edge.
___	Hinge	Single pin
___	Wood Backing	For hinge 2" x 3" x 3/4" Maximum wood block
___	Hold down	No tape allowed
___	Foam	5/8" thick, 7" wide, Minimum 6" long
___	Site Groove	5" wide, 1/2" deep Minimum
___ Floorboard	Shape	NO alterations
___	Axle Mounting Plates	AASBD issue
___	Axle Mounting Plates	May be epoxied to floorboard bottom plate only
___	Hardware	Mounted directly to floorboard
___	Kingpins holes	Max. 1" dia. & may plug with material of choice
___	Nailer Strip	1" x 1" Maximum around perimeter
___	Sealer	Tung Oil and or wax only
___ Steering	Cable Location	24" center of front axle to center of steering pulley
___	Attachments	Attached within 2" from outer edge of axle max Must be visible.
___	Steering Wheel	6" in diameter. continuous loop
___	Steering Shaft	3/4" diameter full length
___	Steering Cables	1/16" airplane cable
___	Turning Radius	3/8" Minimum, 1" Maximum each direction
___ Brakes	Brake Pedal	3/4" hardwood or plywood
___	Brake Facing	9 square inches rubber
___	Brake Hinge	Tight Pin type with bolts, lock washers & nuts
___	Brake Cable	1/16" airplane cable
___ Axles	Date	Not older than 8 years on AA race day (1997 or newer)
___	Logo & Date	Must be visible
___	Mountings	Nothing bridging over top or touching axles
___	Kingpins	Grade 8 & must be visible
___ Airfoils	Issue	AASBD Issued
___	Mountings	Four 1/4" holes per axle
___	Fillets	No fillets permitted
___	Length	Do not extend past square stock
___ Weights	Bolts	5/16" diameter Minimum with wing nuts
___	Length	12" maximum length
___	Adjustable	10 pounds Minimum
___ Decals	AASBD	Locate per Fig. 10.1
___	Race City	Locate per Fig. 10.1
___	Sponsors	Locate per Fig. 10.1
___ Construction	Hidden Materials or Miscues in Construction	If it can not be corrected in one hour you must expose 2 1/4" square stock from outside edge at each wheel. The same as custom build cars.

OPTIONAL SCOTTIE SPECIAL

1. The Optional Scottie Special was designed to simplify the construction of a master's car. (This car can be totally disassembled and passed on to another driver.)
2. Follow the above construction plans for the Scottie Special, plus the following Optional Scottie Special instructions.
3. Use only AASBD hardware and parts for the Optional Scottie.
4. The floorboard **cannot** be rounded on the bottom or sides.
5. The floorboard can be dished out at the drivers seat and feet area.
6. A nailer strip can be used in the Optional Scottie.
7. The elevator bolts may be countersunk into bottom of floorboard – may be covered with tape.
8. The minimum height dimension inside the car shall be 11 1/8" measured at the cockpit hinge.
9. The minimum height of the nose shall be 8 1/4" high and 4 1/2" back from the front of the car.
10. Epoxy the shell halves together on a flat surface; make sure the shell fits on floorboard. Attach headrest to shell with epoxy.
11. Fiberglass, carbon fiber and similar materials **cannot** be used on the Optional Scottie. **Only body fillers** may be used on seams and headrest.
12. Fasten shell to floorboard with screws. Shell must be removable without removing steering cables or axles.
13. The screws and seam between the shell and floorboard may be covered with tape.
14. Side reinforcing and hatch reinforcing is permitted in the Optional Scottie.
15. Enlarging the hatch opening **is not** permitted in the Optional Scottie.
16. **Paint is not permitted on any side of the floorboard.**
17. **The following parts may be non-AASBD issued: brake pedal, foot rest, axle stops, steering cable adjusters, and weight bolts.**

All clarifications or questions concerning the construction of the Optional Scottie Special Masters Car must be sent in writing to the AASBD office. The National Control Board will answer all clarifications or questions in a prompt manner.

All American Soap Box Derby Headquarters
P.O. Box 7225
789 Derby Downs Drive
Akron, Ohio 44306
Phone 330-733-8723
Fax: 330-733-1370
E-Mail: soapbox@asbd.org

OPTIONAL MASTERS CHECK LIST

<u>Inspection Area</u>	<u>Inspection Item</u>	<u>Description</u>
___ Car Dimensions	Width	17" Minimum inside 1 ¼" off floorboard.
___	Height	11 1/8" high Minimum, at hatch hinge
___	Nose Height	8 1/4" high, 4 ½" back Minimum
___	Road Clearance	3" Steel, 3 1/16" Z-Glass Minimum
___	Car Length	84" Steel, 84 1/16" Z-Glass Maximum
___	Wheel Base	65" Minimum, spindle to spindle
___ Shell	Inspection Hole	3" x 3" Minimum top center of car (optional)
___	Outside Shell	No fiberglass, body fillers only
___	Inside Shell	No fiberglass
___	Interior Coatings	Thin coating of wax only
___ Headrest	Helmet	First rivet must be visible
___	Helmet cutout	7" wide to first rivet.
___	Helmet cutout	Must be padded with foam or wood, ¾" x 1".
___	Helmet Width	7 ¼" outside between rivets
___ Hatch	Opening	12" wide by 21 ½" long
___	Side Reinforcement	Max ¾" x ½" wood, Max 1 ½" down from edge.
___	Hinge	AASBD Issued
___	Wood Backing	For hinge 2" x 3" x ¾" Maximum wood block
___	Hold down	No tape allowed
___	Foam	AASBD Issued
___ Floorboard	Shape	NO alterations
___	Nailer Strip	1" x 1" Maximum around perimeter
___	Sealer	Tung Oil and or wax only – no paint
___ Axle Mounting	Axle Mounting Plates	AASBD Issued
___	Axle Mounting Plates	May be epoxied to floorboard
___	Kingpins	AASBD Issued kingpins and bushings only
___ Steering	Cable Location	24" from center of front axle to center of steering pulley.
___	Attachments	Attached within 2" from outer edge of axle max. Must be visible.
___	Turning Radius	3/8" Minimum, 1" Maximum each direction
___ Brakes	Brake Pedal	¾" hardwood or plywood
___	Brake Facing	9 square inches AASBD rubber
___	Brake Hinge	Tight Pin type with bolts, lock washers & nuts
___ Axles	Date	Not older than 8 years on AA race day
___	Logo & Date	Must be visible
___	King Pins	Grade 8 & must be visible
___ Airfoils	Issue	AASBD Issued
___	Mountings	Four ¼" holes per axle
___	Fillets	No fillets permitted
___	Length	Do not extend past square stock
___ Weights	Bolts	5/16" diameter Minimum with wing nuts
___	Adjustable	10 pounds Minimum
___	Length	Maximum of 12"
___ Decals	AASBD	Locate per Fig. 10.1
___	Race City	Locate per Fig. 10.1
___	Sponsors	Locate per Fig. 10.1
___ Construction	Miscues in Construction	Must be corrected in one hour.