

2023 New London-Waterford Speedbowl SK Light Modified Rules

Last Updated: 1/26/2023

1) Introduction:

Interpretations of the rules contained herein will be the sole responsibility of authorized officials of New London-Waterford Speedbowl. Their interpretations and judgments shall be final.

All equipment is subject to the approval of the New London-Waterford Speedbowl Officials.

It is the competitor's responsibility to become familiar with the SK Light Modified Division Rules and the New London-Waterford Speedbowl General Rules.

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2) Driver Eligibility:

Drivers 14 years old and up are eligible to compete in the New London-Waterford Speedbowl SK Light Modified division. In order to participate in any on-track activity all cars must complete a technical & safety inspection and all drivers must be signed in with all completed paperwork on file. This includes Driver Registration Form and Number Registration Form. By registering as an owner or driver you agree to be knowledgeable and bound by the contents found in these rules and in the New London-Waterford Speedbowl General Rules.

3) Safety:

Racing Seat

An aftermarket, aluminum fabricated racing seat, sized correctly for the driver, must be used. See General Rules for detailed requirements.

Seat Belts

A minimum 5-point safety harness is mandatory. Belts must be SFI rated and dated no older than 3 years from the date of manufacture. See General Rules for detailed requirements.

Window Net

A commercially manufactured, SFI rated, nylon window net must be installed in the driver's side door window opening. See General Rules for detailed requirements.

Fire Suppression

A fire extinguisher or fire bottle suppression system securely mounted in the car is mandatory. See General Rules for detailed requirements.

Safety Gear

A double-layered, full fire suit made of Nomex material is mandatory. SFI rated gloves and shoes are mandatory. Full- face SA2005 rated or newer helmets are mandatory. A head and neck restraint system (Ex: HANS, Hutchens, or similar) is mandatory. See General Rules for detailed requirements.

4) Transponders & Radios:

All cars must have functional transponders in order to participate in any on-track activity (see Figure 1 for mounting location).

Spotters are mandatory. Teams must monitor the race control frequency (464.5000) and comply with all requests from race control.

One (1) rear view mirror mounted at the top of the windshield is permitted. Maximum mirror size is 14" X 2". One spot mirror is permitted.

5) Technical Rules:

No carbon fiber or titanium parts allowed. None of the following will be allowed in or on any engine or driveline component or part: abrasive cleaning, acid dipping, chemical milling, coating, epoxying, finishing, grinding, painting, plating, polishing, porting, etc.

6) Approved Models:

Approved model bodies are listed in the NASCAR Rulebook. Detailed chassis, body, and interior tin rules can be found in the NWMT rule book.

7) Body, Appearance:

Cars may not compete without the roof, windshield, hood, air filter, or mufflers in place. Additionally, the bumpers and all nerf bars must be adequately secured to the chassis at all times. NLWS Officials will pass judgment on any damage to the body, bumpers, nerf bars, etc. prior to continuing an event.

Roof

All roof panels must be made of magnetic sheet steel or be an approved manufactured fiberglass roof. All cars utilizing an approved fiberglass roof must install the (minimum) 1/8" thick aluminum anti-intrusion plate in the roll cage halo (see figure 2).

Roof Posts

The front roof posts may be aluminum or clear lexan. They may not be any higher than the line created from the roof attaching point to the forward most door attaching point. The rear roof posts must be aluminum and may not be any higher than the line created from the roof attaching point to the rearward most attaching point on the quarter panel. The rear roof posts must be a minimum of 49" apart when measured across the car from left to right and may not be inboard of the rear spoiler mounting area. The general shape and any cutouts in the rear roof posts must match from left side to right side. A 3/4" maximum top lip is permitted on the rear roof posts, and must face inboard.

Windows

Windshields must be made of minimum 1/8" clear polycarbonate that extends from the left A-pillar to the #4A center windshield bar and from the roof to the cowl. A minimum of three Dzus type fasteners must be used on each of the four sides.

Doors and Quarter Panels

Door and quarter panels may be made of magnetic steel or aluminum.

Right side panels: The top and bottom door flange must match the top and bottom quarter panel flange, creating one line/plane when viewed from the side and above.

Left side panels: one angle or break is permitted at the door/quarter panel seam.

All doors and quarter panels must be flat or convex in shape, they may not be concave.

The bottom flange of the door and quarter panels must face inward/inboard.

The door panels must maintain a 2" minimum ground clearance.

The quarter panels must maintain a 7-1/2" minimum ground clearance.

Inner panel aluminum crush panels must be installed.

Nose panel

A conventional aluminum nose panel must be used. The nose panel must consist of a bottom tray, two side panels, and a top panel. Additional panels to aid in air directional flow may be installed inside the nose panel. Any additional air directional flow panels may not extend outward from the air intake opening or any part of the nose panel. The nose panel may be no wider than the frame rails it attaches to. The bottom tray may not extend rearward past the harmonic balancer. The nose panel may not extend forward beyond the rear edge of the front bumper tubing. The top and bottom panels must attach flush to the side panels.

Nose Panel Air Intake Opening

The top panel must have an air intake opening with a minimum of 165 square inches and a maximum of 350 square inches. The air intake opening must be rectangular in shape. A metal mesh screen may be installed in or behind the air intake opening for debris protection. A flat horizontal air dam (splitter) may be installed on the bottom forward lip of the nose panel. The air dam may be no wider than the nose panel, and may extend forward a maximum of 1" from the bottom tray.

Rear Panel & Spoiler

The spoiler must be 8" tall x 48" wide x 1/4" thick clear polycarbonate. The rear panel must be no wider than 60" when measured across from left to right. The height of the top of the rear panel must be between 32" and 36". The rear spoiler must be mounted to the top of the rear panel, aft edge, and must be centered across the back panel.

Interior Sheet Metal

The rear center panel (over the fuel cell) must be made of magnetic sheet steel, 22 gauge, .031" thick, with a minimum width of 28", and must extend from the rear vertical panel forward to the roll bar.

8) Weight:

All specified weight requirements are driver included. Car minimum weight must be labeled on the right A-pillar of the car.

The minimum total weight for rebuilt crate engines is 2,645 lbs.

The minimum total weight for factory sealed box stock/bottle cap crate engines is 2,580 lbs.

The maximum left side is 56.0% of the total weight.

Any car found to be under the minimum overall car weight allowance will be penalized one position for every pound under the minimum total weight.

All ballast weight must be magnetic steel or lead only, in block form, weighing no less than 5 lbs per block. Pellet weight is not permitted. Weight must be welded in a box or attached with (2) or more 7/16" minimum diameter, grade-8 bolts and locking nuts. Added weight may be mounted under the car, securely bolted or welded as high as possible, and painted white with the car number labeled in black. No added weight will be permitted inside the driver's compartment.

9) Frame & Chassis:

Roll Cage

1-3/4 diameter x .095 HREW or DOM steel tubing is mandatory for all roll cage bars. A magnetic steel anti-intrusion plate made from a minimum thickness of .080 must be securely welded to the outside of the left side door bars. All cars must have a foot protection bar located at or in front of the pedal assembly. All roll cage, foot protection bar, and anti-intrusion plate joints must be suitably and appropriately welded by competent craftsmen. See General Rules for roll cage, foot protection bar, and anti-intrusion plate detailed requirements.

10) Ground Clearance:

Minimum ground clearance for chassis, body, and nose piece is 2". All ground clearance requirements will be measured with the driver in the car.

11) Track Width:

Maximum allowable track width is 83-3/4", measured at wheel center height from the left outside bead seat to the right outside bead seat. Minimum allowable track width is 82". Aluminum or steel wheel spacers are permitted.

13) Suspension:

Only coil spring suspensions are permitted. The suspension and coil springs at all four wheels must be active and permit suspension movement in compression and rebound. Any type of travel limiter devices, used in compression or rebound, will not be permitted. Any type of spring coil binding is not permitted. Any device or procedure that, in the judgment of NLWS Officials, attempts to detract from or compromise suspension travel movements will not be permitted.

A maximum of two full (360 degree) non-adjustable spring rubbers are permitted in each coil spring. Spring rubbers must be made of pliable rubber or urethane type material, and may have no other substance in them.

Shock/Coil over boots or bags are not permitted.

Coil Over Springs

Only one (1) spring per wheel is permitted. Coil over springs must mount to the lower A-frames. Strut bars will not be permitted for mounting of coil over front springs. Coil over springs must be manufactured from one solid piece of heavy-duty magnetic round steel and must be constructed with both coil ends closed and ground. Progressive or digressive rate springs are not permitted. Coil springs must be a minimum of 8" in free height and have a minimum 250 lbs. per inch rating. Additional devices to alter the load on the front springs are not permitted.

Coil Over Shocks

The approved front shocks are Pro Shocks (part# TA55.5B). The approved rear shocks are Pro Shocks (part# TA74.5B). The approved shocks must remain as manufactured, with all factory supplied components by Pro Shocks. Alterations or part/component changes of any kind are not permitted.

Sway Bar

The front sway bar must be used for the purpose of anti-roll only. The front sway bar must freely rotate in its mounts. The movement of the front sway bar arms must not be prevented or restricted beyond normal use as an anti-roll bar. Only magnetic steel front sway bars are permitted. Rear sway bars are not permitted.

Spindles, Hubs, and Bearings

Front spindles must be linked to the frame utilizing two individual tethers per spindle.

Low drag components (excluding seals) are not permitted. The use of oil filled hubs, oiled bearings, low friction bearings, non-steel bearings, coated or polished spindles, bearings or races will not be permitted. Two standard steel wheel bearings, a wheel bearing seal, a torque

nut and a standard nut locking mechanism are the only components permitted on each spindle/hub assembly.

15) Brakes:

Four wheel disc brakes are mandatory. Only magnetic cast iron or cast steel round circular rotors permitted. Only metal brake calipers will be permitted. Drilled, slotted or grooved rotors are not permitted. Only factory dust cleanouts are permitted. Dust cleanouts should not exceed .038 in depth. If the dust cleanout exceeds .038 in depth, the rotor may be deemed illegal. The brake rotors must be bolted directly to the hubs. Floating brake rotors are not permitted. Only single stage master cylinders are permitted.

Brake calipers with a maximum of four pistons are permitted. All brake caliper pistons must be of equal size. Each brake caliper may not exceed a racer net price of \$265.00.

17) Tires:

Hoosier Tire East of Manchester, CT is the sole tire supplier for the SK Light Division. The approved compounds are Hoosier 27/13-15 M450 right sides and Hoosier 26/13-15 M30 left sides. All tires used at NLWS must be purchased at the track on race day. NLWS Officials may confiscate and/or impound tires at any time for inspection.

Minimum circumference of the right rear tire is 84" at 20 lbs of pressure. Minimum Tire Pressures for all inspection purposes are ten (10) psi for both left side tires and fifteen (15) psi for both right side tires.

18) Engine:

Factory Sealed Box Stock/Bottle Cap Crate Engine

The only approved engine is the GM Performance Factory Sealed Circle Track 602 (Part# 19258602 or 19434602). Engines must be purchased directly through General Motors or an authorized service center.

Seals may only be removed by a New London-Waterford Speedbowl official or a New London-Waterford Speedbowl authorized service center. Any seals that appear to have been tampered with or have been removed without one of these two parties being present will result in the engine being deemed illegal. At which point the engine must be re-sealed at the participant's expense. New engines with bottle cap seals must have the oil pan sealed by a New London-Waterford Speedbowl inspector.

Rebuilt Crate Engine

A rebuilt 602 engine, based on the GM Performance Factory Sealed Circle Track 602 (Part# 19258602 or 19434602), is permitted with spec modifications that can be done only through a New London-Waterford Speedbowl approved service center. The engines will be inspected and sealed upon completion by a New London-Waterford Speedbowl authorized service center. All

engine seals must remain intact and unaltered. Any service work requiring the removal of any seals/bolts must also be scheduled with and approved by New London-Waterford Speedbowl Officials before the seals/bolts are removed. Tampering with seals/bolts will result in penalties and ineligibility to compete with the engine.

Note: All engines must be sealed and documented to compete at New London-Waterford Speedbowl. A complete crate engine registration form must be completed and submitted to New London-Waterford Speedbowl Officials.

Authorized crate engine service centers:

Nat's Racing Engines; Swansea, MA

RAD Auto Machine; Ludlow, MA

T/A Engines; Plainville, CT

Pettit Racing Engines; New Milford, CT

Larry's Auto Machine; Groton, CT

Automachine LLC; East Windsor, CT

Andy's Auto Machine; Plainville, CT

Note: The only Stafford Motor Speedway approved service center for the GM Performance Factory Sealed Circle Track Crate Engines is: RAD Auto Machine

For variances between the factory sealed box stock/bottle cap crate engines and the rebuilt crate engines see sections: 8) Weight, 22) Fuel Systems-Carburetor Spacer, and 23) Drive Train.

Engine Oils

Combustion enhancing oils or additives are not permitted. Oil coolers, remote filters, and accumulators may be used. Components must be mounted securely in the engine compartment.

19) Cooling System:

A stock OEM type water pump must be used. Electric pumps are not permitted. Any serpentine, cog or V-belt pulley system is permitted. Only water or Water Wetter type additives may be used in the cooling systems. Antifreeze is not permitted.

20) Electrical:

Battery

A single 12-volt Gel or Glass Mat type battery with a minimum weight of 17 lbs is permitted. The battery must be located inside the frame rails, forward of the rear end. The battery may not be inside the driver's compartment.

Ignition System

Electronic distributors are permitted. All electronic distributors must be in stock type housings, have stock type controls and modules, be equipped with a magnetic pickup, be gear driven, and be mounted in the stock location. Billet distributor housings are permitted. Single or dual point camshaft driven distributors are permitted.

Only one ignition coil is permitted and must be mounted on the engine side of the firewall. Electronic firing module amplifier boxes are not permitted. Computerized, multi-coil, dual electronic firing module box or crank trigger systems are not permitted. Magnetos are not permitted. Adjustable timing controls are not permitted. Retard or ignition delay devices will not be permitted.

An MSD 8728 External RPM limiter with a 6,400 RPM chip or MSD 8727CT digital RPM limiter set at 6,400 RPM must be used. Cars must read a minimum of 5,200 RPM and a maximum of 6,400 RPM in post race inspection.

The violet wire must be cut back flush to the unit's housing, with the green and the white wires run directly to the coil negative, mounted on the engine side of the firewall in plain view. Accessories to regulate the power supply are not permitted. The tachometer wire must run from the distributor to the tachometer along the #8 dash bar, separate from any other wires and in an unobstructed view for inspection. The tachometer wire must be isolated from any other wires, connections or devices. The entire length of the tachometer wire must be visible from distributor to the gauge. The vacuum advance unit may be replaced with a manual non-electronic timing adjuster that does not extend more than two inches beyond the distributor housing.

Alternator

A functioning 12-volt single alternator system with an internal voltage regulator and one output wire must be used. External voltage regulators are not permitted. The alternator must be mounted on the front of the engine.

Starter

A stock type starter must be used. The starter must be in stock position and operative at all times.

21) Exhaust:

SK Light must use the following headers:

Flowrite: SMS25, SMS35, SMS45, SMS55

Kooks: SMS1033, SMS1435

Beyea: AMSST-602N1-TA, AMSST-602N1-3

Headers must remain as manufactured, no modifications are permitted. The exhaust header flange must mount directly to the cylinder head with no spacers between the flange and the cylinder head. Header flange thickness may not be altered. Inserts are not permitted in any part of the header or collector. Only one collector allowed per side.

Mufflers

Beyea (part# MUF3), LOBAK (part# RCM 30-12-30 or 35-12-35), Kooks (part# R300-10), or Flowrite (part# FR300) mufflers must be used. Mufflers may not be modified and must be removable for inspection. The life expectancy for all mufflers is two years. Race teams are responsible for the condition of their mufflers. Mufflers found to have deteriorated baffles due to rust/rot will be treated the same as if modified.

Turn-downs must be used after the mufflers, on each side. The turn-downs must be installed so that hot exhaust, engine debris, or engine flames are aimed towards the ground.

Thermal wrap is not permitted anywhere on the exhaust system. Only one muffler and exhaust pipe allowed per side. Interior coatings are not permitted.

22) Fuel System:

Carburetor

Holley two-barrel model #4412 carburetor must be used. The body, base plate, metering block, and bowl must be a standard Holley 4412 part. Aluminum main bodies are not permitted.

HP parts are not permitted. Carburetors and/or carburetor components machined from billet materials are not permitted.

OEM type gaskets, jets, and power valve must be used.

The diameter of every hole in the carburetor must pass the standard New London-Waterford Speedbowl pin and tooling gauges.

The only changes allowed are:

- The choke plate and shaft may be removed, but must be permanently sealed.

- Throttle plate screws may be trimmed flush with the shaft.

Choke horn may not be removed.

Polishing, grinding, or reshaping of any part of the carburetor or metering block is not permitted.

Drilling of additional holes or plugging of holes is not permitted.

Boosters may not be changed. Booster size or shape may not be altered. Height must remain standard.

Venturi area must not be altered in any manner. Casting ring must not be removed.

Alterations to allow additional air to be picked up below the opening of the venturi such as altered gaskets, base plates, and drilling holes into the carburetor is not permitted.

Base plate must not be altered in shape or size.

Stock Holley 4412 or Stainless Steel Holley (Part# 346) butterflies must be used with Holley 4412 carburetor. Butterflies must remain as manufactured and must maintain the Holley production tolerance thickness of .0438" to .0398".

Carburetor Spacer

The Canton (Part# 85-065A) or Big Haus USA 001 spacer may be used with no alterations.

Factory sealed box stock/bottle cap crate engines may use HVH Super Sucker spacer (Part#

SS4412-2AL). One gasket per side, maximum gasket thickness of .075" permitted. Additional openings for the induction of air are not permitted. Carburetor and spacer mounting hardware must be solid and must not permit air to pass through or by.

Air Cleaner/Filter

Only (1) round, dry paper, 1-½"-5" tall air filter element is allowed. The air cleaner top and bottom must be solid metal, measuring 12-14", matching the size of the air filter being used. The central hole in the air cleaner base may not have a lip. The bottom of the air filter element must measure within two inches of the carburetor's top flange. A spacer may be used between the carburetor and the air cleaner so long as the two inch specification is not exceeded. (1) 0.100" inch base plate gasket only. Air filters may not be sprayed or soaked with chemicals. No air boxes, ducts, baffles, or devices to control airflow are permitted on, or in the air cleaner assembly. All air entering the carburetor must pass through the air filter. A shield may be used on the front outer half of the element. No portion of the hood may be higher than the bottom of the air cleaner.

Fuel Shut-off Valve

A ¼ turn fuel shutoff valve is required in the fuel line with ON and OFF positions clearly labeled. The valve must be open when the handle is aiming front to back and must be closed when the handle is aiming left to right. Fuel shut-off valves must be on the passenger's side and easily accessible to emergency workers.

Fuel Specifications

The only approved fuel for any SK Light is Sunoco 260 GTX. Blending of fuels is not permitted. The use of additives, catalysts, or fuel-altering devices are not permitted. Icing or cooling of the fuel system is not permitted.

Fuel Check Safety Valve

All cars must be equipped with a fuel check safety valve. Suggested manufacture is SRI (Part# FPF-FSV).

Fuel Cell

The use of a commercially manufactured fuel cell is mandatory. The minimum requirements for approved fuel cells are ATL Super Cell 100 Series and Fuel Safe Sportsman Series. Fuel cell vent check valves are mandatory. Fuel cell containers must be colored red and made of 22-gauge (0.031") magnetic steel. Gas caps must be tethered and be identified with the car number (XX) and division (SKL).

23) Drivetrain:

Flywheel

A stock OEM type 153 tooth steel flywheel with a minimum weight of 14.5 lbs. must be used. Flat surface machining on the face of the flywheel is permitted. Cutting or machining on the backside of the flywheel is illegal.

Pressure Plate

A stock OEM type 10.5" steel diaphragm type pressure plate must be used. The weight of the pressure plate must be a minimum of 12.2 lbs.

Clutch Disc

A stock OEM type 10.5" diameter steel disc with a minimum weight of 2.5 lbs must be used. The disc must be circular; it cannot be a button or paddle type.

Pressure Plate & Clutch Disc 16 lbs.

The clutch disc must maintain a minimum weight of 2.5 lbs and a maximum weight of 3.8 lbs after the combined weight of the pressure plate and the clutch disc has been determined.

SK Light Factory Sealed Box Stock/Bottle Cap Crate Engines: The Quarter Master 7-1/4" two-disc V-Drive (Part# 298103ZZ) with an SFI rated 153 tooth steel OEM type ring gear/flexplate that weighs a minimum of 4.1 pounds may be used. Speedway Motors flexplate (Part# 91048210) is acceptable.

All bolts and hardware must be solid magnetic steel. Drilling or lightening of any part or component is not permitted.

Bellhousing

Only a commercially manufactured magnetic steel bell housing may be used. The bell housing must enclose the flywheel 360 degrees with minimum 3/16" inch magnetic steel. Any modifications made to the bell housing must be done with 3/16" steel and welded in place (no bolt on pieces). A commercially manufactured bellhousing (like the Quarter Master 008110440) with a bolt on bottom cover may be used. An opening no larger than 3 1/2 x 4 inches may be used for throw out bearing access. This hole may be covered with sheet metal.

Transmission

Only GM OEM production stock 3 or 4 Speed transmissions are permitted. Only OEM Stock factory housings permitted. Gear ratio must be of stock OEM production. Only OEM type, steel, angle cut forward gears are permitted. Square cut forward gears are not permitted.

All transmissions must have a constant engagement of the input shaft with gear and countershaft with cluster gears. High gear must have a ratio of 1 to 1 and no other gear may have a ratio higher than 1.20 to 1. Removal of first gear or replacement of first gear with a metal spacer, in 4-speed transmissions is permitted. All other forward and reverse gears must be in working order, and they must be operational from inside the driver's compartment.

Top loader transmissions are not permitted. Auxiliary, over or under drive transmissions are not permitted. Five-speed transmissions, with gears removed, are not permitted. Quick change transmissions are not permitted. Automatic or semi-automatic transmissions are not permitted. Additional or different from OEM bearings other than the tail-shaft, which may have roller

bearings, are not permitted. Machining or lightening of any internal rotating or non-rotating parts including gears, shafts, and case are not permitted. Gun drilled transmission shafts are not permitted. Welding on any internal part is not permitted.

The shifter and all of its components must be aluminum or steel.

Rear End

Only 10" ring gear and housings are permitted. Cambered rear axle housings or other cambered components will not be permitted. A tolerance of 1½ degrees of camber (positive or negative) will be permitted. Only aluminum or steel drive plates, the same thickness on the left and right side will be permitted.

Only magnetic steel axles, bearings, and axle housings are permitted. Only one-piece, magnetic steel axles will be permitted. Full floating magnetic steel double splined rear axles must be used. The axle splines must be straight cut, crown type axle splines will not be permitted. All axles must be a minimum of 7.00 pounds, a minimum of 1.200" outer diameter. Thermal dispersant coatings are not permitted.

Gear Rule

4.62 Maximum for straight rears, 4.71 Maximum for Quick Change rears.

24) Figures:

Figure 1:

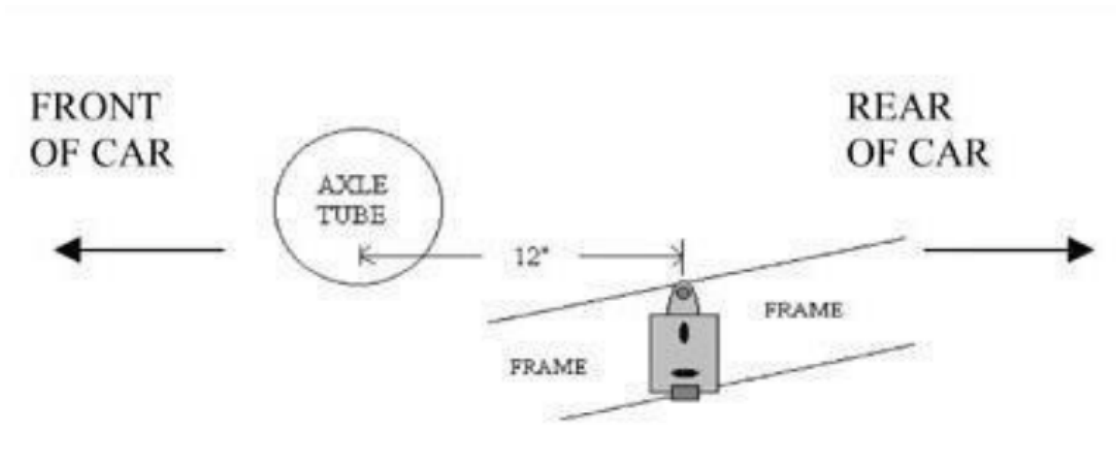


Figure 2:

