

# 944-SPEC Racing Series™ Official National Rules

Copyright, All Rights Reserved by the National Auto Sport Association 2015©

## Table of Contents

1. Sanctioning Body .....	3
2. Definition & Claim .....	3
3. General Rules.....	3
3.1 Replacement Parts.....	3
3.2 Updating/Backdating.....	3
4. Format.....	4
5. Eligible Models.....	4
6. Safety .....	4
6.1 General.....	4
6.2 Roll Cages.....	4
6.3 Seat Installation.....	4
6.4 Electrical Master Switches.....	4
7. Required Decals.....	5
8. Measurements.....	5
8.1 Specified Measurement.....	5
8.2 Tolerances.....	5
9. Protests.....	5
10. Weight.....	5
10.1 Minimal Vehicle Weight.....	5
10.2 Ballast.....	5
11. Power Cap .....	6
11.1 Definition and Compliance.....	6
11.2 Testing.....	6
11.3 Dyno Testing Procedure.....	6
12. Engine.....	7
12.1 General.....	7
12.2 Balancing.....	7
12.3 Cooling System.....	7
12.4 Radiator.....	7
12.5 Heads.....	7
12.6 Gaskets.....	8
12.7 Thermostat.....	8
12.8 Oil Cooling and Management.....	8
12.9 Engine Modifications to Improve Reliability.....	8
12.10 Alternator.....	8
13. Induction/ Exhaust/ Fuel Systems/ Engine Management.....	8
13.1 Throttle Body, Intake Manifold and Air Flow Meter.....	8
13.2 Air Intake & Air Filter .....	9
13.3 Ignition System.....	9
13.4 Fuel Filler Neck.....	9
13.5 Computer Engine Management System (DME).....	8
13.6 Fuel Delivery System .....	9
13.7 Exhaust System .....	10
13.8 Throttle Cam.....	10
13.9 Wire Harness .....	10
13.10 Emissions Control .....	10
13.11 Idle Control Systems .....	10

14. Transmission/Differential.....	10
14.1 Clutch .....	10
14.2 Differential .....	10
14.3 Transmission .....	10
14.4 Shifter Components.....	11
14.5 Transmission Mounts .....	11
14.6 Drive Axles.....	12
15. Suspension Components.....	12
15.1 Components .....	12
15.2 Cross Member .....	12
15.3 Track Width.....	12
15.4 Shocks .....	12
15.5 Springs .....	12
15.6 Sway Bars .....	13
15.7 Ride Height .....	13
15.8 Suspension Bushings .....	13
15.9 Steering .....	13
15.10 Rims .....	13
15.11 Tires .....	13
15.12 Steel A-Arms .....	13
15.13 Aluminum A-Arms .....	13
15.14 Spindles .....	13
16. Brake System.....	13
16.1 Brake Pads .....	14
16.2 Brake Lines .....	14
16.3 Backing Plates .....	14
16.4 Parking Brake .....	14
16.5 Brake Fluid.....	14
16.6 Brake Cooling.....	14
16.7 Brake Rotors .....	14
16.8 Brake Bleeders .....	14
17. Appearance/Body Structure.....	14
17.1 Exterior .....	14
17.2 Interior .....	15
17.3 Body Structure .....	15
18. Special Transition Allowance – Regional Races Only.....	15
18.1 Special Transition Modifications .....	16
18.2 Implementation of Weight Increases .....	16
18.3 Notification Requirements .....	16
18.4 Driver/Car Eligibility .....	17
18.5 Driver Points/Contingencies .....	17

## **1 Sanctioning Body**

The 944-SPEC Racing Series™ is sanctioned by National Auto Sport Association (NASA). All events are governed by these rules, applicable addendums, and prima fascia rules, as well as those found in the latest version of the NASA Club Codes and Regulations © (CCR). All decisions made by the series administration are final, except under certain conditions, as specified by the CCR.

## **2 Definition and Claim**

The Porsche 944™-924S™ SPEC class is a class for those individuals that wish to race a Porsche in a competitive series with limited expense and low cost of operation. These rules are intended to control costs and reduce any performance advantage from the cars so that driving ability and race setup are the greatest factors in determining winners. The following are approved and disapproved items for the class. The spirit of the class is for all cars to be equal in weight and horsepower and be competitive with one another. The focus will be on driver ability and not dollar ability. This class is not intended to be an engine builder or innovator's class.

The mark Porsche is recognized as registered to Porsche Cars North America with the United States Trademark and Patent Office.

2.1 Every effort will be made to ensure these rules remain unchanged with the exception of CCR mandated safety requirements or clarifications until December 1, 2017

2.2 944-SPEC is a restricted class. Therefore no modifications/changes are allowed unless specifically outlined in these rules.

2.3 In the NASA CCR, under section 25.4.2 "Punting," the rules define "racing room" as: "at least three-quarters of one car width." For racing between two or more 944 Spec cars, "racing room" is hereby defined as: "at least one car width plus 6 inches." "Racing surface" is defined to include curbing. Drivers should note that not all curbing is safely usable, and plan passes accordingly.

## **3 General Rules**

### **3.1 Replacement Parts**

All parts must be stock from one of the eligible year models, except where otherwise noted. Aftermarket parts designed and sold as direct replacements for stock genuine Porsche original equipment parts with no change in performance or weight may be used and will be considered "stock" for the purposes of these rules. Subsequent sections of these rules which specifically state "genuine Porsche OE" will allow use of only original factory produced parts or genuine Porsche OE replacement parts. This is intended to allow general use of non-Porsche branded replacement parts in place of genuine Porsche parts in non performance critical areas to reduce costs. Aftermarket parts that are sold and/or designed as improvements to factory parts are not considered direct replacement parts for the purposes of rules compliance.

### **3.2 Parts Update/Backdate**

Stock parts may be updated or backdated, except where otherwise noted.

## **4 Format**

These rules are not intended as guidelines; rather they shall serve as the complete set of rules, and must be strictly followed. These rules and addendums specify the only modifications allowed. Any modification(s) to performance items, whether it is a performance advantage or not, will be termed "illegal."

**If these rules do not expressly state a modification is allowed, it is prohibited.**

All rules and regulations disputes will be resolved per the Club Codes and Regulations© (CCR).

## **5 Eligible Models**

1983-1988 Porsche 944, Normally Aspirated, 2479 cc, eight valve engine 1987-1988 Porsche 924S, 2479 cc, eight valve engine

### **5.1 Chassis Swaps**

A 944-SPEC may utilize any year chassis in the above eligible models as well as the 1987-1988 944S and 1989 944. No other 944 or 924 type chassis may be used to build up a 944-SPEC. In all cases body work, engine, transmission, engine electrical and suspension components must conform to the list of eligible models and to the modifications expressly listed in these rules.

## **6 Safety**

### **6.1 General**

All safety standards not specified herein shall conform to the NASA Club Codes and Regulations (CCR). All rules related to safety are intended to meet or exceed those of the NASA CCR.

### **6.2 Roll Cages**

Roll Cages must conform to the specifications found in the CCR using six (6) or eight (8) mounting points to the chassis (except as noted below). The seventh and eighth points, if used, must attach to the firewall or front foot wells. Only two (2) bars are allowed to attach to each of these points extending from the closest roll cage A-pillar. No bars may pass through the firewall. The front floor mounts must be either on the floor or the doorsill of the car. Cages may be attached to the A and or B pillars using no more than four (4) additional mounting points (via gusset plates) for a total of twelve points (12). Cages may be bolted or welded in place.

### **6.3 Seat installation**

6.3.1 Driver and passenger seat mounts may be mounted to the roll cage. Connections from the roll cage to the seat will not be counted as additional roll cage attachment points, so long as they serve no other purpose than to mount the seat.

6.3.2 The driver and passenger floor may be modified to facilitate and strengthen seat mounting points.

6.3.3 This rule is intended to be liberal in strengthening the seat mounting points. However, clear attempts at using this rule to circumvent the ballast rule, or achieve chassis stiffening remote to the seat mounting will result in penalties.

**ADVISORY: When using an FIA approved "Halo" style seat (which does not require a seat-back brace) it is highly recommended to mount the seat to sliders to aid driver egress.**

## **6.4 Electrical Master Switches**

Electrical master switches are required and must be installed per the Section 15.8 of the CCR.

## **7 Required Decals**

All 944 SPEC racecars are required to permanently affix specified decals and logos, including but not limited to: Toyo Tires, HAWK Performance, 944 SPEC, & NASA decals. This is in addition to any decals required per the NASA CCR. Series sponsor decals may also be required.

## **8 Measurements**

### **8.1 Specified Measurement**

Whenever the manufacturer or these rules do not specify a measurement, the common average measurement will be used. This common average measurement shall be determined by either 1) calculating a mean average of at least three measurements from the corresponding parts found on other vehicles, or 2) the series technical administrator will make a determination based on any other reasonable method, providing that the data, system, or logic that was used be made known. The second option is only permitted under circumstances where option number one becomes impractical, as determined by the Series Director.

### **8.2 Tolerances**

All published measurements infer a tolerance of +/- one-half of the last specified decimal place. All rounding will be done to the nearest decimal place that is specified by the manufacture or these rules. In a case where a measurement falls exactly on the halfway mark, it shall be rounded up or down in favor of the competitor. This section does not apply whenever the manufacturer, or these rules, specifies a tolerance.

## **9 Protests**

Competitors may protest the mechanical compliance of another competition vehicle by filing a protest according to the NASA CCR.

## **10 Weight**

### **10.1 Minimum Vehicle Weight**

Minimum weight requirements must be met immediately following all qualifying sessions and races. The car including driver must weigh at least 2600 pounds.

### **10.2 Additional Weight – Ballast**

10.2.1 Additional weight shall serve no other purpose than to increase the weight of the vehicle. This additional weight shall be known as “ballast.”

10.2.2 Ballast shall be made of solid metal, and must be installed securely. All ballast must be secured using at least one 3/8-inch grade 5 bolt, two ‘fender washers’ and a locking nut system for every ten pounds of weight. Example: A seven-pound block requires at least one bolt system as described herein. A 30-pound block requires at least a three-bolt system.

10.2.3 All pieces of ballast must be bolted through the floor pan on the passenger side of the cockpit, no further rearward than the front holes of the seat bolts. The floor pan may be reinforced as required to ensure a secure mounting of the ballast. The ballast must be mounted on the top surface of the floor pan.

10.2.4 Attempts to circumvent the ballast rule by installing heavy, unnecessary equipment, or

using equipment excessively heavy for its intended purpose may be subject to penalties.

## **11 Power Cap**

### **11.1 Definition and Compliance**

For purposes of these rules "Power" will be defined as  $(HP+TQ)/2$ . The maximum allowed engine power output is **140.0**, plus 2.0 to account for dyno variation. Competitors are responsible for tuning their engine to be compliant prior to any warm-up, qualifying, or race session. Any car exceeding this total power output of **142.0**, as determined by the dyno procedure listed below, will be subject to the following consequences (per annual season in any and all regions. **This excluding nationals**)

1st offense will result in driver being repositioned to last place from the session or race immediately preceding the dyno testing.

2nd offense will result in a disqualification from the session or race immediately preceding the dyno test.

3rd offense will result in disqualification from all results from the event.

These are minimum penalties. The Race Director or Series Director may impose more serious penalties as needed.

**11.1.2 ANY dyno test at National Championships with a result above the allowed cap will result in an instant and indisputable DQ from the session preceding the test.**

### **11.2 Testing**

Competitors are highly encouraged to test their car's power output prior to competition using the dyno procedure below to ensure compliance with the power cap. Lack of testing does not excuse exceeding the power cap.

### **11.3 Dyno Testing Procedure**

11.3.1 Competitors are impounded for dyno testing following a qualifying or racing session. **Once a competitor has been notified to report to dyno, he must go STRAIGHT to dyno. Any variation or additional stops (ie: pits, back paddock, etc) will result in a DQ. No adjustments affecting the car's power output may be made during the race, or at any time between the race and dyno testing is completed.**

11.3.2 Competitors may top off engine fluids under the direct supervision of a NASA official.

11.3.3 Cars will be operated by a dyno operator or NASA official. NASA is not responsible for any failures during this operation.

**11.3.4. Dyno runs must be done in 4<sup>th</sup> gear.**

11.3.5 Only Dynojet brand Dynos shall be used.

11.3.6 All dyno readings must be corrected to SAE J1349 Rev JUN90 (29.23 in/hg, 77F, zero Humidity) and the dyno's smoothing function must be set to 5.

11.3.7 Drive wheels shall have tire pressures set to 30PSI prior to dyno testing and verified by an official.

11.3.8 Electric engine fans may be used, as well as external fans.

11.3.9 Hoods shall be open during the dyno runs.

11.3.10 Engines should be warmed up, and show a minimum oil temperature of 160 degrees F before compliance runs are initiated. This may be verified by external means. "Practice pulls" are highly recommended to ensure proper drive train temperatures and stable power outputs.

11.3.11 The average power output of 3 consecutive dyno runs will be used to determine a car's maximum power output. Alternatively, a competitor may request a 5 dyno run test, in which case the highest and lowest readings will be dropped, and the remaining 3 averaged. This option must be requested before the start of compliance runs. Once requested, this method must be used.

11.3.12 Starting RPM shall be no higher than 3000. Ending RPM shall be at least 6,200 RPM, or when the cars' RPM limiter is engaged. The rev limiter must be engaged during at least one run, unless RPM exceeds 6750 RPM without engaging the RPM limiter.

11.3.13 Any motor reaching 6750 RPM or more without engaging the RPM limit will be disqualified, regardless of engine power output.

11.3.14 Any test that does not comply with this rule shall have the following written in the logbook: "May not compete until proof of compliance with all aspects of the power cap rule is presented to the series director"

## **12 Engine**

### **12.1 General**

All rules related to engines are intended to ensure parity in horsepower between cars. All engines, components, and parts must have been offered for sale in a Porsche 944 from model years 1983-1988 with 2.5 liter eight valve normally aspirated engines only, sold by a dealer in the United States of America. All engines and their internal components must remain stock, except as provided by these rules, and within factory specified tolerances. Engine blocks, crankshafts, pistons, connecting rods, camshaft, head casting and cam tower casting must be the original Porsche factory part or genuine Porsche OE replacements. Cars may be updated and backdated with parts from the Porsche 944 and 924S from model years 1983-1988 with 2.5-liter eight-valve normally aspirated engines only.

### **12.2 Balancing**

Balancing or lightening of engine parts and engine components is not allowed. **This includes but is not limited to "deburring, or "removing rough material" from components.**

### **12.3 Cooling System**

Ethylene glycol-based anti-freeze is prohibited for track safety. Distilled water is recommended as a replacement. Use of additives, such as Redline Water Wetter is permitted. Heater core bypass or block-off systems are allowed. No additional water cooling devices are allowed. Radiator fans may be direct wired with switches. Radiator fans and fan shrouds may removed or replaced with any replacement fan or fans. Fans and fan shrouds may only be used to direct air flow through the radiator.

### **12.4 Radiator**

Any radiator may be used provided it is mounted in the factory OEM location. Radiator mounts may be modified to facilitate radiator installation and secure mounting. The lower radiator mount rail may be moved up or down to allow for a taller or shorter radiator than stock. The upper mount rail and both left and right side rails must remain in their original position and still function as radiator supports. Radiators must be installed at 90 degrees to the ground and in their original position forward/aft in the chassis.

12.4.1 Factory upper radiator ducting may be removed, repaired, or a replacement panel fabricated in metal or plastic to repair or replace damaged and or missing ducts. Stiffening ribs in the factory duct do not need to be present in the replicated panel.

### **12.5 Heads**

12.5.1 Cylinder heads may be shaved to limits listed in **12.5.2 & 12.5.3** to achieve the maximum compression ratio of 10.5:1 for all eligible model years. This is intended to provide sufficient allowance to true the head more than once.

12.5.2 Minimum thickness for installed heads is 0.929in (23.59mm) for 9.5:1 pistons and 0.965in (24.51mm) for 10.2:1 pistons as measured to the surface of the block from the factory reference location as show on factory manual page 15-16a dimension A. This installed measurement

includes the head gasket thickness and allowance for some variation of head gasket crush and measurement. The measurable surfaces may only be accessed by removing the intake "J boot". Tampering with the measurement surfaces in a way that distorts the actual head thickness measurement will be subject to penalties.

12.5.3 Uninstalled minimum head thickness measurements are as follows: 0.891in (22.62mm) for 9.5:1 pistons and 0.927in (23.54mm) for 10.2:1 pistons as measured in factory specified location and assume use of a stock 1.1 mm (.043in) head gasket. Factory repair 1.4mm (0.055in) head gaskets may also be used and their extra thickness must be taken into account if a head is inspected after being removed from the engine. For reference the factory specified head thickness is 24.0mm +/- 0.1 (.945 in +/- .004).

12.5.4 944 Turbo valve springs may be used as replacement valve springs on both the intake and exhaust valves.

12.5.5 A camshaft key offset 2 degrees advanced is allowed for motors equipped with the low compression 9.5:1 pistons. Motors equipped with the high compression 10.2:1 pistons must use the OEM camshaft key with no offset.

## **12.6 Gaskets**

12.6.1 OEM or OEM replacement gaskets are required.

12.6.2 An external bracket to help contain the OEM oil pan gasket is allowed.

## **12.7 Thermostat**

Any thermostat is allowed. The thermostat may be removed. ADVISORY: In the interest of engine reliability, a thermostat is strongly recommended.

## **12.8 Oil Cooling and Management**

12.8.1 Any external oil cooler, such as the factory turbo unit, may be added or used to replace the factory oil cooler **so long as its only function is to cool the oil and not alter or control oil-pressure.**

12.8.2 Any external transmission oil cooler and external transmission oil pump may be added.

12.8.3 Oil pressure reservoirs, such as the Accusump, may be installed provided their installation conforms to NASA CCR.

12.8.4 Any modifications to the unibody to allow for ducting or routing relating to these units must be kept to a minimum necessary to achieve function, not serve any other function, and not compromise the strength of the unibody. No modifications of the external body panels are allowed for these purposes. Quarter windows may be replaced with Lexan windows with ducting to coolers.

## **12.9 Engine Modifications to Improve Reliability**

The following modifications may be made to the internal components of the engine to ensure reliability. No other modifications may be made.

12.9.1 Crankshafts may have one additional hole drilled in each rod journal. Existing internal oil galleys in the crank may be increased to a maximum of .345 inch diameter.

12.9.2 A "trap door" baffle in the bottom of the oil pan may be added to prevent oil starvation in left hand corners. This baffle typically consists of a vertical plate with a free-swinging one way panel. This plate shall be welded in to the sump of the oil pan in the approximately 2" from the side of the oil pan which contains the drain plug. Non-stock windage trays and non-stock crank scrapers are not allowed.

12.9.3 A ring around the oil pickup screen may be added. The oil pickup and drain tube may be reinforced or extra supports added.

12.9.4 A steam vent may be added to the rear of the cylinder head. The steam vent shall consist of a hole drilled into rear vertical surface of the cylinder head approximately 1" below the cam tower mating surface. A thread fitting (or plug) shall be installed in this hole with a hose routed to the coolant expansion tank with a T-fitting into the radiator vent line. The radiator vent line is the small (approximately ¼ diameter) line extending from the top of the radiator to the coolant expansion tank.

## **12.10 Alternator**

Alternators may be relocated or repositioned by use of either the factory A/C delete bracket or any aftermarket bracket or tensioning system. The alternator may be mounted no lower than the position defined by the factory A/C delete bracket.

## **13 Induction / Exhaust / Fuel Systems/Engine Management**

### **13.1 Throttle Body, Intake Manifold and Air Flow Meter**

The throttle body and intake manifold must remain stock genuine Porsche OE with no modifications. A restrictor plate may be added. The external surface of the intake manifold may be painted or powder coated for an improved appearance only. Insulating of any part of the air intake system from the inlet of the airflow meter is not allowed. The air flow meter must be stock genuine Porsche OE and be unmodified but can be adjusted (tuned and wiper bent to maintain clean contact with track).

### **13.2 Air Intake & Air Filter**

13.2.1 Stock airboxes must be used. Any air filter may be used in the OE airbox. \*There will be a grace period of 1 year for this rule. This will be strictly enforced starting in 2018.

13.2.2 Any ducting to the factory airbox must be either original, or from the factory turn signal location in the bumper or foglight bucket only. The intake to the ducting must be contained within the OEM opening in these areas.

13.2.3 The horizontal, roughly triangular bracket between the driver's side wheel well, and the headlight bucket area may be modified or removed to facilitate ducting to the intake system. For reference, this bracket held the OEM horns. No other modification may be made to the unibody or external sheet metal for ducting to the intake system.

### **13.3 Ignition System**

Any spark plugs and spark plug wires may be used.

### **13.4 Fuel Filler Neck**

Fuel filler restrictor and the steel spring loaded flapper door may be removed. The remainder of the fuel filler neck must remain in the OEM location on cars using OEM fuel tanks. Fuel cells are allowed in accordance with the CCR.

### **13.5 Computer Engine Management System**

The stock genuine Porsche OE computer engine management system (DME), or the Focus 9 Technology 944-Spec DME are required. For OE DMEs, Genuine Porsche OE unmodified chips are required. DME's that have been opened to replace the chip with a factory burned chip MUST be tested and verified by a series director for compliance. Proprietary Anti-Tamper tape will be used to re-seal the unit but units that have been opened will be subject to random compliance testing at series directors will.

#### **13.5.1 DME Relay**

The DME Relay may be removed. If still in use, the relay must be a OE replacement, or Focus 9 Technology DME replacement.

### **13.6 Fuel Delivery System**

All components of the fuel delivery system must remain stock and unmodified, except for the following.

13.6.1 The stock fuel tank may be replaced with a fuel cell(s) conforming to the NASA CCR's, located in the rear of the car no farther forward than the forward edge of the stock tank. The maximum capacity of the fuel cell system is 21.1 gallons

13.6.2 Any fuel cap may be used.

13.6.3 A fuel sampling port may be added.

13.6.4 A fuel tank drain system may be added.

13.6.5 Rubber fuel lines from the chassis to the fuel rail may be replaced or modified. Any

covering or heat shielding allowed on these lines in the interest of fire prevention. **ADVISORY: It is HIGHLY suggested to replace the fuel lines from the chassis to the fuel rail.**

13.6.5 Fuel Rails may be replaced with Lindsey Racing Billet Rails systems with stock style regulators (part LRK-944-FRAIL-BOSCH)

**Note: leaking fuel rails are usually caused by improperly set balance shaft belts.**

### **13.7 Exhaust System**

13.7.1 The stock genuine Porsche OE exhaust manifold (header) is required. The stock header consists of two separate manifolds, one connecting cylinders 1 and 4 and the other connecting cylinders 2 and 3. Headers may be welded to repair cracks and headers may be wrapped with appropriate materials so long as the wrap is removable. Headers may not be coated or painted inside or outside.

13.7.2 Exhaust system rearward of the OEM header is unrestricted provided it serves no other function than to expel exhaust gases. Exhausts must terminate behind the drivers seated position.

### **13.8 Throttle Cam**

The throttle cam may be modified or replaced.

### **13.9 Wire Harness**

The engine wire harness may be repaired or simplified. Additional sensors may be added, but they shall be for monitoring only and may not alter engine operation in any way.

### **13.10 Emissions Controls**

13.10.1 All emission controls systems and devices may be removed or modified. Unused vacuum ports shall be plugged. The vacuum reservoir tank may be removed.

13.11.2 Crankcase ventilation may be routed to an external catch can.

### **13.11 Idle Control System**

The Idle Stabilizer Valve (ISV) / Auxiliary air valve can be deleted or disabled. Associated lines must be plugged if deleted. It is recommended to maintain the factory idle control system to ensure smooth idle in the widest range of operating conditions.

## **14 Transmission / Differential**

### **14.1 Clutch**

Any clutch disc may be used. The pressure plate and flywheel must be OEM or exact equivalent of no less weight for particular model of car.

### **14.2 Differential**

The stock 3.889 (9:35) final drive ratio must be used. Differentials are free.

### **14.3 Transmission**

First through fourth gears must remain stock for the Porsche 1983-1988 944 naturally aspirated and 924S models. Updating to the stock shorter fifth gear from the 924S and the 1988 944 is allowed. The allowed gear ratios (gear tooth count) are:

First 3.6000 (10:36)

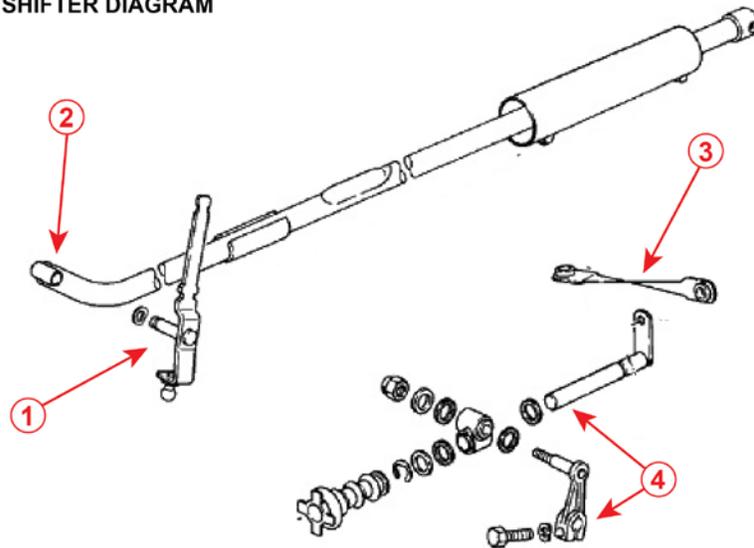
Second 2.1250 (16:34)

Third 1.4583 (24:35)

Fourth 1.0714 (28:30)

Fifth 0.7297 (37:27) or 0.8286 (35:29)

## SHIFTER DIAGRAM



### 14.4 Shifter Components

The transmission shift linkage is comprised of four main different components.

1. The shift lever (in-car shift knob sits atop)
2. The shift rod (connects the shift lever to the shift linkage)
3. The shift linkage locating arm (acts as a support/pivot for the shift linkage on the transmission)
4. The shift linkage (directly connected to the transmission)

14.4.1 The only legal shift levers (Item 1) are: (Part #: 944Shifter (from Only944.com)), or OE. See rule 17.2.7 for allowed modifications for comfort/safety

14.4.2 The only legal shift rod (Item 2) is OEM.

14.4.3 The only legal linkage locating arms (Item 3) are OE, OE replacement, or (Part # 944SLA) (from Only944.com) or OE.

14.4.4 The shift linkage may only be OE, or (Part # 944ShortShifter (from Only944.com)).

The shift lever (Item 1) may be modified to allow any shift knob (so long as the throw or geometry is not altered). All of the above components (Item 1-4) may be modified to eliminate excess play and slop. "Any modification to lengthen the shift lever and the distance of throw of the shifter is prohibited. Any modifications to any of these components not listed here will be deemed illegal.

### 14.5 Transmission Mounts

Transmission mounts Late style "single mount" transmission mounts may have the existing gaps between the rubber and metal filled with urethane. This modification is intended to reduce transmission shifting and associated CV joint wear. NOTE. Early style "double mount"

transmission mounts are not allowed this modification, as their basic design does not stress the CV joints in the same way.

#### **14.6 Drive Axles**

Drive axles (half shafts) and CV joints may be either standard 33 spline or 25 spline axles from a 944 Turbo.

## **15 Suspension Components**

### **15.1 Components**

All suspension components must be stock parts and mounted in unmodified original factory mounting locations. Updating or backdating of suspension components (e.g., control arms, trailing arms, hubs, spindles, or factory spacers) from eligible model years is allowed provided the maximum track width is not exceeded.

### **15.2 Front Cross Member**

The front cross member must be OE or Lindsey Racing 3 piece cross member (Part # LRA-951-XMEM) Advisory: The Lindsey Racing cross member is being allowed to ease the replacement of the engine bearings. This part may not be altered in any other way (by either owner or Lindsey Racing) other than to make the center removable (ie: moving suspension pick up points). Only Grade 8 Hardware for this component will be allowed (between removable member). It is highly suggested to index hardware and check frequently.

### **15.3 Track Width**

The maximum track width for all cars shall not exceed the stock 944 width front and rear. The 924S models may increase stock width by use of updated suspension components or adding spacers providing that the tires do not touch the fenders or springs at any point in the suspension travel.

15.3.1 For the purposes of inspection and compliance the maximum track as measured in 15.3.2 shall be no greater than 68.25 inches front and 67.25 inches rear.

15.3.2 Track width shall be measured by use of a mark made on the ground at the outside edge of the tires using the side wall as guide and in line with the center of the hubs front and rear. This is measured with driver as the car comes off the track. Care must be taken to ensure the suspension is not bound as this could cause a false reading.

### **15.4 Shocks**

Shocks must be either the original factory installed shocks or the following models and part numbers. Custom valving is not allowed. 1) Koni Front: 8641-1038 Sport, 8641-1414 Sport Rear: 26-1209 Sport, 8040-1035 Sport 2) Bilstein Front P30-0104 Rear: B36-0161, B36-2052

15.4.1 Shock tower braces are allowed but may only attach to the stock shock tower using the factory shock tower bolts holes.

15.4.2 Camber plates are allowed provided they bolt to the chassis using existing shock mounting holes and make no modification to the shock tower.

### **15.5 Springs**

Any rate spring is permissible in the factory original location only. Coil-over systems are prohibited in the rear. Solid rear torsion bars up to a maximum of thirty millimeters (30mm) O.D. allowed. Hollow rear torsion bars up to a maximum of thirty one millimeters (31mm) O.D. allowed.

15.5.1 In the interest of improved maintainability, torsion bar support end caps and torsion bar ends may be modified to allow for simplified rear ride height adjustments. Holes may be drilled into the body to allow for removal of the torsion bars while the torsion bar carrier is still mounted in the body.

### **15.6 Sway Bars**

Any sway bars are permissible as long as they are not cockpit adjustable.

### **15.7 Ride Height**

Any ride height is allowed, providing that no part of the vehicle touches the ground (except the tires), while in operation on track.

15.7.1 Non-metallic bumpstops may be replaced, removed or modified provided they serve no other function. Their chassis mounting points may not be modified. Cars may not rest on the bumpstops or bumpstop mounting points in static form with the car at race weight. **ADVISORY:** Excessive lowering of ride height may cause premature failure of ball joints especially in aluminum control arms.

### **15.8 Suspension Bushings**

Stock rubber suspension bushings may be replaced with any non-metallic bushing. Stock bushings, consisting of rubber and metal, may be replaced with a combination of non-metallic/metallic bushing so long as the metallic portion does not exceed that of the stock bushing and the geometric relationship of non-metallic/metallic is maintained. Factory 968 style caster blocks are allowed. No bushing may alter original suspension geometry.

### **15.9 Steering**

OEM manual or OEM power steering may be used. The power steering rack may be converted to manual. The steering lock must be removed. Power steering cooler, lines, reservoir tank and reservoir bracket may be removed.

### **15.10 Rims**

Only 15 x 7 inch ATS (Cookie Cutter) or "Phone Dial" stock wheels with offsets of 23.3 or 52.3 mm are allowed. Steel lug nuts must be used. Wheel spacers are allowed as long as the maximum track width is not exceeded.

### **15.11 Tires**

Toyo Proxes RR, 225/50/15 must be used in dry conditions. When a wet race is declared by the Series Director, the Toyo Proxes RA-1, 225/50/15 may be used. No other tire brand or sizes are allowed. Tires may be shaved to a uniform depth.

### **15.12 Steel A-Arms**

Stock steel A-arms may be box welded to increase strength. Ball joints bolt holes may be drilled out to accept larger (5/16ths) hardware. Larger hardware may be used (Grade 8 is highly recommended to secure the balljoint to the control arm). OE ball joints must be used.

### **15.13 Aluminum A-Arm Ball Joints**

Any material may be used in the ball joints cups on aluminum A-arms when rebuilding. Aftermarket ball joints may be used. Pin diameter must remain stock at 17 mm. Longer than stock geometry correction pins are not allowed.

### **15.14 Spindles**

**ADVISORY:** It is highly recommended use only NON hollow-end spindles (some early spindles have hollow ends to allow for a speedo cable). Hollow spindles have been known to fail, especially after any kind of contact.

## **16 Brake System**

The brake system must remain stock including calipers, and cylinders except as noted. ABS must be disabled even if installed by the factory.

### **16.1 Brake Pads**

Any brake pads are allowed.

### **16.2 Brake Lines**

Steel braided brake lines are allowed.

### **16.3 Backing Plates**

Disc brake backing plates may be removed, replaced, or modified to accept brake duct lines.

### **16.4 Parking Brake**

The parking brake lever, brackets, cable, springs, shoes, and actuating mechanisms may be removed.

### **16.5 Brake Fluid**

Any brake fluid is allowed.

### **16.6 Brake Cooling**

Brake cooling systems are allowed provided they use only air for cooling. Air may be vented through the fog light area in the front air dam for brake cooling. Brake cooling ducts may be installed.

### **16.7 Brake Rotors**

Only one piece cast iron rotors of stock dimensions are permitted. Cross drilling and/or gas slotting of the rotors is allowed. Cryogenic treatments are allowed.

### **16.8 Brake Bleeders**

Brake and clutch bleeders may be relocated, modified or replaced to improve maintainability. Excessively long lines that may aid in cooling or modifications that may allow for bleeding in motion are not allowed.

## **17 Appearance/ Body Structure**

### **17.1 Exterior**

The exterior must have a clean and neat appearance.

17.1.1 No air dams, wings or spoilers are allowed other than stock components. Modification of the front air dam consisting of removing the element between the fog light buckets to enhance cooling is permitted. The backing of fog light buckets may be removed for cooling purposes including, but not limited to oil cooling and brake cooling, and for engine air intake. The 944 front valance may be replaced with a fiberglass unit providing that it is an exact replica. Debris screens may be added to the front spoiler to protect the radiator and other openings so long as they serve no other purpose. These screens may not be used to improve aerodynamics.

17.1.2 Fenders and wheel openings shall remain unmodified. The front fender liners may be removed or modified. Front and rear wheel fender opening lips may be rolled inward to maximize tire/wheel clearance. ADVISORY: This may be necessary for the 924S to achieve its maximum track width.

17.1.3 Stock "flag style" exterior mirrors mounted in the stock locations on the driver and passenger doors are required. Any interior mirror(s) may be used.

17.1.4 Any paint scheme/colors may be applied.

17.1.5 Body molding, antennas, license plates, license plate frames, license plate lights, and insignias and emblems may be removed. Turn signals and marker lights may be removed. Exposed holes in the body work from these lights may be left open or filled in. Tail lights must remain intact, but may be taped over with exception of the brake light area.

17.1.6 Hood pins are permitted. Stock hood latches may be disabled or removed.

- 17.1.7 No part of the bumper system may be removed or modified except for the rubber bumper moldings. Tow hooks may be added to the bumpers.
- 17.1.8 Rear Hatch must be run in the stock closed position. External latches are allowed.
- 17.1.9 Body work may be updated/backdated between the 924S and 944 only as a complete package including, but not limited to, front fenders, front spoiler and rear quarter panels. Body panels must be stock or OEM equivalent. Stock 924S and 944 rear spoilers (83-88 model years) may be interchanged on the 924S and 944 with no restrictions.
- 17.1.10 Exterior door handles in the stock locations are required.

## **17.2 Interior**

The interior must be clean with no loose objects.

- 17.2.1 The driver seat shall conform to the NASA CCR. The passenger seat may be removed or replaced with a racing seat. The rear seats may be removed.
- 17.2.2 Dashboards may be modified or replaced with panels that will conceal the instrument cluster and remaining dashboard wiring. Dash areas must maintain a clean and neat appearance. Additional gauges may be added. Stock gauges may be removed or replaced.
- 17.2.3 Turn signal and wiper stalks may be removed.
- 17.2.4 Steering wheels may be replaced. Quick disconnects and steering wheel spacers are allowed.
- 17.2.5 The steering column may be shortened or extended for the purposes of comfort/safety, so long as the column utilizes the original mounting components to the body.
- 17.2.6 The foot pedals (i.e. throttle, brake, and clutch) may be modified for driver comfort and accessibility. Pedal spacers are limited to a maximum of 4 inch extensions measured from the factory pedal face. This measurement may be verified against another vehicle with original pedals to ensure conformity.
- 17.2.7 The (stock) shifter may be modified in ONLY the following way for the purposes of comfort/safety. The shifter may be modified (cut/re-welded) to have a sitting location 4" further rear-ward than original so long as the shifter is not taller than an original shift lever and a maximum of 4" further back. No additional supports, heim-joints, bracing, etc may be used to do so. The shift lever must be as close to original weight as possible. Any obvious attempts to add weight to the shifter will result in the modified shifter being deemed illegal.
- 17.2.8 The air conditioning system may be removed. The heater core and blower fan assembly may be modified or removed.
- 17.2.9 Any defroster/blower system may be added so long as that its only functions as a defroster/blower. This includes windshield applied defroster strips. Ducting may be added pulling air from window openings to assist said systems.
- 17.2.8 All interior trim including radio, speaker, headliner, stock seat belts, sun visors center console, carpet, soundproofing and coatings may be removed.
- 17.2.10 The fuse box, unused wiring, brackets, nuts bolts and studs may be removed.
- 17.2.11 Ducting may be added to provide fresh air to the driver/passenger compartment, providing that no modifications of the body structure are made to accommodate this addition.
- 17.2.12 Spare tire and emergency jack may be removed.
- 17.2.13 Doors may be gutted on driver and passengers sides. This includes removal of the window glass, glass operating mechanism and door structure. It is recommended that factory side impact bars be retained in the doors. Both doors must be capable of opening and closing and the stock latch must remain intact. Interior door handles may be replaced or relocated. Door windows must be open during operation.

## **17.3 Body Structure**

The chassis structure must remain intact and stock except as noted.

- 17.3.1 Headlights and headlight motors may be removed. If the headlights are removed, the stock covers must be installed in the front body work in the stock location in a secure fashion. Headlight cover gaps may not be filled in or taped over. Headlight positions may not be used for ducting of air in any way. Headlights may be run in the down or up position for all daylight races. Supplemental regulations for nighttime racing may supersede these rules.

17.3.2 The metallic support structure of the hood must remain intact. Hood insulation padding may be removed or replaced.

17.3.3 Windshield wipers, motors and associated hardware may be removed, replaced or modified.

17.3.4 Heat shielding may be removed. This includes both foam and glued on heat shielding as well as bolt on metallic panels.

17.3.5 The stock under tray extending under the radiator to the engine support cross member may be removed. Modifications to the stock undertray are allowed, but the size of undertray may not be increased. Aluminum or plastic may be used to fabricate an undertray of the same size and shape as stock. No fabricated or modified undertray shall be sufficiently heavy as to act as ballast.

17.3.6 Sunroofs must be securely mounted. All sunroof components such as motors, cables etc may be removed. Replacement of the sunroof with a metal panel is allowed. Filling in of the gaps to create a non-sunroof appearance is allowed. Entire roof panels may be replaced with panels similar in contour and weight of stock non sunroof cars. Roof support structure on sunroof cars may be modified to match a non-sunroof configuration.

17.3.7 The battery may be replaced with a unit of any size, but it must be securely mounted in the stock location and must be capable of starting the car. **Early cars may be required to have strengthening added to the battery tray area. This material may only be used for the purpose of supporting the battery.**

17.3.8 Lexan may be used for windshields when conforming to NASA CCR 15.13.

17.3.9 The glass in the quarter windows may be replaced with Lexan. The Lexan must be mounted in the OEM window gasket to retain OEM position and appearance. Cooling ducts may be mounted in these windows provided they serve no other function.

17.3.10. The OEM glass hatch must be used.

17.3.11 All undercoating may be removed.

17.3.12 Unused wiring, brackets, nuts, bolts and studs may be removed.

17.3.13 Additional trailer tie down points may be added.

17.3.14 The spare tire well may be modified to allow for its removal and replacement all or in part. An example of this would be cutting the box off or making an access hatch, then reattaching the box or hatch with fasteners. The spare tire well must retain its stock shape and location in all cases. The intent of this rule is to allow for better access to the transmission while preventing any underbody aerodynamic advantages that may result from removing the tire well from the air stream on cars with 17.4 gallon steel fuel tanks. Only cars using the larger stock plastic 21.1 gallon fuel tank may remove the spare tire well entirely and install a metal panel to cover the hole at the level of the rear cargo deck.

17.3.14 The spare tire well and rear cargo deck may be removed or modified to allow for a fuel cell installation conforming to section 12.6.1 and the NASA CCR's. Underbody panels may need to be added to ensure a similar to stock airflow under the back of the car. Consult the series director for guidance.

17.3.16 Factory jack points located on each rocker in the middle of the car may have a steel or aluminum plate of 6"x6" max per side and 1/8" thick added to limit deformation of these points that can occurring during raising of the car.

## **18 Special Transition Allowance – Regional Races Only**

The following modifications are allowed for 4 regional races per season as defined below in the interest of easing the transition of cars to the 944-Spec class. Drivers are encouraged to modify their cars to comply with the standard rules as soon as possible. This section does not apply for any races at NASA Nationals. These cars are still subject to rule 11 – Power Cap. Use of the OEM Fuel Quality Switch on the DME may help facilitate compliance.

### **18.1 Special Transition Modifications**

18.1.1 Aftermarket performance engine management chip is allowed with a 25 lbs increase in minimum weight.

18.1.2 Aftermarket performance headers are allowed with a 25 lbs increase in minimum weight

18.1.3 Flywheels lighter than stock are allowed with a 30 lbs increase in minimum weight.

### **18.2 Implementation of Weight Increases**

Allowances listed in 18.1 may be applied individually or all together. If multiple allowances are used then weights will be added to generate the new minimum weight. For example if just an engine management chip is used minimum weight would increase to 2625 lbs, if all three (3) allowances are used then it requires an 80 lbs increase in minimum weight to 2680 lbs with driver.

### **18.3 Notification requirements**

Drivers must inform the local 944 series director any time that section 18 will be used. This must be done before taking part in any 944-SPEC sessions. Failure to do so will be considered as "noncompliance" to the rules even if the increased minimum weight is achieved at impound. 944 series directors should make a note in the logbook documenting the allowance, the new minimum weight and the date. If a car is inspected at impound or protested the driver is required to inform the tech officials of allowances used and the revised minimum weight before the inspection occurs.

### **18.4 Driver/Car Eligibility**

This allowance is intended for new drivers and new cars to 944-SPEC. Eligibility requirements for the special transition allowance apply to the car, not the driver. Drivers attempting to use multiple cars to circumvent these requirements may be subject to harsh penalties. The requirements are as follows.

18.4.1 Car started four (4) or fewer NASA 944-SPEC class races in the region in the prior season.

18.4.2 Car started zero (0) races NASA 944-SPEC class races in ANY region in the current season while under the standard 944-SPEC rule set and not running under the section 17 Allowance.

18.4.3 Car started three (3) or fewer NASA 944-SPEC class races using this allowance in the region for the current season. A maximum of four (4) races per season per region may be run using the special transition allowance.

### **18.5 Driver Points/Contingencies**

Drivers are eligible for all normal season points and contingencies while meeting the requirements of this section of the rules.