

**SPEC 7 [S7]****Regional Class Only**

S7CS

**1. Definition**

The class was conceived with the intention that costs be kept low while allowing close racing. To this end, the to be a guide to car preparation. Unless specifically mentioned or approved in these rules, no additional vehicle modifications may be made. Any sections referring to the GCR or the IT/CS rules that has been affected by an updating of those books, the most current versions of the GCR & IT/CS rule books apply. Rules will be vigorously enforced at all SCCA-sanctioned events. The rules are absolute --- they are not intended

**2. Make of Car**

Mazda RX-7, 1979-1985; G, GS, or GSL trim-level models are eligible.

**3. Class Designation**

All cars shall display S7 as the class designation.

**4. Preparation Rules**

All vehicles will remain Improved Touring, as defined by SCCA General Competition Rules (GCR Sec. 9.1.3) except for the following specifically required and/or allowed modifications; Minimum weight- ~~2380~~ 2330 lbs., with driver. Per GCR, all drivers should have a Mazda Shop Manual based on the VIN# for the car they are driving.

**A. ALLOWED REPLACEMENT PARTS**

Many of these items are available from Mazdaspeed at 800-435-2508. All drivers should register with them in order to purchase Mazda Original Parts at a discount.

**1. SHOCK ABSORBERS**

Brand: ~~Tokico High Performance Gas Model: Front #HZ 1 069, Rear #HE 231 7~~ Notes: ~~Non-adjustable, blue body~~ Any Stock replacement, Non adjustable.

**2. SWAY BARS**

Brand: Suspension Techniques Model: (3-054 OLD NUMBER) 52170 is the current part number as of 2001 Notes: Front: 1 1/8", fixed; Rear: 5/8", adjustable. (Note: In the rear you may use the allowed replacement Suspension Techniques sway bar, any 1979-1985 12A model Rx-7 stock sway bar or no sway bar at all.)

**3. SPRINGS**

Brand: TMC or Progress Group Model: TMC PN is CSM-400 "Street/Race", Progress Group PN is 40.1150. Notes: TMC - Blue or Black color; Progress Group – Turquoise color (TMC has ceased production. Progress Group springs are available through HASport in Phoenix, AZ

**4. AIR FILTER**

Open – Direct Replacement Only

## B. TYRES

Tyres are open, must be DOT rated, size must be 205/60R13

## C. SAFETY EQUIPMENT

1. Safety rules (seatbelts, window net, fire extinguisher) as per SCCA GCR sections 9.3.19, 9.3.23, and 9.3.54. All other safety items as per I.T.C.S. rules Section 9.1.3.11
2. Roll cage: Brand: Autopower Model: 83591 RX (1-3/4" ERW or 1-1/2" DOM material) Notes: Material and construction defined by the SCCA GCR Sec. 9.4.
3. All cars must use specified roll cage that shall not be modified, except for mounting gussets, a window net, seat belt mounting brackets and will only be bolted in place.
  - a. Early model roll cages must be modified to adhere to GCR 9.4, full horizontal bracing.
  - b. Outer dash vent louvers may be removed for roll cage clearance where needed.
4. An electrical master ("kill") switch is required. See GCR section 9.3.34., for requirements

## D. INTERIOR

1. The following interior components may be removed:
  - a. A/C system (but not the heater core, blower or heating controls)
  - b. Carpeting, carpet padding and sound deadening tar/mastic may be removed from the floorboard, cargo area (including storage bins) and spare tire well.
  - c. Center consoles/armrest may be removed. Cars must retain factory console around gear shift
  - d. Cargo bins
  - e. Driver's seat belt
  - f. Passenger seat belt may be removed or replaced with racing belts that meet requirements for driver's seat belts in Section 9.3.19 of the SCCA GCR.
  - g. Floor mats
  - h. Radio system, including antenna, speakers, amplifiers and wiring
  - i. Headliner
  - j. Dome lights
  - k. Grab handles
  - l. The ashtray and cigarette lighter
  - m. Sun visors luggage straps
  - n. Spare tire, jack and tools must be removed for racing
  - o. Emissions control unit and mounting/covering plate from passenger foot-well.
  - p. The interior trim panels located behind the driver and passenger doors may be removed.
2. The driver's seat must be replaced with a seat suitable for competition per Improved Touring rules. The passenger's seat may be replaced with any seat suitable for competition, including a racing type bucket seat. If not replaced, the passenger's seat may be removed. If either seat is replaced, associated factory seat tracks/brackets may be modified, reinforced and/or removed to facilitate replacement mountings provided they perform no other function.
3. Driver and passenger door glass may be removed along with window operating mechanism. If window glass is retained, aluminum interior door panel or original door panel must be used.
4. The heater control panel must remain intact and unmodified. Heater and blower

- need not be functional.
5. The stock interior mirror may be replaced with any after-market unit suitable for competition. Additional mirrors may be added provided they are fully contained within the passenger compartment.
  6. Gauges and instruments may be added or replaced. They may be installed in the original instrument(s) location using a mounting plate(s) or any other location using a secure method of attachment. Other than modifications made to mount instruments and provide for roll cage installation, the remainder of the dash board or panel shall remain intact.
  7. Steering wheel locks must be disabled. Aftermarket steering wheels and quick release kits may be used.
  8. Ducting may be added to provide fresh air to the driver and passenger compartment. This ducting shall be located in the driver and/or passenger window area with no modifications to the bodywork.
  9. Video cameras are permitted provided they are mounted in accordance with the GCR.
  10. If ballast must be added to bring the car up to minimum weight, it must be securely fastened to the floor per GCR.
  11. After-market pedals (clutch, brake, gas) may be mounted on the existing pedal assemblies.
  12. After-market shifter knobs are permitted.
  13. Painting of the interior is allowed.

## **E. EXTERIOR**

1. Cars may be repainted in non-factory colors.
2. Any exterior mirrors may be used, provided they are fitted in the stock location or on front fender.
3. Fender openings may be modified for tire clearance per ITCS Section 9.1.3.8.a.
4. Emblems and side moldings may be removed
5. Hood pins and windshield clips may be added per ITCS Section 9.1.3.8.d – 9.1.3.8.e.
6. The radio antenna may be removed. The remaining hole must be covered.
7. Headlamp bulbs may be removed. The remaining fixture must be retained in the stock configuration and can not be used for any other purpose, such as air ducting to the engine or brakes. [Competitors should keep the bulbs with them in the event that the race stewards require them due to race conditions (rain, snow, or darkness.)]

## **F. ENGINE**

1. Any stock carbureted 12A rotary engine may be used.
2. All engine electrical components must remain stock and unmodified, with the following specifically allowed modifications:
  - a. Any spark plugs may be used.
  - b. Any brand of spark plug wires may be used of, providing they are of the original singlewire resistance type and do not include external grounding wires or any means of charge or spark boost.
  - c. Ignition coils may be replaced with any coils that will mount in the stock location.
  - d. Ignition timing is free.
  - e. Distributor must remain unmodified.
3. Engine and drive train lubricants are free.
4. Cooling system must remain operable and unmodified, with the exception of the following specifically allowed modifications:
  - a. Radiator may be replaced with a larger unit of the same type as the original, and must mount in the original, unmodified location.
  - b. Aluminum Radiators from Anthony Woodford Racing (awrracing.com) 0000-01-

- 7501 – Big (for 83-85) or 0000-01-7502 – Small (for 79-82). Either can be used in all cars.
- c. 1983 and later cars may use the earlier oil cooler system.
  - d. 1981 and 1982 cars may use the later oil cooling system.
  - e. The stock cooling fan may be removed.
  - f. An electric cooling fan may be used.
5. Stainless steel braided oil lines may be used for oil cooler.
  6. A screen may be installed in front of the radiator and oil cooler to help prevent stone damage.
  7. Air conditioning, cold start assist system, and cruise control components in the engine compartment may be removed. No other modifications to the heating/cooling ventilation system may be made.
  8. Fuel system, including tank and filler, must remain unmodified, with the exception of the following specifically allowed modifications:
    - a. Fuel pumps and fuel pressure regulators are free. Regulators may be installed anywhere in the fuel delivery line to the carburetor. Replacement fuel pumps must be mounted within 12" of the original location.
    - b. The fuel tank return line shall remain as stock and shall not be used for fuel delivery to the carburetor.
    - c. The stock fuel-return check valve and fuel tank rollover valve may not be modified, bypassed or removed.
    - d. Any fuel filter(s) may be used
    - e. Simple heat shielding over the OEM rubber style fuel lines in the engine compartment is allowed as long as they are easily removable for inspection.
    - f. The stock fuel tank may be replaced with a fuel cell conforming to GCR section 9.3.27
  9. Carburetor
    - a. May use Stock Nikki Carburetor with the following modifications:
      1. "Grose Jet" carburetor needles and seats may be used in place of stock carburetor needles and seats, providing the replacements are of identical size to stock.
      2. The shutter-valve system may be eliminated.
      3. Coolant passages to the intake manifold may be blocked.
    - b. May use Weber 48 IDA w/ 38mm Choke with Racing Beat Intake Part #16482.
    - c. May use Weber 40 DCOE w/ 38mm Choke with Racing Beat Intake Part #18111.
  10. Electrical charging system must be functional and operating as per manufacturer specifications.
  11. Any battery may be used that fits in the original OE location.
  12. A Cool Can may be installed. Moroso Part #65125. Cool Can may be obtained from JEGS Auto Supply at 1- 800-345-4545. The Cool Can is not intended to provide a competitive advantage.
  13. A 3" X 9" section centered off the hood latch may be removed; up to a 6 sq. in. section may be removed from the rear of the air cleaner to provide a cold air intake to the engine. Ducting may be added from the hood latch area to the air cleaner.

## **G. EXHAUST**

1. Racing Beat header, part number 16008 - for 79-80 cars, 16010 - for 81-83 cars, and 16012 - for 84-85 cars may be used.
2. Any emissions components may be removed.
3. The main catalytic converter may be removed, gutted or replaced by any EPA or C.A.R.B. approved after- market converter.
4. Exhaust must follow the stock routing (over the axle), and must exit from the stock location and extend to the rear bumper.
5. Maximum outside diameter for exhaust pipe is 2-1/8" O.D.
6. A muffler is not required, but all vehicles must meet sound standards per SCCA GCR

Section 5.7.3. Any muffler may be fitted, ~~as long as the inlet and outlet diameter is no larger than 2 1/4" O.D. and~~ tailpipe diameter is 2 1/8" O.D. Max.

7. The upper and lower exhaust system heat shields may be removed.
8. Any combination of header tape, header coating, or heat shielding above the exhaust header is permitted.

## H. DRIVE TRAIN

1. Any stock style pressure plate and disc may be used, provided the replacement is the same weight or greater as original.
2. All vehicles not originally equipped as such may be fitted with the entire rear-end assembly from a GSL model (disc brakes and limited slip differential).
3. The differential ratio must be 3.9:1, using stock 81-85 Mazda RX-7 factory gears.
4. No modifications to the stock differential are allowed.
5. The stock wheel lug-bolt system may be replaced with wheel-studs and nuts.
6. Transmission must remain stock

## I. BRAKES

1. Any brake pad material or brake fluid may be used.
2. Braided steel brake lines may be used.
3. Adjustable brake-bias valves are allowed and may be installed in addition to, or as a replacement of, the stock valve, but must be installed in the engine compartment and must not be driver adjustable from the cockpit.
4. If rear disc brakes are installed on a vehicle not originally equipped with rear disc brakes, the master cylinder and proportioning valve from a disc-brake car may be installed. Otherwise, the brake master cylinder must remain unmodified.
5. Front brake dust-shields may be modified or removed.
6. Brake cooling is allowed per ITCS Section 9.1.3.6.b. A duct of 3" maximum diameter may be used for brake cooling. Brake ducting in front lower panel of '81-'83 cars may be opened to dimensions of '84-'85 cars.
7. The plastic inner fender panels may be removed or modified.
8. Parking brake may be removed or disabled

## J. SUSPENSION

1. Upper strut mounting holes may be slotted for increased camber/castor. Upper center strut locating hole may be modified to facilitate strut movement. Stock strut hat must be used and cannot be modified for clearance.
2. All suspension bushings must remain stock and unmodified, with the following exceptions:
  - a. Urethane front control arm bushings (Energy Suspension part #11-3101) may be used.
  - b. Urethane strut rod bushings (Energy Suspension part #11-7101) may be used.
  - c. Rear axle bump stops may be modified, removed or replaced.
  - d. Stock rear sway-bar end links may be replaced with Energy Suspension part#98123.
  - e. Front suspension rubber coil spacers may be removed.
3. A maximum of two spacers (Mazda part #1011-34-013) may be added per side to the front strut assemblies for weight balancing.
4. Minimum ground clearance measured at the front cross-member shall not be less than 4 1/2".
5. Front wheel negative camber shall not exceed 1-1/4 degrees. No adjustments are allowed to the rear axle.
6. Any brand of 13" diameter wheel — alloy, stock factory or steel — up to 7" wide maybe used.

- a. Wheel back spacing must be 4".
  - b. Minimum weight for wheel, tire, and lug nuts is 26 lbs.
7. Wheel spacers may not be used.

#### **K. UPDATING AND BACKDATING**

1. Exterior body parts, interior trim, engine, drive shaft and rear axle may be exchanged or replaced with another of years 1979 to 1985, 12A model vehicles.
2. Any component updating or backdating must be done as an entire unit.

#### **L. "NO TOUCH RULE"**

1. The following components, or any part thereof, may not be modified, detailed or massaged in ANY way:
  - a. Engine (including intake or exhaust ports and all internal moving or stationary parts)
  - b. Transmission
  - c. Carburetor (except as allowed in Section 3.F.9).
  - d. Drive pulleys.

#### **M. ADDITIONAL ONBOARD SYSTEMS**

1. Onboard lap timing, lap counting or data acquisition systems may be fitted to the vehicle and used during any practice, qualifying or race session.
2. On board video recording is allowed.
3. Radio communication may be used

#### **N. ADMINISTRATOR**

Current class administrator is Chris Doyle. Contact Info: Ph. 303.940.1500 or Email. [chris@surfaceexploration.com](mailto:chris@surfaceexploration.com)