

Basic Car Preparation

Steve Lannoch



"Speed costs money...

**how fast do you want
to go ?"**

So you have decided you want to race...

- **What kind of car do you want ?**
- **Do not rush the decision.**

Before you decide, you should...

- Join SCCA
- Attend some races
- Crew some races, be a sponge
- Decide between
 - Open Wheel - wings, slicks
 - Closed Wheel - roofs, doors

Two Choices



- **Building from scratch**
 - Poor \$\$\$ investment
 - MAJOR time commitment
 - What would you build?
- **Buy a used race car**
 - Spend your time and money on learning to drive/race (seat time RULES)
 - Save 100%-200%

Good cars to pick ...

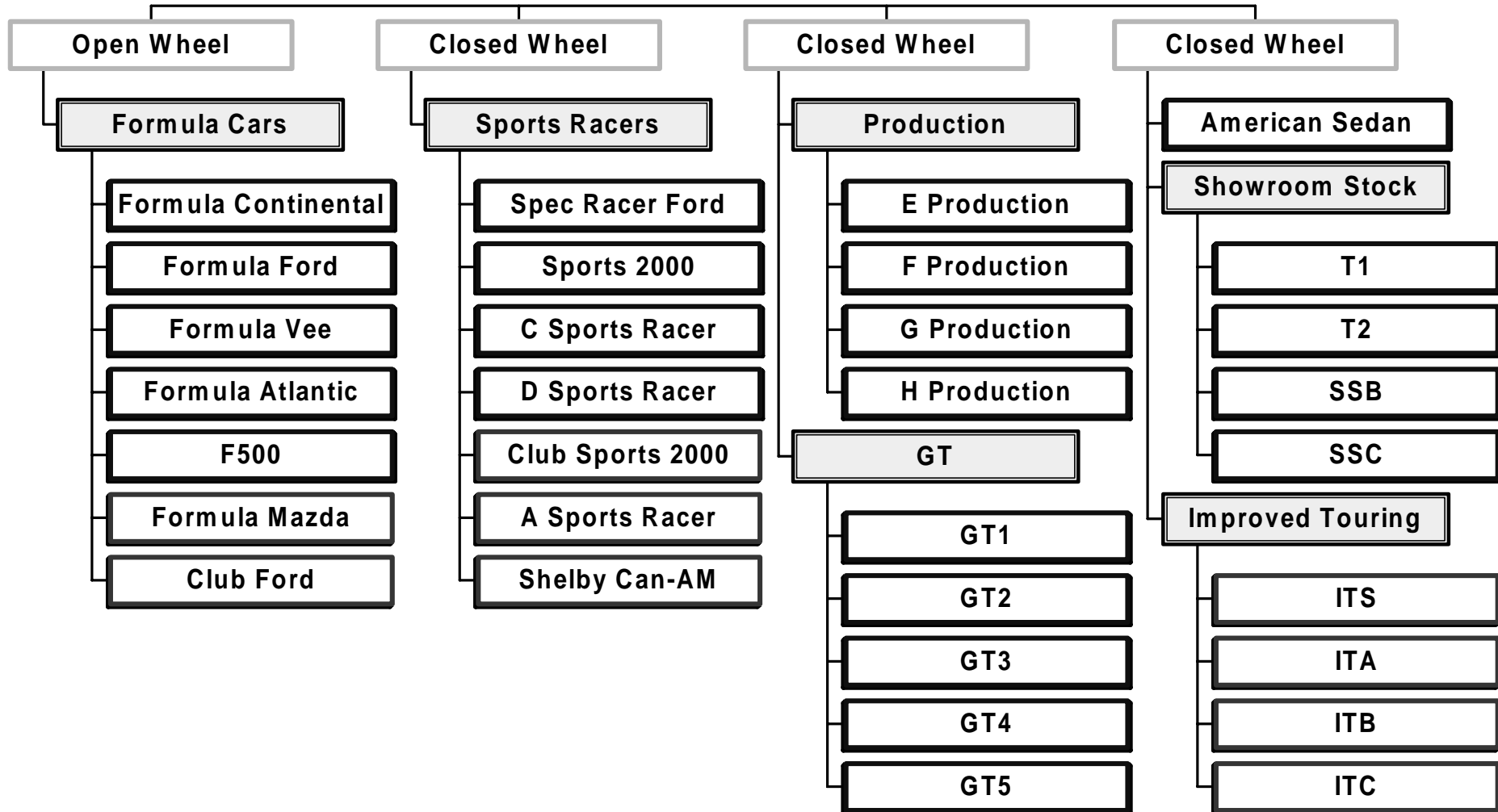
- **Raced recently** (last one to four years)
- **One you know something about**
 - **Marque / Individual car**
- **Falls within your budget**
- **Falls within your skill level**



Cars NOT to pick

- **Borgward Isabella**
 - Too Old
- **935 Porsche**
 - Too Rare
- **Never finished homebuilt Corvair powered sports racer**
 - key word NEVER
- **Audi Touring Car**
 - Too Technical
- **Penske Indy Car**
 - Too Expensive
- **Cars prepared to other sanctioning body rules -**
 - PCA, BMW, IMSA, ETC.

Available Classes



Car Selection (personal philosophy)

- Realize the size of your commitment
 - Race Car/Trailer/Tow Vehicle/Storage/Helmet/Suit
- Start with someone else's car
 - Rent / Borrow A Car,
 - 33% do not get past 1st. drivers school
 - 33% do not get past their second year
- Start in a lower power (slower) class
 - LEARN; to be smooth, to manage momentum, the “art” of racecraft
 - Lower Maintenance/Operating costs
 - Greater Reliability

Preparation



- Prep the car
- Prep the driver
- Prep for the weekend
- Prepare for results

Crew Choices

- **Doing it all yourself**
- **Friends**
- **Family**
- **Hired guns**
- **Combination**



Doing it yourself

- Long lonely nights in the garage
- By Sunday night you are dog tired
- Affects your driving (slower, mistakes)
- All decisions and results are yours
- But you can say "I did it my way"

Friends

- Designate tasks
- Have “Prep” nights, social time
- Repair car, instead of loading it up
- Drive faster, make less mistakes
- You should pick up their tab

Family

- Family activity
- Quality time w/ children or parents
- “Download” your knowledge
- Able to share your best moments
- A little less expensive

Hired Guns

- Arrive and drive
- Hire experience
- Sit back and watch them work
- Concentrate on your driving
- “How fast do you want to go”
\$\$\$\$\$\$



Combination

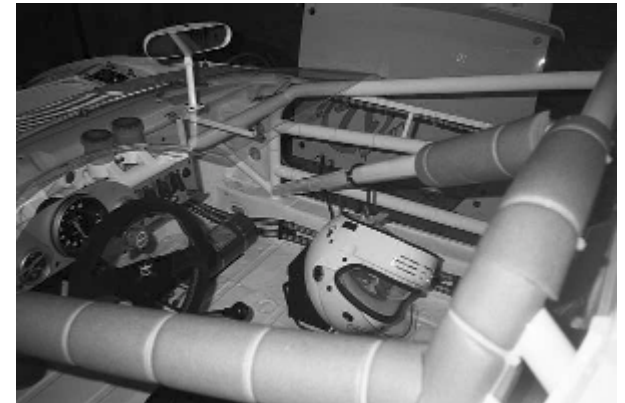
- Respect their commitment
- Have Fun
- May come and go
- Hire “knowledge” to go faster
- Remember, you need their help

General Competition Rules

- Buy the CURRENT GCR from Denver
 - Available Printed and on CD
- Buy the appropriate "Category Specification"
- READ IT ! TWICE ! READ IT AGAIN !
- Note the "black lines"

Roll cage

- Does it meet current GCR specs ?
 - Design
 - Diameter / thickness
- Well constructed
- Quality welds
- If not. find a qualified fabricator



Seat

- Does seat meet current GCR specs ?
 - No low back seats allowed
- Is seating position adjustable ?
 - Do you fit?
- Is the seat back properly braced
- Any cracks in fiberglass or poor welds



Steering wheel

- **GCR Legal**
 - No wood rimmed wheels
 - No wire wheels
- **Properly sized**
- **Properly positioned**
- **Properly attached**



Driver restraints

- **Appropriate 5 / 6 point harness**
- **Less than 5 years old**
- **Date labeled**
- **Arm restraints**
- **Labeled window net**
- **Secure mounting**



GCR

PROPER WINDOW NET INSTALLATION

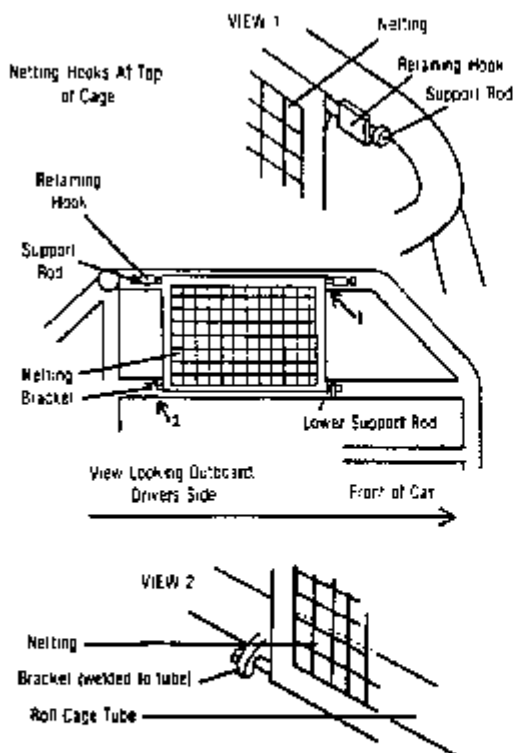


Figure 4

GCR

manufacturers are dating every belt in a set. They may be dating one of a pair of shoulder or lap belts or may only be dating one belt in an entire set. Scrutinize (if included the restraint system needs only one date label.)

9. Harness Threading:

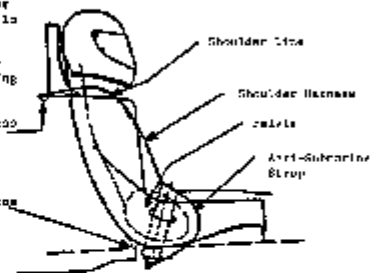
Assemble in accordance with manufacturers instructions.

DRIVER RESTRAINT
FIGURE 2

Shoulder harness
Should be installed
90° To Spine At
Shoulder Link In
Vertical
Compression
Injures Under
BGL "C" Loading

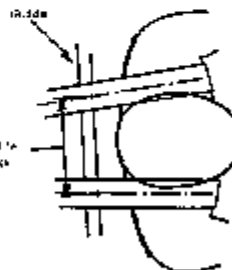
Shoulder harness
Straps
Or Anchorage

Seat Back/Seat
Function



3.0 Maximum To Verticality
Of Lap Belt At Seat Tank
Seat Bottom Junction
Lap Belt Should Continue
To Straight Line To Anchorage

4-0° At 10" To
Or Anchorage



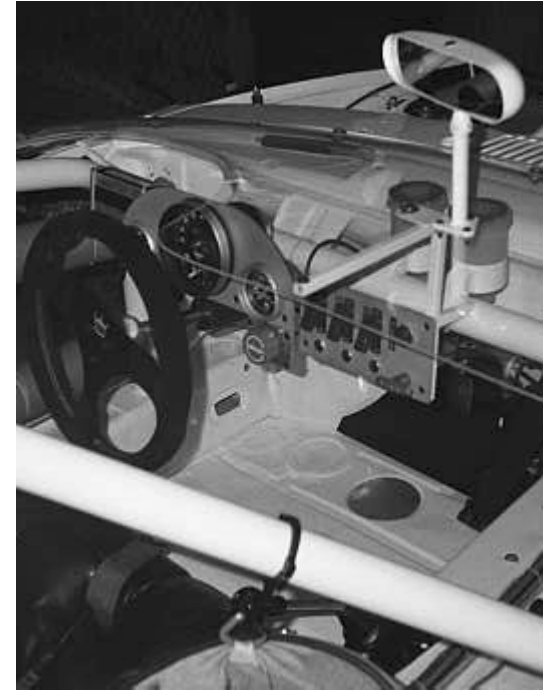
Drawn
G. R. Leland

Fire System

- **Appropriate for the class**
 - Fire bottle vs. fire suppression system
- **Fully charged**
- **Properly installed and plumbed**



Electrical



- New or recent battery
- Properly secured battery
- Properly wired kill switch
- Functioning windshield wipers
- Effective de-misting
- Working starter
- Working alternator

Fuel System



- Properly mounted fuel cell
- Legal, properly routed fuel lines, test port
- Easy to fill
- Properly vented / check valve
- Recent fuel cell foam
- Check the fuel pump
- Check fuel pressure

Tires / Wheels

- Tires legal for the class (spec tire for class, correct size, within bodywork)
- Age
- Condition
- Wheels - inspect for cracks
- Check for straightness
- Correct Lug nuts



Brakes

- Use fresh DOT 5 racing brake fluid
- Current brake material technology
- Fresh rotors ? (check for cracks)
- Properly adjusted drums
- Proper front to rear balance
- Correctly designed / sized system

Appearance

- **Clean and fresh paint**
 - Easier to work on
 - Easier to pass tech
- **NO Primer**
- **Required Decals / Markings**

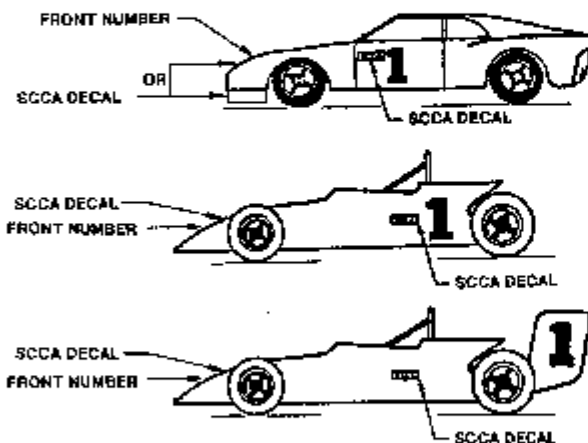
GCR

IDENTIFICATION MARKS

Each automobile competing in an SCCA-sanctioned speed event shall display the official SCCA logo, unobstructed and prominently on both sides of the automobile adjacent to the side numbers.

Sports Race and Formula Automobiles: The SCCA logo shall be displayed on the front unobstructed and prominently near the number.

GT, Production, and Showroom Stock Automobiles: The SCCA logo shall be displayed on the front of the vehicle and shall be affixed to a vertical surface so that it shall be easily seen when viewed from the front.



GCR

GAFF DECALS REQUIRED
(5-1/2 x 3-1/2 inches)



Mechanical

- Hubs
- Wheel bearings
- Tie rod ends
- Spherical bearings/bushings
- Brake lines
- Exhaust, dB level
- Clutch
- Hoses
- Belts
- Transmission
- Rear end
- Mirrors

Preparation DON'T's

- **Don't build a killer engine**
 - It will be a grenade/damages the budget
- **Don't invest in the latest body work**
 - It won't make you much faster/hurts budget
- **Don't slap on the latest killer suspension**
 - Bigger springs & sway bars are not always faster
 - Trick shocks may trick you

Prep the driver... (1)

- Buy good 2-3 layer drivers gear
- Make sure the helmet is SA95
- Skip fancy suit/trick helmet paint job
- Make sure your helmet fits snugly
- Buy proper racing shoes
- Skip the fancy crew uniforms for now

Prep the driver... (2)

- Do the paperwork in advance
 - Drivers physical
 - Licensing
 - Log book/annual tech
 - Entry form
 - Numbers/decals

Prep the driver... (3)

- **Get fit**
- **Drink fluids**
- **Use alcohol sparingly**
- **Stay out of the sun**
- **TIGHTEN your seat belts**

Prep for the weekend ... (1)

- Do your car maintenance at HOME
 - “Nut and bolt” the car, bleed brakes
 - Check alignment/set timing/check brakes
 - Fill with gas
 - Overfill tires w/air
 - Clean everything, clean cars go faster
- Pack race gas, oil, gear lube, brake fluid
- Take home used oil/tires

Prep for the weekend ... (2)

- Do your tow vehicle maintenance
- Get your trailer lights working
- Make sure your trailer brakes work
- Inspect trailer tires for cracks/splits
- Grease wheel bearings
- Set tire pressures on trailer & tow rig
- Use proper tie downs

Prep for the weekend ... (3)

- Register for race in advance
- Get hotel reservations in advance
- Do your tech form in advance
- Pack your gear, license, and log book
- Get some sleep
- Take Friday off of work
- Use “golden rule” at registration & tech.

Suggestions

- Skip the “speed secret” of the week
- Limit no. of “experts” you consult
- Spend your money where it counts
 - For GO, NOT show
 - Get as much “seat time” as possible
- Budget your time

Conclusions

- Prep for reliability not for speed
- Track time is more important than lap times
- As you gain experience, you will:
 - Go faster
 - Race more safely
 - Learn how to adjust the car, & what to adjust
 - Add the "go fast" stuff and actually go faster
 - Have even MORE fun

Final thoughts

- **Always remember to have fun !**
- **It's just a hobby, not a job !**



Final thoughts

- Come Monday morning you'll be back at your job just like the rest of your co-workers,

(but you'll be the one with the silly grin)