THE PITS AND

RSR
RACESIMS REVOLUTION

PRESENT

#NAGT
NORTH AMERICAN GT SERIES

A MESSAGE FROM JAN KOHL

It's been such a long time...the North American GT Championship by RaceSims Revolution and The Pits

NAGT is for rFactor (http://www.rfactor.net) and is a simulated touring car championship based on the SCCA Speed World Challenge GT series.

This has probably been one of the most notorious mods of all time...it's been known about for years, feared dead for almost as long, and resurrected time and time again, with more lives than any cat. There have been more people involved with this mod than could be imagined, and sadly, even some people who are no longer with us but joined the team way back in the day.

Had someone told us that it would be almost three years from conception to fruition, we probably would have never even started it. Both RSR and The Pits got the idea for a World Challenge GT mod at about the same time, and after a little negotiation between the two groups, it was decided to combine forces.

However, it was not to be so smooth for the rest of the trip. People on both teams were getting tired of modding, plus some occasional friction, and as well people just disappearing caused the project to slow to a crawl. Everything imaginable was thrown in the path of the mod. How it ever got completely finished is due purely to the tenacity of the RSR and Pits teams, that they decided that the mod would be completed...no matter what.

And finally..."soon" is HERE!

IMPORTANT NOTES:

1) This mod has EIGHT different cars, with eight different meshes, graphics, and physics. People who are running with slower machines MUST expect slowdowns and poor performance. Obviously, the less cars you run with, the faster your machine will run.

2) The original cars all have specific spec maps for each car. If you want to create new personal cars and paintschemes, you MUST use the <carname>_GENERIC folder for each make and use one of the cars in that folder as a starting point. Using cars from any of the other team folders will cause your car to be given a spec map that was created for a specific paintscheme...thus making your car look weird.

3) This mod has been run in DX7/DX8, but extensive testing has not been done. If you have problems with running cars in DX7/DX8...sorry. We don't plan to fix it.

FEATURES:

VEHICLE DYNAMICS

NAGT has some of the most comprehensive physics found in any rFactor mod, and because we have engineered realistic geometries and working suspensions this can be demonstrated with the use of the RealFeel plugin. We won't show ALL of our cards, but we have modeled all aspects of the GT cars from aero to even internal friction components.

While each car is unique and has its own personality, all 8 cars are consistent across in approach and realism.

We utilized as much data as we could get from real racing teams, engineers and tire experts.

Please be aware that there were a few features that we could not incorporate since they are driver-selectable functions, for example the Mustang is allowed to use traction control and anti-lock brakes, these are not allowed on most servers and cannot be implemented on a per-vehicle basis.

UNIQUE MENU SYSTEM

NAGT comes with its own menu and spinner. However, it has been designed to not overwrite your current menu and spinner, so if you decide to run another mod, just select it and the next time you restart rFactor, you will be back to your original menu.

Included with the menu is the fact that NAGT will store replays and screenshots separately from the rest of your files, so you can select them easily.

CUSTOM SOUNDTRACK

Thanks to Dave "Grunge" Peterson, Deathlok, and inTransformation, we have some great music for your NAGT experience. If you like what they've done, please thank them and support them in their future endeavors.

TECHNICAL NOTES:

TIRES

The spec tire of SCCA World Challenge GT is the Toyo RA1. It is a shaved treaded DOT tire in various sizes but in one compound only. There is no "Hard, Medium, or Soft", and all teams are required to use the provided tire.

A "Sticker" (brand new tire) will have very good initial grip, but if not properly heat-cycled will then fade fast, have poor grip, and not last a 50 minute race.

A "Heat-Cycled" tire is a tire that has been run hard for 2-4 laps and then has been left to cool. This changes the properties of the tire such that it will not have the same high initial grip, but will maintain its grip level and lifespan over a 50 minute race.

REWARDS WEIGHT AND TEAM COMPENSATION SYSTEM

Rewarding of Equalizing Weight Assigned to Reduce Driver Sensitivity, commonly referred to as "REWARDS Weight," is a weight equalization system used by the SCCA for the Speed World Challenge Championship. The goal of the REWARDS System is to provide close on-track competition between a diverse variety of cars.

The REWARDS weight system assigns added or removed weight based on finishing position according to the following schedule (The weight cannot exceed 200 lbs. or go below the Appendix A base weight).:

1st +50 lbs	2nd +30 lbs	3rd +10 lbs	4th 0 lbs
5th -10 lbs	6th -30	7th+ -50	

The Team Compensation System allows drivers finishing outside the top 50% of finishing positions to remove 50 lbs. each time until a maximum of -100 lbs off Appendix A base weight is reached, or the driver finishes within the top 50% of finishing positions. When a driver finishes within the top 50%, 50 lbs. shall be added back on each time until the driver reaches the Appendix A base weight. A driver is not eligible to remove weight, or required to add it back on, unless the driver is classified as a finisher.

Note: Any driver that has been required to carry REWARDS weight during the season is not eligible to take advantage of the Team Compensation System. Refer to the SCCA Pro Racing Regulations for complete details.

ENGINE BUILD

World Challenge cars are built to produce maximum reliable horsepower within SCCA modification restrictions for a 50 minute race. As we realize many people will want to use these very nice cars for endurance races we made sure to accommodate you.

The "6 Hour" engine is lightly detuned to last an event with care, at the cost of a little peak horsepower and torque.

The "12 Hour" engine is further detuned but in turn even more reliable.

TECHNICAL NOTES:

CLASS PACKAGE

The Class Package option allows you to choose the class designation of the cars. By default, the cars are grouped into individual classes by model. The Corvettes are in the C6 class, the Aston Martins are in the DBRS9 class, and so on.

Optionally, you can designate all cars to be grouped into a single NAGT class. This grouping option allows a league to create a race with all the NAGT cars running in a single class.

Note that AI opponent cars other than your car model will always be grouped in their individual model classes, regardless of the class you choose for your car.

FORCE FEEDBACK STRENGTH

Several steering wheel force feedback strength options are available, including a suggested setting for RealFeel. Please read the last page of this manual for specific RealFeel details.

HOT TIP

Like most forms of real world racing, racing in the SPEED World Challenge GT does not consist of being at the 100% limit (what we simmers call "hotlapping") for 50 minutes.

A typical race begins by fighting for position at the start, then settling into your race pace, pushing for position or to make up time as necessary. Real racers value their lives and the considerable expense of their equipment., and have "mechanical sympathy" for the car and tires to make sure both will last the race.

As the race winds down the final push is on, and most will put in their fastest race laps at this time as the fuel weight has burned off and (hopefully!) the tires have plenty left.

Much effort has gone into simulating this. Be smooth, be consistent, and use your head!

TECHNICAL NOTES:

ASSORTED TECHNICAL RULES

Gearsets: Each car is only allowed one transmission gear set and 2-3 final drive ratio choices by the SCCA Pro Racing rules. That is all, every car must work with what is allowed.

Ride Heights: SCCA mandates a no-less-than 3 inch minimum static ride height. However, just because you *can* set a front or rear height to 3", does not mean you *should*. Bottoming any car is not ideal, and running out of suspension bump travel is also not ideal.

PIT STOPS

A pit stop is a rare event in a 50 minute SPEED World Challenge event, only happening in the rare case of an emergency. And if for some reason a stop is necessary there are limitations on how many crew are allowed over the wall, plus strict limitations on the refueling rigs.

Add to that the fact that few teams have quick change lug nuts and related equipment, and you'll see that a pit stop is a time intensive process.

But fear not! Of course pit stops are still enabled should you damage the car, overdrive it and use up the tires, or are just using NAGT for endurance races. But please plan accordingly, this is not F1 or NASCAR.

HOT TIP

Pitch: All cars are "positive pitched" by default, meaning the nose is lower than the rear. We will leave it as an exercise to the reader to figure out why this is ideal.

HOT TIP

Tire Pressures: Ideally a tire's tread profile should be fairly flat when experiencing a high cornering load for maximum grip.

This may or may not coincide with long term average Inner/Middle/Outer temperatures.

RFACTOR TWEAKS

HEARING TIRE SQUEAL

One of our big simulation limitations is lack of physical motion (for most of us), so we need to compensate via other sensory input.

By default rFactor has unusually low tire skid and scrub volume, and there is no volume slider in the menu for it! This leads to complaints of not being able to "feel" what cars are doing in rFactor, it may not seem related but don't underestimate how humans subconsciously process audio cues. To increase your enjoyment of NAGT please consider this:

Open this file in Notepad:

`X:/rfactor/UserData/<your user name>/<your user name>.PLR`

Under `[SOUND OPTIONS]`:

Find the line `Vehicle Scrubbing VolMult="0000610352"`

Change to `Vehicle Scrubbing VolMult=".000250"`

Find the line `Vehicle Skidding VolMult=".0001220703"`

Change to `Vehicle Skidding VolMult=".000350"`

Enjoy your new ability to know what's happening around you!

MIRROR ADJUSTMENT

Most people are familiar with adjusting your seating position to change your eyepoint for personal preference. What some may not realize is that you can change your mirror focus also!

Simply use the SHIFT key while pressing your seat adjustment keys and it will move your mirrors.

If, for example, you have the keys Q and W mapped to move the seat back and forward, and A and Z to move the seat up and down, use SHIFT Q, SHIFT W, SHIFT A, and SHIFT Z to move the mirror focus to your liking.

AUTO BLIP & LIFT/AUTOCLUTCH

AutoClutch can be turned on & off in the rFactor Options, but did you know you don't have to have a clutch pedal to turn off AutoClutch? You can map the clutch function to a button!

Even if you wish to keep the AutoClutch aid turned on, you *can* turn off Auto Blip and Auto Shift, but you have to do it in your PLR. We encourage you to learn how to do this for yourself for a richer and more realistic racing experience.

```
[DRIVING AIDS]
Auto Blip="0"
Auto Lift="0"
```

Aston Martin DBRS9

MAKE:	ASTON MARTIN
MODEL:	DBRS9
WEIGHT:	3155 LBS
HP:	546
TORQUE:	424
TOP SPEED:	188 MPH
ENGINE:	5.9L V12

REAR WHEEL DRIVE
FRONT ENGINE

FRONT SUSPENSION:
DOUBLE A-ARM
REAR SUSPENSION:
DOUBLE A-ARM

TIRES:
F: TOYO RA1 275/35 ZR18
R: TOYO RA1 335/30 ZR18

The British Beast is an incredibly powerful and taxing ride- sublime when you get it right, dangerous when you get it wrong.

Cadillac CTS-V

MAKE:	CADILLAC
MODEL:	CTS-V
WEIGHT:	3183 LBS
HP:	530
TORQUE:	474
TOP SPEED:	186 MPH
ENGINE:	6.0L V8

REAR WHEEL DRIVE
FRONT ENGINE

FRONT SUSPENSION:
DOUBLE A-ARM
REAR SUSPENSION:
DOUBLE A-ARM

TIRES:
F: TOYO RA1 275/35 ZR18
R: TOYO RA1 335/30 ZR18

The Cadillac was so dominant the SCCA has mandated a very high minimum weight. However the Pratt & Miller chassis carries it well.

Chevrolet corvette c6r

MAKE:	CHEVROLET
MODEL:	CORVETTE C6R
WEIGHT:	3110 LBS
HP:	525
TORQUE:	471
TOP SPEED:	185 MPH
ENGINE:	6.0L V8

REAR WHEEL DRIVE
FRONT ENGINE

FRONT SUSPENSION:
DOUBLE A-ARM
REAR SUSPENSION:
DOUBLE A-ARM

TIRES:
F: TOYO RA1 275/35 ZR18
R: TOYO RA1 335/30 ZR18

The Corvette does everything well. The popular American icon is average in weight, has good power, and handles well so it is a good choice anywhere.

Dodge Viper CC

MAKE:	DODGE
MODEL:	VIPER COMPETITION COUPE
WEIGHT:	3188 LBS
HP:	550
TORQUE:	529
TOP SPEED:	190 MPH
ENGINE:	8.3L V10

REAR WHEEL DRIVE
FRONT ENGINE

FRONT SUSPENSION:
DOUBLE A-ARM
REAR SUSPENSION:
DOUBLE A-ARM

TIRES:
F: TOYO RA1 305/35 ZR18
R: TOYO RA1 335/30 ZR18

The true American monster, a quintessential modern day muscle car. A long car with big power, big speed, and heavy weight. Hang on!

Ford Mustang Cobra

MAKE:	FORD
MODEL:	MUSTANG COBRA
WEIGHT:	3001 LBS
HP:	502
TORQUE:	441
TOP SPEED:	184 MPH
ENGINE:	6.0L V8

REAR WHEEL DRIVE
FRONT ENGINE

FRONT SUSPENSION:
MACPHERSON STRUT
REAR SUSPENSION:
3 LINK TRAILING
LIVE AXLE

TIRES:
F: TOYO RA1 275/35 ZR18
R: TOYO RA1 335/30 ZR18

The famous Pony Car is on the lighter side and uses a Ford GT power plant. The rear suspension can feel stiff and is not extremely adjustable, but the car is versatile and fast.

Pontiac GTO

MAKE:	PONTIAC
MODEL:	GTO
WEIGHT:	3018 LBS
HP:	492
TORQUE:	439
TOP SPEED:	182 MPH
ENGINE:	6.0L V8

REAR WHEEL DRIVE
FRONT ENGINE

FRONT SUSPENSION:
DOUBLE A-ARM
REAR SUSPENSION:
MULTI LINK

TIRES:
F: TOYO RA1 275/35 ZR18
R: TOYO RA1 335/30 ZR18

The fairly new Pontiac handles extremely well, has good torque, and is easy on tires. The motor is still a little undeveloped but it's other qualities more than compensate.

Porsche 996 GT3

MAKE:	PORSCHE
MODEL:	996 GT3
WEIGHT:	2843 LBS
HP:	460
TORQUE:	317
TOP SPEED:	183 MPH
ENGINE:	3.6L FLAT 6

REAR WHEEL DRIVE
REAR ENGINE

FRONT SUSPENSION:
DOUBLE A-ARM
REAR SUSPENSION:
DOUBLE A-ARM

TIRES:
F: TOYO RA1 245/35 ZR18
R: TOYO RA1 305/35 ZR18

The benchmark of German GT racing sportscars worldwide, its light weight and superior handling offset it's smaller engine and high rear weight bias.

Volvo s60-r

MAKE:	VOLVO
MODEL:	S60-R
WEIGHT:	3040 LBS
HP:	487
TORQUE:	371
TOP SPEED:	181 MPH
ENGINE:	2.6L INLINE 5 TURBO

ALL WHEEL DRIVE
FRONT ENGINE

FRONT SUSPENSION:
MACPHERSON STRUT
REAR SUSPENSION:
DOUBLE A-ARM

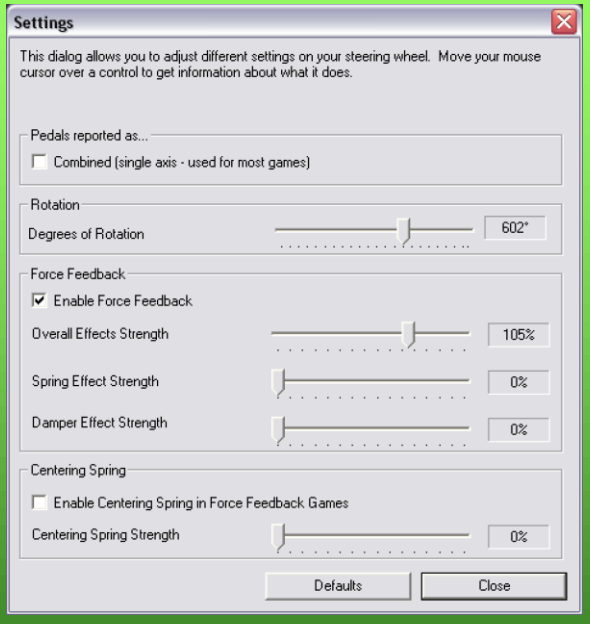
TIRES:
F: TOYO RA1 305/35 ZR18
R: TOYO RA1 305/35 ZR18

The All Wheel Drive Volvo is extremely easy to drive but the turbo 5 cylinder engine lacks torque, and the extra transfer case/differential up front makes it very front heavy.

RealFeel

An example RealFeel.ini file is included in your rFactor root directory. It is named NAGTreal-feel.ini so as to not overwrite any existing files. Rename or copy/paste as you see fit.

```
[General]
RealFeelIsOn=True
ConsoleEnabled=False
ConsoleRepeatDelay=0.10000
SpeechEnabled=True
KeyRepeatDelay=0.10000
SteerForceInputMax=11500.0000
MinSpeed=10.0000
LogEnabled=False
DefaultMaxForceAtSteeringRack=3500.0000
DefaultSteeringDamper=9500.0000
DefaultSmoothingLevel=0
```




```
[996]
MaxForceAtSteeringRack=3500.000000
SteeringDamper=9500.000000
FFBMixerRealFeelPercent=100.000000
SmoothingLevel=0
[C6]
MaxForceAtSteeringRack=3500.000000
SteeringDamper=9500.000000
FFBMixerRealFeelPercent=100.000000
SmoothingLevel=0
[CTS-V]
MaxForceAtSteeringRack=3500.000000
SteeringDamper=9500.000000
FFBMixerRealFeelPercent=100.000000
SmoothingLevel=0
[DBRS9]
MaxForceAtSteeringRack=3500.000000
SteeringDamper=9500.000000
FFBMixerRealFeelPercent=100.000000
SmoothingLevel=0
[GTO]
MaxForceAtSteeringRack=3500.000000
SteeringDamper=9500.000000
FFBMixerRealFeelPercent=100.000000
SmoothingLevel=0
[Mustang]
MaxForceAtSteeringRack=3500.000000
SteeringDamper=9500.000000
FFBMixerRealFeelPercent=100.000000
SmoothingLevel=0
[S60-R]
MaxForceAtSteeringRack=3500.000000
SteeringDamper=9500.000000
FFBMixerRealFeelPercent=100.000000
SmoothingLevel=0
[Viper-CC]
MaxForceAtSteeringRack=3500.000000
SteeringDamper=9500.000000
FFBMixerRealFeelPercent=100.000000
SmoothingLevel=0
[NAGT]
MaxForceAtSteeringRack=3500.000000
SteeringDamper=9500.000000
FFBMixerRealFeelPercent=100.000000
SmoothingLevel=0
```