



2024 TA2-USA, GT2, RACE CAR

December 2023

The modern TA2 car descends from the Swedish Camaro Cup cars developed by Howe in 2009. In North America, our cars are built for; GT2, Club, and SCCA Pro TA2. We manufacture our chassis on-site, and all parts are in stock. We offer technical support to Howe car owners and parts support at National events. Howe TA2 cars have won the most Pro races, national, international and regional championships, including Cameron Lawrence 2013-14, Gar Robinson 2015 & 2017, Rafa Matos 2018 & 2021, Marc Miller 2019, and 2020 Mike Skeen. All of these drivers won in Howe cars, owned by their team. Howe does not win championships; our customers do.



Start with a Shell



Bare Chassis, shells and rollers are often in stock and more complete cars are built to order. **A Shell** is a chassis, insulated interior, body, brake lines and fire systems. Add component packages up to complete, or separately as a kit. **A Roller** is a shell with



suspension, steering, brakes, wiring, and fuel cell, without the shocks, drivetrain, seat or electronics. The three fiberglass bodies for TA2 are Camaro, Mustang, and Challenger. The Euro body resembles a Mercedes, though not approved for use in TA2. All parts are available separately and listed in the owners manual.



1. Brakes - Choose from four approved brands of brake calipers: Alcon, Brembo, Pro Systems, or Wilwood. Rotors for TA2-USA rules are a maximum of 12.19". We use Tilton bearing mounted



Alcon



master cylinders with Tilton swing pedals. Floor mounted pedals are available at a lower cost. The front brakes have cooling ducts to the rotors and calipers with fans optional for small circuits.

2. Front Suspension - Penske shocks are standard, and Howe shocks are optional, or provide your own. There are multiple size Howe square-drive sway bars for chassis adjustment. 2023 chassis have a larger diameter mount and optional adjustable front shock mounts for adjusting height without changing the spring load.



3. Engine Install Kit - Includes motor mounts, intake, exhaust components, and oil system. The exhaust system is ceramic coated steel without a muffler, and when required, we install a longer system and muffler. Our front routed exhaust option is lighter and reduces exhaust heat.



A 10 quart dry sump oil tank includes a sight glass that indicates the oil level at a glance.

4. Cooling - Along with an aluminum radiator, there are also coolers for the oil and power steering, transmission, and rear end.

5. Electrical and Cockpit - There are three options for instruments and wiring; Original, Pro 22, and the new all-business Pro 23. The original instrument panel is wired with switches and fuses, and the Pro upgrades feature aircraft grade switches, relays, and reset breakers. Trans

Am requires an AIM data system, and we use the MXG or the new MXP with the Pro 23 dash. A windshield defogger is standard, while the wiper and rain fenders are optional. A cool suit system is a popular option. Pro classes in the USA require a restraint to the right of the seat.



10 qt Dry Sump System



2023+ Pro Dash and Wiring



2022 Pro Dash and Wiring



Restraint

6. Rear Suspension - The rear suspension is three-link with a watts linkage on a Tiger quick change rear end with an integral cooling pump and cooler. A

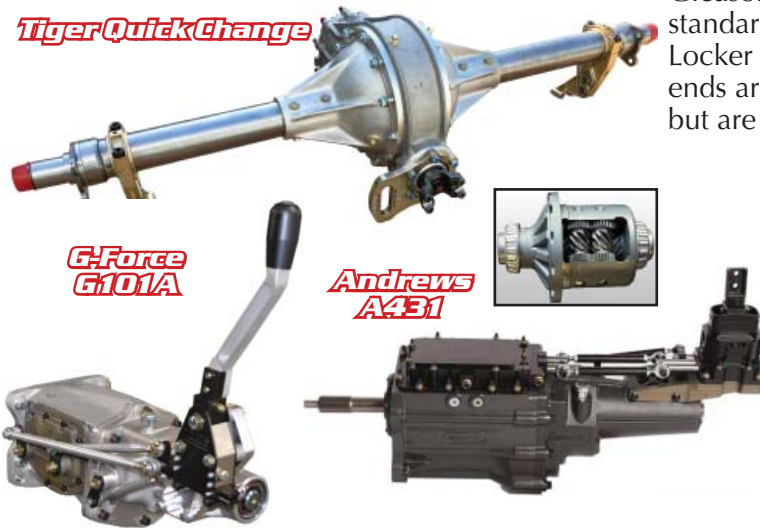
Gleason differential is standard, with a Detroit Locker optional. Ford 9" rear ends are not allowed in TA2 but are otherwise available.



Quartermaster 5.5" or 7.25" V-Drive Clutch

Tilton 5.5" 4 Disc Clutch

Tiger Quick Change



G-Force G101A

Andrews A431

7. Clutch & Transmission - All TA2-USA legal cars are fitted with a Quartermaster or Tilton clutch with an aluminum bell housing and reverse starter. TA2 rules allow an H pattern 4 speed, but options are open for club classes. The G101A is the most affordable, but requires an external pump. The A431 Andrews cost more, but is rugged and precise. Andrews transmissions are refurbished, off-lease from NASCAR and include an internal pump.

8. Steering - Sweet rack and pinion steering is standard and Woodward is now optional. The speed and feel may be tailored to your preference.

9. Fuel Cell - The standard cell is a 26 Gallon Pyrotech with a surge tank and one pump. Fuel options include a fuel pump-out port and a three pump lift system. TA2 events use 22-24 gallons.



2023 West Coast Champion Brody Goble
Brown Brothers Racing



Sweet Rack & Pinion Steering



26 Gallon Pyrotech Cell

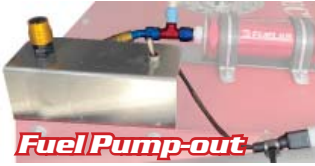
10. Tires and Wheels - 15" x 10", 5x5 steel Basset Inertia wheels. Radial tires require rear camber; Hoosier bias ply tires do not.



15"x10" Basset Wheels

11. Engines - TA2-USA cars use the Trans Am spec "Choice" engine that is about 500 hp at 6800 rpm with the spec ignition. We can install your engine or provide one from your

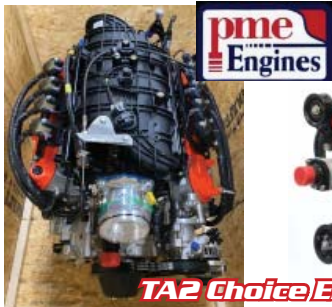
choice of **Katech** or **PME**. Cars that are not competing in TA2-USA may use any engine of similar dimensions. We can install the TA2 spec Motech ECU, or a lower cost GM MEFI 4 ECU with a Global spec LS engine that is not approved for TA2-USA.



Fuel Pump-out



2022-23 V8 Thundercar Champion Andreas Nilsson



TA2 Choice Engines



Dealer for Northern Europe Performance Automotive Scandinavian, AB
Anders Conradzon
Tel: +46 705 55 33 08
Email: anders.conradzon@performanceracing.se

12. Seats - Seats are also sold separately. Race Tech seats are a popular choice, as are custom containment seats from Richardson.

Fire System - Two five-pound fire systems give the driver the option of activating one under the car or in the cockpit. The in-cockpit system has a manual and automatic heat-activated trigger.



2022 Australian Champion Nathan Herne



Fire Suppression



Jacking



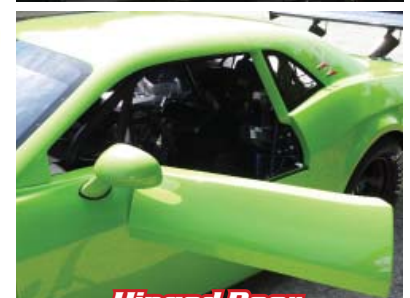
NEW



Hatch Door

Opening Door - The driver's door opens on all TA2 cars. It is your choice to have hinged or hatch. The hatch design is lighter, and the hinge is more convenient.

Jacking - Fixed jack posts are standard with removable posts as a new option. Duco air jacks are now approved for TA2 and are available as an option.



Hinged Door

Manual - Each Howe chassis comes with a 75 page owner's manual. The book covers set-up and adjustment as well as maintenance, torque specs, recommended spare parts and required tools.



Super Copa has two classes similar to TA2; GTM Light is the same chassis as V8 Thundercar while the GTM Pro cars are taller with a six speed paddle shift Holinger transmission, traction control, larger brakes and 18" wheels.

Exclusive dealer for Mexico:
JOUMIC S.A. de C.V.
Michel Jordain
Tel: + 55 4142 1111
Email: micheljl@joumic.com.mx

How to Order a Car - We build cars in any stage from chassis to complete. You may request a quote or complete the attached order questionnaire for an exact itemized price. Prices are an accumulation of all parts and labor. The examples provided are for reference. We require a 50% deposit before production, and the balance on completion.

Ordering Engines - You may purchase engines direct from the builder of your choice, or we can assist you, but you will deal with your builder for rebuilds and engine related questions. We recommend purchasing the ECU and wiring harnesses with your engine to dyno them together. If you do not intend to race in Trans Am, we can supply a lower cost alternative engine.

Inventory and Build Time - We try to keep chassis and shell cars in stock, but frequently sell out. Complete cars are build-to-order, and completion times vary by season. Typical times range from 6 to 12 weeks, starting from the date of deposit. Replacement parts are normally in stock and at the majority of Trans Am events. Car repairs are given priority over new orders during race season.

NORTH AMERICAN PRICE EXAMPLES				
	CLUB		PRO TA2-USA	
Shell Car - Chassis with Body Fire Sys. Installed	\$35,500			
1. Complete Brake System	\$6,780	Wilwood	\$11,461	Alcon, Brembo
2. Front Suspension	\$7,417			
3. Engine Install Kit: Intake, Exhaust, Oil Tank & Lines	\$9,155	Muffler	\$8,323	No Muffler
4. Cooling System	\$1,217	with 1 fan	\$1,553	With 2 fans
5. Electrical, Instrument & Cockpit	\$9,857	AIM MXL2	\$15,388	Pro Wiring AIM MXG, Cool Shirt, Rain Kit
6. Rear Suspension and Quick Change Rear	\$11,615	No Camber	\$13,611	Camber
7. Clutch and Transmission Kit	\$12,145	G101A Trans, Locker, No Camber	\$15,695	A431 Trans. Gleason, Camber, Axles
8. Steering - Sweet	\$3,870			
9. Fuel Cell and System	\$5,571	1 pump and Trap	\$7,166	3 Lift Pumps and Pump Out
10. Basset Wheels with Brass Valve Stems	\$681			
11. Engine, ECU & Harness	\$22,000	Howe Global Spec**	\$35,373	Trans Am Choice, AEM ECU
Ballast & Fasteners	\$920	270 lbs	\$645	180 lbs
Labor to Assemble Complete from Shell	\$9,100		\$9,555	
Chassis and Engine Registration Fees*	\$0	None	\$2,000	Trans Am
Complete less additional options	\$135,828		\$168,189	
Roller: A Shell with 1,2,4,6,8,9,10, & part of 5, assembled	\$92,000			

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Exclusive Dealer for Australia
PBR Distribution
Peter Robinson - Executive Director
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Tel: +61 7 3354 6700

Exclusive Dealer for New Zealand
Eastern Automotive Performance Centre
Paul Manuell
paul@eapc.co.nz
TEL: +64 9 2742941

Australian TA2 Race cars are closer to our Club Package since 2016.



*Chassis registration fee must be paid to a certified chassis builder to register the chassis serial number with Trans Am to be eligible for Pro Events. Engine registration fee must be paid to a certified engine builder to register the engine seal numbers with Trans Am.

**The Howe Global Spec Engine is not approved for TA2 or GT2 in North America.

ADDITIONAL OPTIONS & PRICES			
Exterior Paint	+\$4,125	Subtract for Plastic Nose	-\$1,000
Racetech Seat	+\$2,449	Richardson or Lajoie Custom Speedway Seat	+\$2,660
Adjustable Front Shock Mounts	+\$480	Duco Air Jacks Installed	+\$2,950



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WHEN COMPARING TA2 BUILDERS, CONSIDER THIS:



- We do not go to the track to race against customers; you win, we help.
- Every Howe chassis is made in house, on the same precision fixture.
- Replacement parts are available at national events and on our website.
- Howe continues normal shop hours, while you are racing.
- Our roll bar is FIA spec continuous 1-3/4" x .095 not a halo and a post.
- Chassis are a mix of d.o.m. and 4130 chromoly tubing,
- Howe provides technical bulletin updates by e-mail to chassis owners.
- The roll cage has longer leg protection and easier egress.
- Howe has an on-site test track.



1. Saddle gussets are in critical locations throughout the chassis
2. Howe has performed destructive testing with GM Racing and coauthored

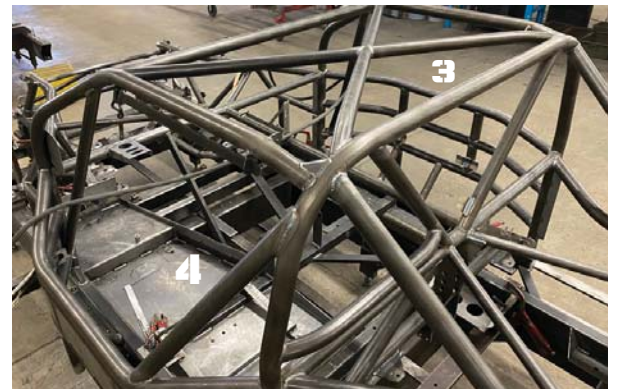
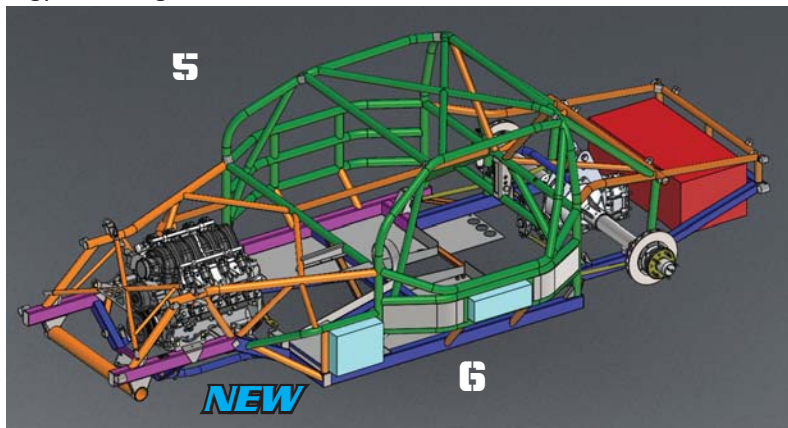
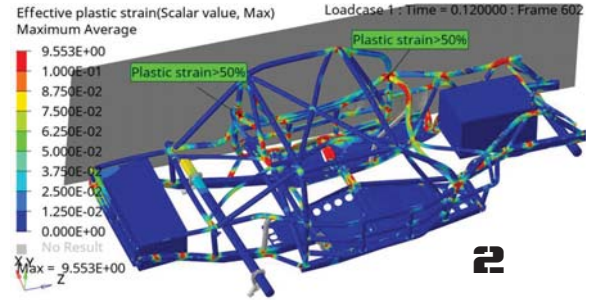
a SAE paper on force deflection. Our work on chassis integrity continues with extensive computer simulations and the incorporation of energy absorbing materials.

3 The Howe roll cage top X member provides greater stiffness and cage strength. The front of the roll cage has reinforcing bars to meet FIA specifications. The entire roll cage meets SCCA Appendix J roll cage specifications to be legal to compete in GT2; not all chassis do.

4 A shoulder bar adds protection and strength to the cage.

5 The cage's right side has three 1-3/4" x .095 door bars, and the battery is safely inside the frame.

6 2024 Chassis have added foot protection and include optional Impax foam energy absorbing blocks.



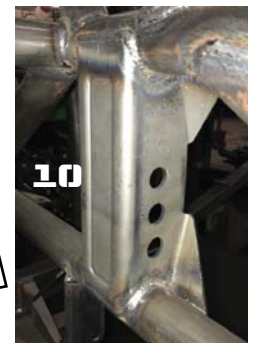
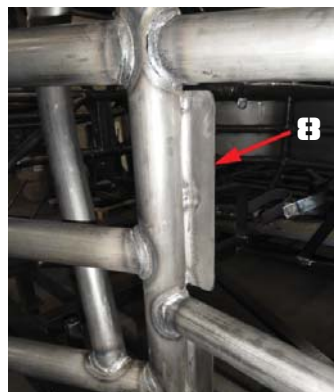
7 Two five-pound fire systems are standard. The driver triggered system provides suppression for the engine and fuel cell area. The second system covers the cockpit and activates by a manual trigger for safety workers, and a thermal trigger near the driver.



8 To prevent drilling holes into the chassis, we weld flanges to attach the interior and secure all wires and lines externally. Some chassis builders drill dozens of holes into critical bars that weaken the chassis and permit water accumulation.

9 Each Howe chassis comes with a comprehensive owner's manual. The manual is 75 pages covering set-up, maintenance, required tools, spare parts, and gear recommendations.

10 Howe suspension mounts are robust as the result of refinements made over 500 similar chassis worldwide. The rear suspension third link mount is a one-piece stamping that eliminates weld-related defects.



- Penske 7300 series double Adjustable - Optional \$\$\$
- Howe 50 series front with Rebound Adjustable -Optional Lower Cost
- No shocks Supplied Other:_____

Group 3. ENGINE INSTALL: INTAKE, EXHAUST, OIL SYSTEM

- Engine Install: Yes No Supplied Purchased from Howe
- Builder: Katech PME Other:_____
- Headers: Howe Coated Ultimate Stainless None
- Muffler: No Muffler, Short System - TA2 Muffler with Long System
- Oil Tank : Rear Mount - 2023-24 Front Mount - 2012-2022 None
- Intake: SLP Box, for EFI - Standard TA2 Cowl for Carb No Intake or Filter

Group 4. COOLING

- Radiator: Howe Radiator and Fan
High Pressure PWR, Single Fan - \$\$\$\$
- Oil Cooler: Air to oil cooler - Standard Internal Heat Exchanger - Option Both

Group 5. ELECTRICAL, INSTRUMENT & COCKPIT

- Dash: AIM MXG Data System with 7" color display - Standard Pro
AIM MXP Data System with 6" color display - Option
Motech Data System - Option
- Analog Gauges Blank Instrument Panel No Instrument Panel
- Wiring: Pro Wiring with Aircraft Relays and Breakers - Standard Pro\$
Original Wiring with Switches and Fuses - Standard Club
- Battery: Optima Red Top - Standard Braille Lithium \$\$\$ No Battery Other
 - Seat : Yes No Purchased from Howe Customer Supplied Mounts Only:
Race Tech Richardson Custom Containment
TA2 Required Left Leg Support Other:_____
- Driver Height:_____, Driver Weight:_____, Driver inseam:_____
- Harness : Yes No Sabelt- Standard Customer Supplied Other:_____
 - Rain: Wiper - Standard for Pro, Option for Club No Wiper
Inner Rain Fenders - Standard for Pro, Option for Club
Defogger - Standard No Defogger
 - Driver Cooler: Cool Shirt System (less shirt) None
 - Communication: Flagtronics Transponder Radio

Group 6. REAR SUSPENSION: Installed In Kit None

- Rear Sway Bar: None Standard, Yes - Option
- Rear Roll Center : Watts Link - Standard Optional Panhard Bar
- Rear Hubs: Steel 5x5 - Standard Aluminum, lighter but good for 1 season
- Shocks, Rear: Penske 7500 series - TA2 Legal
Penske 8300 series double adjustable - Optional \$
Penske 7300 series double Adjustable - Optional \$\$\$
Howe 50 series front with Rebound Adjustable - Club Option, Lower Cost
No shocks Supplied Other:_____

- **Rear End :** **Tiger quick change with pump and Gleason Diff - Standard**
 Winters Aluminum Ford 9" Steel DTS housing Ford 9"
- Optional Differentials : Detroit Locker
- Ford 9" Pump : Optional pump/cooler No pump or cooler
- Drive Shaft: Steel - Standard Steel Premium DTS - Option None
- Axle Snouts: Bolt On - Standard Solid Straight - Lower Cost
Camber: 2° R&L Standard Radial Opt: Left 1.5° 1° .5° 0° Right 1.5° 1° .5° 0°
Drive Plates: Howe Cambered - Radial Tires Straight - Bias Ply

Group 7. CLUTCH, TRANSMISSION

- Trans : G Force G101A with Electric Pump and Cooler None
 Andrews with Internal Pump Other: _____
 29 Spline - Standard Pro 26 Spline - Optional Original
 Pro Ratios: 2022+ TA2 Spec Club: 2.5 1st, 1.59 2nd - Easier Take-off
 Custom: 1st: _____ 2nd: _____ 3rd: _____
- Clutch: **7.25" Quartermaster 2 Dic Rally - Standard**
 5.5" Quartermaster - Optional 7.25" Tilton - Optional \$
 5.5" Tilton 4 disc - Recommended \$\$ Corvette Type
- Bell Housing: **Quartermaster - Standard** Tilton - Optional
 Quick Time Steel - Only with OEM type clutch
- Starter: **Quartermaster - Standard** Tilton - Upgrade OEM Corvette Type

Group 8. STEERING

- Rack & Pin: **005-80343 Sweet 3" Ratio with Separate Servo - Standard**
 Optional Slower Ratio 2-1/2"
- Servo: **Sweet Servo .210 - Standard** X-Light .185, .200 .220 .240 X-Heavy
- PS Pump: Turn One No Pump
- Steer Wheel: MPI 13" Flat Suede-Standard MPI 14" Flat Suede MPI 14" Deep Offset
 Radio Button 14" Economy wheel None

Group 9. FUEL SYSTEM

- F. Cell: **26 gallon Pyrotech - Standard** 24 gallon Pyrotech - Optional None
 Fuel Pump-Out Option - Recommended for Pro Racing
 Pro Racing Fuel Lift System (4 pumps) - Recommended for races over 50 miles

Group 10. WHEELS & TIRES

- Wheels: Basset 15" x 10" - Standard Other: _____ None
- Tires: Hoosier F1045 Bias Pirelli Radial Take-Offs Other: _____ None

Note: We store completed car orders at no charge for 30 days, then there is a \$20 per day storage fee. We have a limited amount of heated storage available.

SPECIAL INSTRUCTIONS: