

# EXAMPLES IN INNOVATION



TOOLINGTECH GROUP

At the pace of business today, manufacturers need to try and simplify their supply chain, while finding partners they know they can absolutely rely upon to deliver. We believe that Tooling Tech Group (TTG) can fulfill those requirements. As a leading manufacturer of tooling throughout the United States, we provide solutions for thermoform molding, high compression composite molding, blow molding, rotational molding, die casting, and stamping, as well as custom automated systems for assembly, joining and inspection applications. The depth and breadth of our capabilities is achieved through the combined experience of our four division, each composed of companies that have all been in business for 30+ years, proving out both industry experience and financial stability.

As a vertically-integrated company, we can also save our customers time and money. We have over 150 machine tools, cranes with up to 60-ton capacity, numerous stamping presses including a 2,750 ton transfer press, as well as our own foundry, to name a few equipment highlights. This in-house capability is spread among 12 strategically located facilities including one in China. We take full responsibility for quality, delivery, and cost management of each project starting at concept through “on time, every time” delivery.

Simply put, Tooling Tech Group offers the largest selection of capabilities and capacity to get your jobs accomplished under one roof.

# TTG Contributions to Vehicle Productions

TTG made the following molds and dies for the production of this vehicle:

- Ⓢ Speaker grills
- Ⓢ Structural components
- Ⓢ Carpets
- Ⓢ Wheel liners
- Ⓢ Package tray



## Contributing Divisions:

- Alpha
- Ⓢ TTT Automation
- Century
- Die Cad
- GH Tool & Mold
- Majestic
- Ⓢ Tooling Technology

# TTG Contributions to Vehicle Productions

TTG made the following molds, die cast dies and tools for the production of this vehicle:

- Ⓢ Keystone module
- Ⓢ Cross members
- Ⓢ Motor mounts
- Ⓢ Bed floor
- Ⓢ Motor housings
- Ⓢ Seating
- Ⓢ Truck box
- Ⓢ Splash shields
- Ⓢ Gearbox
- Ⓢ A-shield
- Ⓢ Gear tunnels
- Ⓢ Tailgate
- Ⓢ Brackets and structures
- Ⓢ Battery tray
- Ⓢ Headliner



## Contributing Divisions:

- Alpha
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- Die Cad
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- Ⓢ Majestic
- Ⓢ Tooling Technology

# TTG Contributions to Vehicle Productions

TTG made the following molds and dies for the production of this vehicle:

- ⦿ Headliner
- ⦿ Frunk
- ⦿ Wheel liners
- ⦿ Structural stamping
- ⦿ Soft trim
- ⦿ Battery enclosure
- ⦿ Gear case
- ⦿ Tailgate tower



## Contributing Divisions:

- Alpha
- TTG Automation
- Century
- ⦿ **Die Cad**
- GH Tool & Mold
- ⦿ **Majestic**
- ⦿ **Tooling Technology**

# TTG Contributions to Vehicle Productions

TTG made the following molds and die cast dies for the production of this vehicle:

- ⦿ Waterfall
- ⦿ Frunk
- ⦿ Isolators
- ⦿ Brackets
- ⦿ Rocker shields
- ⦿ Battery cover
- ⦿ Engine shields
- ⦿ Underbody shields
- ⦿ Headliner
- ⦿ Carpets
- ⦿ Transmission components
- ⦿ Soft trim



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- ⦿ **Tooling Technology**

## TTG Contributions to Vehicle Productions

TTG made the following molds for the production of this vehicle:

- ⦿ Battery cover
- ⦿ Door panels
- ⦿ Trunk floor
- ⦿ Wheel liners
- ⦿ Seating
- ⦿ Load floors



### Contributing Divisions:

- Alpha
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- Die Cad
- GH Tool & Mold
- Majestic
- ⦿ **Tooling Technology**

## TTG Contributions to Vehicle Productions

TTG made the following molds, die cast dies and assembly automation for the production of the C6, C7 and C8 Corvette:

- ⦿ Class-A body panels
- ⦿ Lightweight composite structural panels
- ⦿ Frunk
- ⦿ Load floor
- ⦿ Fenders
- ⦿ Catwalk
- ⦿ Soft trim
- ⦿ Valve bodies
- ⦿ Transmission components



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- ⦿ **Century**
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- Majestic
- ⦿ **Tooling Technology**

# TTG Contributions to Vehicle Productions

TTG made the following molds, die cast dies, and tools for the production of this vehicle:

- ⦿ Composite roof
- ⦿ Roof rails
- ⦿ Composite panels
- ⦿ Structural stampings
- ⦿ Rear aperture
- ⦿ Transmission components
- ⦿ Wheel liners
- ⦿ Soft trim



## Contributing Divisions:

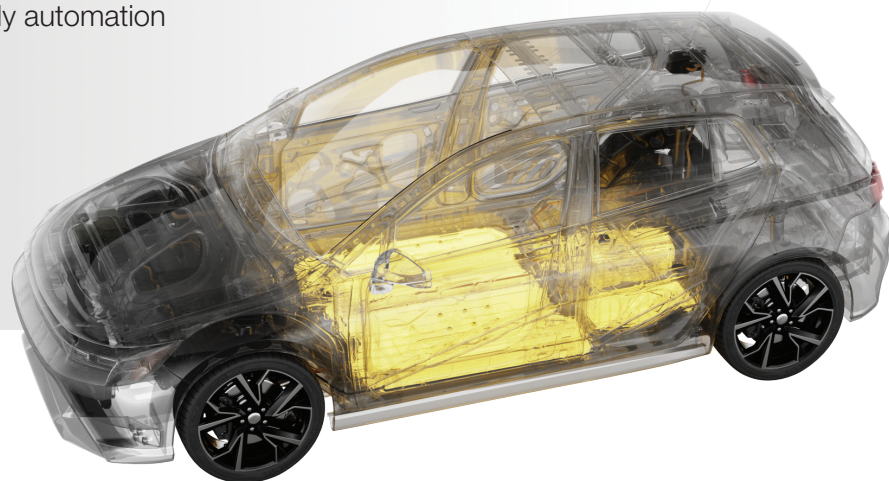
- Alpha
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# TTG Contributions to Vehicle Productions

## BATTERY TRAYS

We produce the molds and die cast dies and assembly automation for EV battery trays; including:

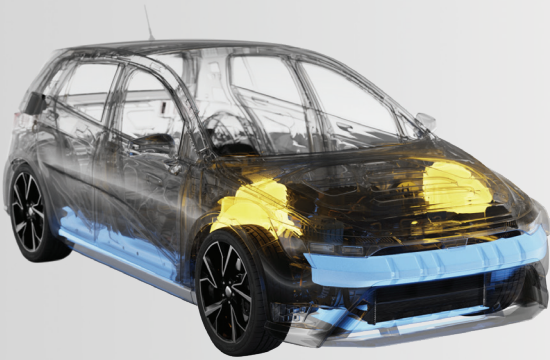
- ⦿ Aluminum tray structures
- ⦿ Composite protective cases
- ⦿ Secondary assembly automation



## Contributing Divisions:

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# TTG Contributions to Vehicle Productions



## SHOCK TOWERS

We produce the molds and die cast dies for the production of light-weight, aluminum shock towers.

## STRUCTURES

We design and manufacture progressive stamping dies as well as have capacity for production of the same with a wide array of presses.



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# TTG Contributions to Vehicle Productions

## SOFT TRIM & NON-WOVEN MATERIALS

We design and build compression molds, thermoform tooling and water jet nests and downstream assembly equipment for:

- Headliners
- Carpets
- Door and dash panels
- Package trays
- Wheel well liners
- Thermo-acoustic panels



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# TTG Contributions to Vehicle Productions

## FASCIAS

We design and build the thermoform, compression molds and automated assembly equipment for automotive and heavy truck.

- ⦿ Fascias
- ⦿ Front-end modules
- ⦿ Grilles
- ⦿ Bumpers
- ⦿ Trim components
- ⦿ Blow molded duct work
- ⦿ Wheel well liners
- ⦿ Plastic engine covers
- ⦿ Seating



### Contributing Divisions:

Alpha  
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Century  
Die Cad  
GH Tool & Mold  
Majestic

### ⦿ Tooling Technology

# TTG Contributions to Vehicle Productions

## DIE CAST COMPONENTS

We design and build high-pressure die cast dies for automotive and heavy truck:

- ⦿ Battery modules
- ⦿ Onboard chargers
- ⦿ Converters and invertors
- ⦿ Stators and rotors
- ⦿ Engine blocks
- ⦿ Oil pans
- ⦿ Starter housings
- ⦿ Motor housings
- ⦿ Lightweight structural components
- ⦿ Rear wheel transmission
- ⦿ Frame rail / cross member
- ⦿ Transmission cases
- ⦿ Valvebody premium internal components



### Contributing Divisions:

Alpha  
TTG Automation  
Century

### ⦿ Die Cad

GH Tool & Mold  
Majestic  
Tooling Technology



# TTG Contributions to Vehicle Productions

## SECONDARY AUTOMATION

We produce full automated drilling, bonding, routing systems and final assembly of composite parts.

## TOOLS FOR COMPOSITES

We produce high compression molds for class-A, surface sensitive outer panels and lightweight structural components.



## MATERIALS

We work with a broad array of materials, including:

- ② SMC: Sheet molded compound
- ② DCPD: Dicyclopentadiene
- ② RTM: Resin transfer molding
- ② RIM: Reaction injection molding
- ② BMC: Bulk mold compound
- ② DLFT: Long fiber thermoplastic
- ② CFRP: Carbon fiber reinforced polymers
- ② GMT: Glass mat thermoplastic

### Contributing Divisions:

- ② Alpha
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# TTG Contributions to Vehicle Productions

TTG made the following molds and dies for the production of this vehicle:

- ② Body panels
- ② Roof
- ② Doors



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- Alpha
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# TTG Contributions to Vehicle Productions

## BONDING AUTOMATION

We produce bonding and drilling systems that provide final assembly of structural and external composite panels.

## TOOLS FOR COMPOSITES

We design and manufacture tooling for composites and high compression molding.



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# TTG Contributions to Vehicle Productions

We made the thermoform plastic body panel molds for the production of this autonomous, electric delivery vehicle.



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# TTG Contributions to Vehicle Productions

TTG made the following molds, dies and assembly equipment for the production of this combine:

- Ⓢ Fan door
- Ⓢ Body panels
- Ⓢ Floor mats
- Ⓢ Brackets
- Ⓢ Headliner



## Contributing Divisions:

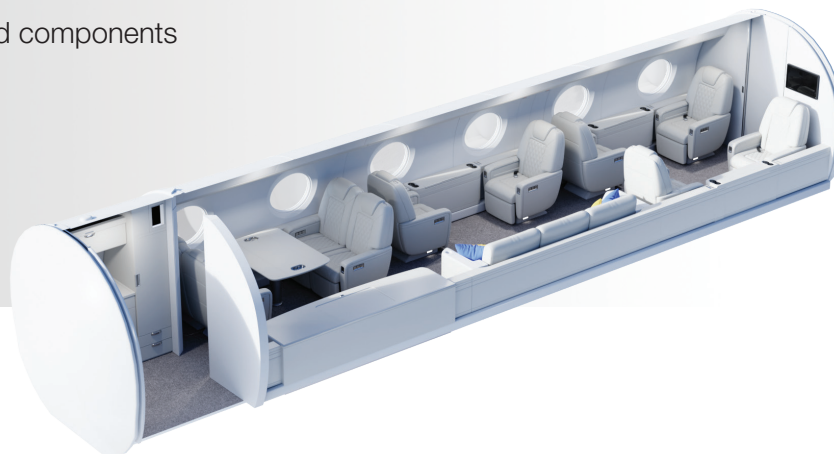
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# TTG Contributions to Vehicle Productions

## THERMOFORM TOOLING

We design and manufacture thermoform tooling for commercial and business craft, including:

- Ⓢ Interior walls
- Ⓢ Partitions
- Ⓢ Cabinetry
- Ⓢ Galley and head components
- Ⓢ Overhead bins
- Ⓢ Seating



## Contributing Divisions:

- Alpha
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- Majestic
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# TTG Contributions to Vehicle Productions

## TOOLS FOR COMPOSITES

We design and manufacture tooling for composites and high compression molding for marine applications, including outboard motor housings and personal watercraft hulls and body panels.



### Contributing Divisions:

- Alpha
- TTG Automation
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# TTG Contributions to Vehicle Productions

TTG made the thermoformed liner for the production of this hot tub. We also product similar thermoforming tools for the production of:

- ④ Bathtubs
- ④ Shower surrounds
- ④ Recreational vehicles
- ④ Boats
- ④ Portable restrooms
- ④ Lawn and garden products
- ④ And more



### Contributing Divisions:

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- ④ Tooling Technology



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