

# 4PL157 CAR LIFT WINTER PARK

## PROJECT OVERVIEW:

A private luxury residence in Winter Park required a heavy-duty vehicle lift system to transfer automobiles from grade level to a large underground garage. The system needed to provide substantial lifting capacity while maintaining the ability to support a second vehicle on the upper canopy platform.

Installed outdoors in Florida's demanding climate, the lift also required a water management solution to prevent rain intrusion into the garage below.

Carousel-USA engineered and delivered a fully customized 4PL157 system designed to meet structural, hydraulic, environmental, and scheduling demands — on time and without compromise.



## THE CHALLENGE: HIGH-CAPACITY DUAL VEHICLE REQUIREMENT

The homeowner required:

- 12,000 LB total lifting capacity
- Ability to keep a vehicle on the top canopy platform during lift operation
- Smooth, controlled travel with commercial-grade reliability

This required precise structural sizing and a hydraulic system capable of safely handling static and dynamic loads — including unbalanced conditions.

## OUTDOOR INSTALLATION & WATER MANAGEMENT

Because the lift is installed outdoors, Florida rainfall posed a significant risk:

- Water passing through the lift pit gap
- Potential flooding of the underground garage
- Long-term exposure to moisture and corrosion

A conventional installation would not provide adequate protection. A custom drainage system was required.



## ACCELERATED CONSTRUCTION TIMELINE:

Although the residence was part of a multi-year construction project, lift fabrication and installation had to occur within a compressed one-year build schedule. Engineering, manufacturing, and installation had to align precisely with the builder's timeline.

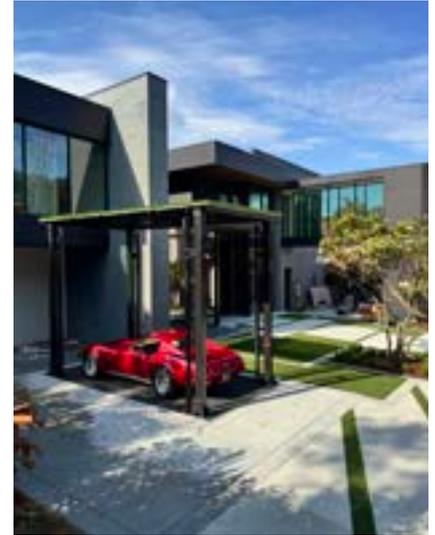
## THE SOLUTION: ENGINEERED STRUCTURAL & HYDRAULIC PERFORMANCE

Carousel engineers utilized computer load modeling to properly size the structural framework and ensure stability under demanding load conditions.

The system includes:

- **12,000 LB lifting capacity**
- Chain leveling system to maintain platform alignment under uneven loads
- 7.5 HP Hydraulic Power Unit
- Safety velocity fuses for controlled operation
- 96" per minute travel speed
- Main and auxiliary push-button control stations

The result is smooth, consistent, and powerful vertical travel with commercial-grade durability.



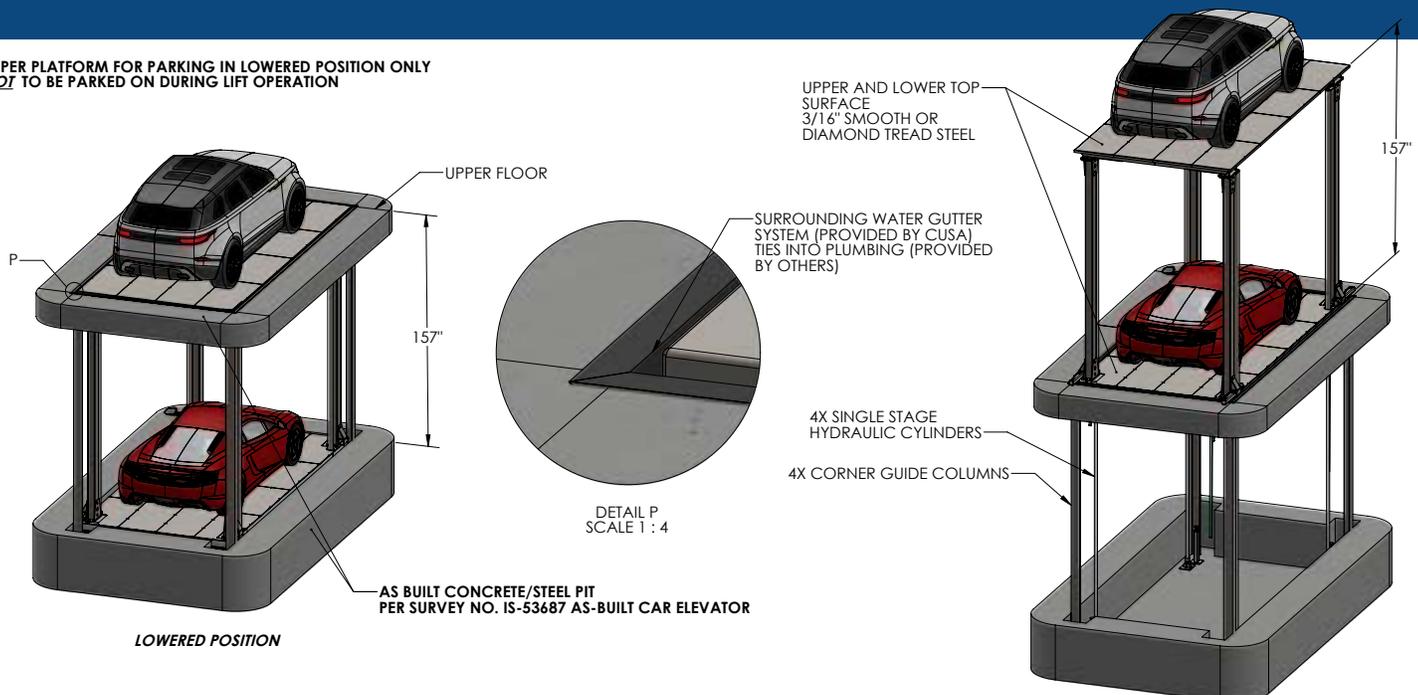
## CUSTOM INTEGRATED DRAINAGE SYSTEM

To mitigate water intrusion, Carousel designed and fabricated a perimeter gutter system consisting of:

- A custom-fabricated trough surrounding the lift pit
- A precision sheet metal top panel integrated with the lift surface
- Controlled diversion of water into a designated drainage system

This engineered solution significantly reduces water entering the pit and protects the underground garage from flooding — a critical feature for outdoor residential installations in high-rainfall environments.

**UPPER PLATFORM FOR PARKING IN LOWERED POSITION ONLY**  
**NOT TO BE PARKED ON DURING LIFT OPERATION**



## STREAMLINED PRODUCTION & ON-TIME DELIVERY

Carousel met the aggressive build schedule by:

- Streamlining fabrication processes
- Leveraging prior installation experience
- Coordinating closely with the construction team
- Eliminating production inefficiencies

The lift was delivered and installed on time, supporting the overall construction schedule without delay.

## KEY DESIGN FEATURES

- 12,000 LB total lifting capacity
- Dual-vehicle functionality (vehicle supported on top canopy platform)
- Custom perimeter drainage gutter system
- Chain leveling system for balanced lifting
- 96" per minute travel rate
- 7.5 HP hydraulic power unit
- Safety velocity fuses
- Main and auxiliary push-button controls
- Commercial-grade components
- Designed and built in the USA

## PROJECT OUTCOME

The 4PL157 installation at 581 Sylvan Drive demonstrates Carousel-USA's ability to:

- Engineer high-capacity custom lift systems
- Solve site-specific environmental challenges
- Integrate seamlessly into luxury residential construction
- Deliver performance-driven solutions within demanding timelines

This project reflects Carousel's commitment to precision engineering, durability, and American-built quality.

