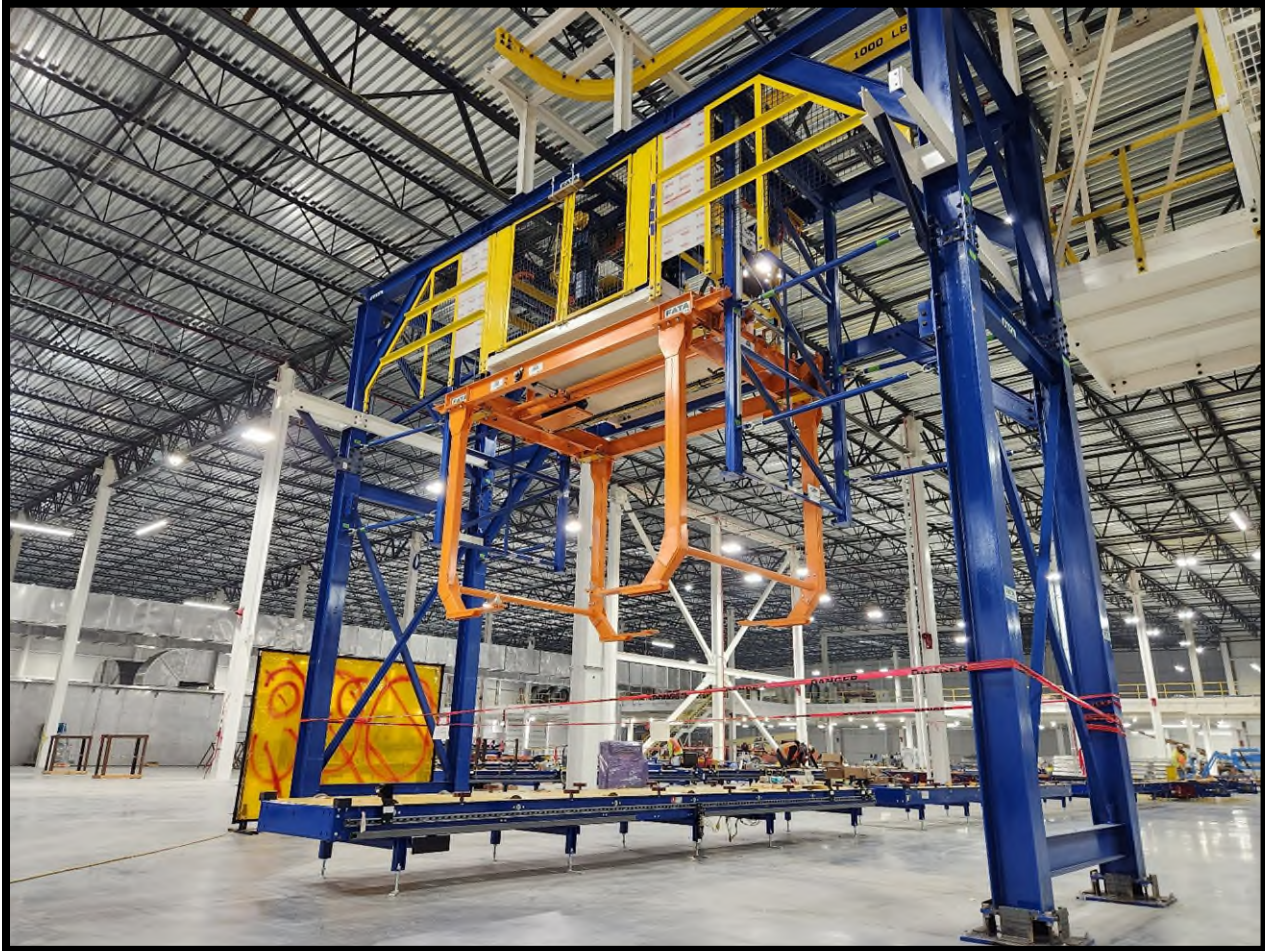


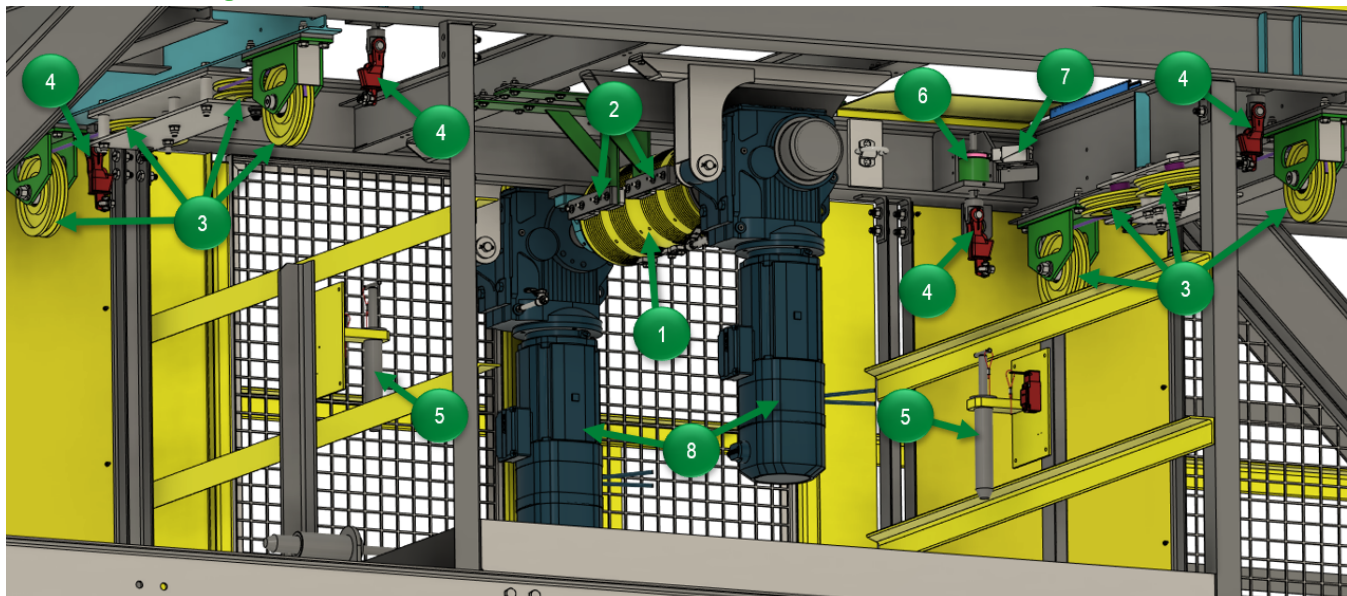
## 4-Post Lift Components

Your 4-post lift contains the following major components:

- 4-Post Lift Drive Unit
- 4-Post Carriage Assembly



## 4-Post Lift Drive Unit



- |                  |                      |                        |
|------------------|----------------------|------------------------|
| 1 Wire Rope Drum | 4 Fixing Pin         | 7 Tension/Slack Switch |
| 2 Cable Retainer | 5 Safety Locking Pin | 8 Gearmotor            |
| 3 Pulley         | 6 Tension Spring     |                        |

### 4-Post Lift Drive Unit Overview

The 4-Post Lifts are integral to the Underbody Sealer (UBS) robot cells and Manual Sealer, lifting vehicles off the skid to provide necessary clearance for the robot arms to complete their cycle. Each lift is equipped with two gearmotors—one designated as the primary motor and the other as a standby. The motor shafts are connected to a central drum, which controls the winding and unwinding of the wire ropes during operation.

The wire ropes extend from the drum to pulleys mounted at the width of the carrier. Each side features distinct pulley configurations:

- **Narrow pulleys** are angled to guide the inner two wire ropes, which extend from the base of the drum.
- **Wide pulleys** are leveled to direct the outer two wire ropes, which extend from the top of the drum.

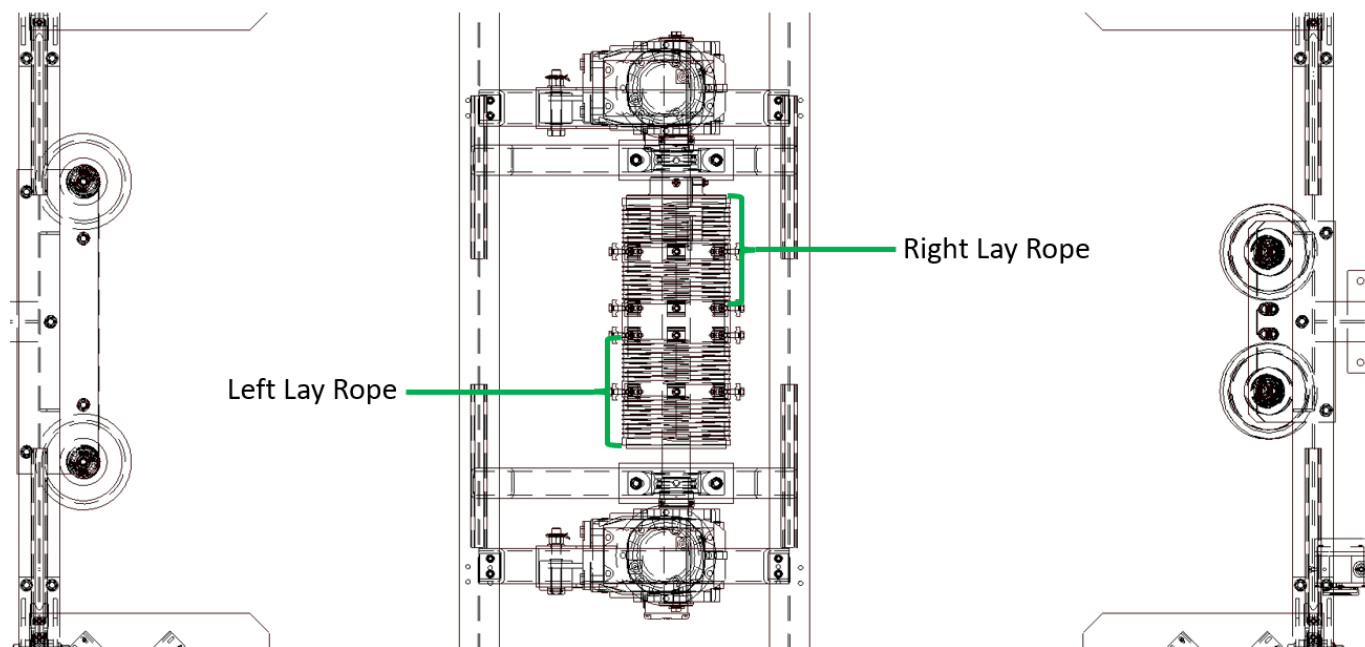
The wire ropes then descend through drop pulleys toward the carriage assembly, ultimately anchoring at fixing pins located above the four corners of the carriage.

Each fixing pin is equipped with a spring and a tension/slack switch, which continuously monitors the wire rope's tension. If tension falls outside the recommended range, the system will automatically stop to prevent damage or malfunction.



▲ Fixing pin attached to a tension/slack switch

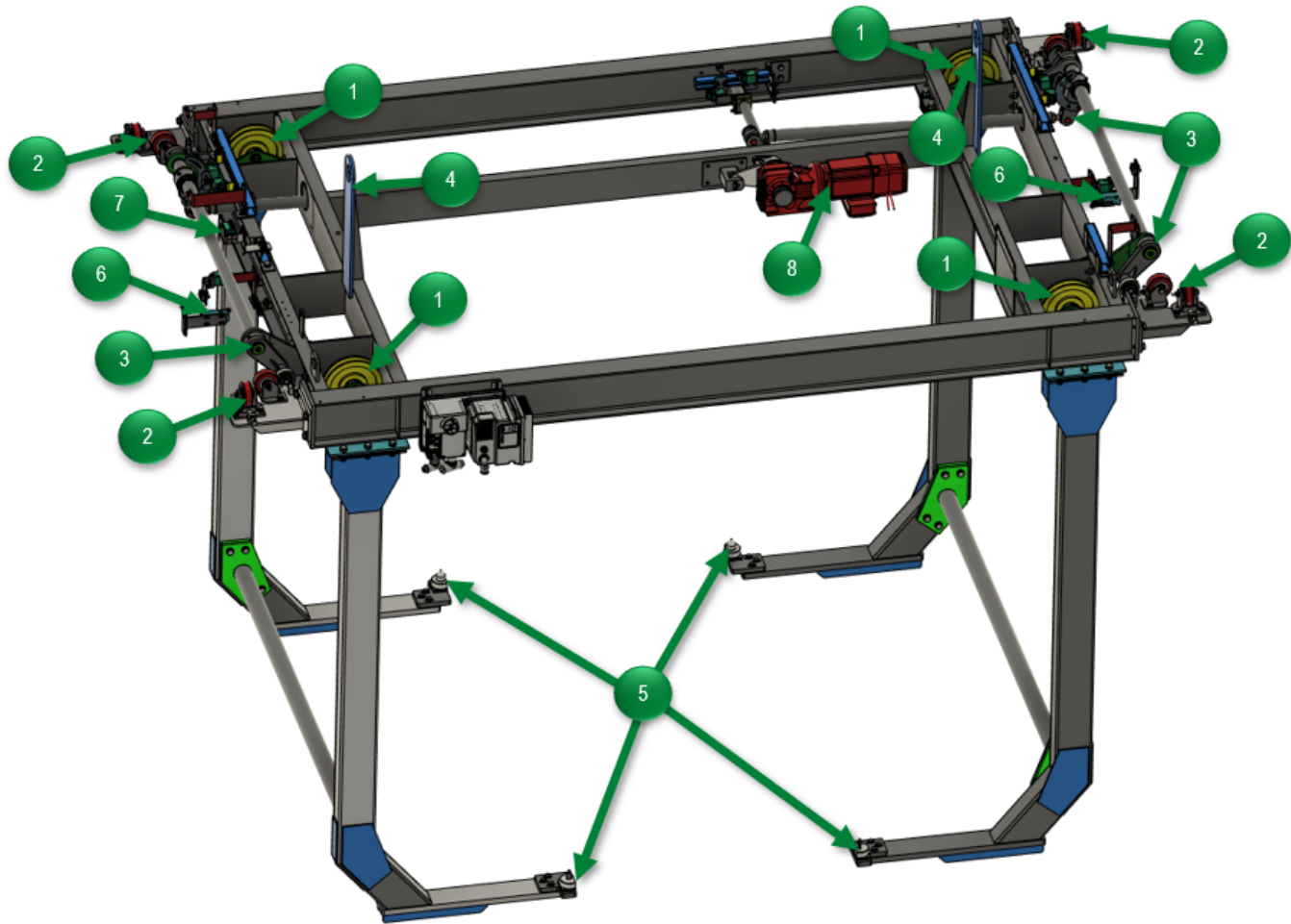
On the drive unit platform, a safety locking pin is installed to engage a switch when removed. This pin is a critical safety feature, ensuring the system is properly locked before maintenance or servicing. Additionally, an encoder is integrated into the system to accurately track the carrier unit's position and travel distance.



### 4-Post Lift Drive Unit Rope Lay

Within the 4-Post Lift, there are four wire ropes: two left lay ropes and two right lay ropes. Each drum groove has a specific rope that it utilizes. Both rope types are fabricated to be used at their designated drum groove locations and are ***not interchangeable***.

## 4-Post Lift Carriage Assembly



- |                 |                           |                         |
|-----------------|---------------------------|-------------------------|
| 1 Pulley        | 4 Carrier Lockout         | 7 Code Rail Reader Head |
| 2 Guide Wheel   | 5 Part Touching Detail    | 8 Gearmotor             |
| 3 Alignment Arm | 6 Overtravel Limit Switch |                         |

### 4-Post Lift Carriage Assembly Overview

The Carriage Assembly supports the vehicle as it is lifted off the skid. A centrally mounted gearmotor engages the alignment arms when the Carriage reaches its designated position. This motor controls the movement of the alignment arms, located on both sides of the Carriage. The arms extend when the Carriage is at the top of its stroke.

Each alignment arm is equipped with two proximity sensors that detect whether the arm is in the extended or retracted position.

Guide wheels are positioned at each corner of the Carriage. These wheels travel along the vertical columns of the lift frame, ensuring smooth movement and maintaining alignment throughout the Carriage's vertical travel.

The wire rope from the drive unit is routed through pulleys mounted at the four corners of the Carriage. The Carriage is lifted via these pulleys.

At the ends of the Carriage arms are two sets of vehicle contact components: pins and pads. These components are shimmed for precise adjustment and serve as the primary contact points between the vehicle body and the 4-Post Lift.

Overtravel limit switches are mounted on both sides of the Carriage, along with a code rail reader head that monitors the Carriage's vertical position throughout its motion.



▲ Lockout pin