

**CITY OF NEW YORK
DEPARTMENT OF BUILDINGS**

Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use in accordance with the Report of Materials and Equipment Acceptance (MEA) Division.

**Satish K. Babbar, R.A., Acting Commissioner
MEA 52-00-E**

Report of Material and Equipment Acceptance Division

Manufacturer – Edison Parking Corporation, 100 Washington Avenue, Newark, NJ 07102.

Trade Name(s) – Edison Parking.

Product - Four high parking lift.

Pertinent Code Section(s) - Reference Standard Section 27-990, 27-991 and RS 18-3

Test(s) - Computations and Load Tests witnessed and sealed by Dr. Ahmed Shaaban, P.E., New York State P.E. License No. 0627341.

Test Report(s) - Computations and test performed by Dr. Ahmed Shaaban, P.E., letter dated March 14, 2000. For Model EDLEFT-4000, a four level lift with three lifting platforms, the top, center and bottom platforms were load tested simultaneously. The top platform was load tested with a total load of 12,437 lbs., the center platform was load tested with a total load of 12,635 lbs., and the bottom platform was load tested with a total load of 14,704 lbs., for a total system load of 39,776 lbs. "No significant deformations were observed during the test. The device passed the load test without cracks or permanent deformation."

On January 29, 2001, Dr. Ahmed Shaaban, P.E., R.A., witnessed two lateral load tests: Test Report No. AS-000016.

In the first test the platforms were concurrently loaded with 1,000 lbs each, for a total lateral load of 3,000 lbs. In the second test each of the three platform was concurrently loaded with a lateral load of 2,000 lbs, for a total of 6,000 lbs.

The load on each platform was applied by a dedicated mechanical lever that amplified by 8 times a 240 lbs dead load place on the lever arm, and by 4 times the lever arm itself weighing 20 lbs, for a total of 2,000 lbs on each platform. All three levers were supported on an A-frame, separate of the lift.

All connections, welds, bolts, structural elements, and platforms held their integrity during the test. No significant deformations were observed during the test.

Description - The model EDLEFT-4000 is a four level automobile lifting device that converts one ground parking space into four. It contains three lifting platforms capable of lifting three vehicles (one at a time) leaving a parking space underneath at ground level for a car. It contains three (3) lifting platforms which, when in the lowermost ground level position are nested one on top of the other. The upper platform is lifted seventy-five (75) inches to the first position; the upper and center platforms are then lifted together one hundred fifty (150) inches to the second position, then finally the upper platform together with the center platform and the bottom platform are lifted an additional seventy five (75) inches to a final height of two hundred and twenty five (225) inches, allowing seventy five (75) inches below the bottom platform to park a car at ground level.

Lifting is achieved using four (4) each nine-sixteenth (9/16) inch galvanized steel cables. Each with a minimum breaking strength of 26,200 lbs. These steel cables are coupled over sheaves through a main block assembly to a hydraulic cylinder.

The main structure consists of four AISC W8x25 columns braced at the top by knee braces in all vertical plains. Each column is fixed at the base by four 3/4" ASIC A-325 mechanical wedge bolts.

The top horizontal beams are made of ASTM A500 Grade B steel ensuring a minimum of 46 ksi yield stress.

All the columns and tube beams used satisfy Section 1.9 ACIS Specifications.

All welded connections are done in the shop using E70XX electrodes, and conform to the AWS Code. All field connections are made using ACSI A-325 bolts. No field welding was used in the erection of the unit.

The platforms which raise the cars, are constructed from solid unperforated eleven (11) gauge (0.1196 inches) high strength COR'TEN steel sheet with integral bent curbs at each side and a raised center section. The platforms are laterally braced at one end with a thirty-nine (39) inch wide piece of five-sixteenths (5/16) inch hot-rolled, high strength plate that is formed and then welded into place. At the other end is an eleven (11) inch wide piece of seven (7) gauge (.1793 inches) high strength plate that is formed and then welded into place.

The structure and platforms come prewelded and preassembled. The units are bolted together in the field with three-quarter (3/4) inch steel bolts.

The hydraulic system which raises and lowers the platforms consists of a pump and motor and electrical valves which are operated by a twenty four (24) volt control circuit. the hydraulic circuit automatically maintains a steady rate of descent. The units are equipped with mechanical safety latches to maintain the load in the raised position. A pressure compensated hydraulic overload prevention circuit precludes the operation of the unit with a total load greater than 12,000 lbs.

Each appliance is equipped with a safety latch circuit so that a car cannot be lowered unless the operator pulls a release latch at the same time he actuates a discrete hydraulic lowering circuit by separate key operated switch. All platforms raise and lower in a horizontal position.

Cars are position on the platforms in such a way that one set of wheels is between the four (4) inch high steel curbs and the wheel stop welded to the front end of the platform. The other set of wheels is between the four (4) inch high steel curbs and the drive on ramp of the rear end of the platform, which the car must ride over in order to achieve its final position prior to being raised.

Starting approximately thirty six (36) inches from the ground an independent manually operated safety locking system holds the full weight of the cars on the platforms. This system engages at six (6) inch increments over the full lifting height of the unit. This system operates independently of all other electric or hydraulic operating systems.

Recommendation - That the above Model EDLEFT-4000 be accepted for indoor and outdoor use also with the following conditions:

Indoor Use:

1. Installation of the lift shall be in sprinklered garages, which also have side wall sprinklers to protect the lower vehicle parked on the lift. The side wall sprinklers shall be protected from mechanical injury. The sprinkler pipe sizes shall be adequate to supply the additional side wall sprinklers.
2. Plans shall be filed and approved by the Department of Buildings for the alteration of the existing sprinklers system and tie-in of the additional sprinklers. Hydrostatic tests of the sprinkler system components shall be witnessed and approved by the Fire Department and Department of Buildings.

3. The floor loads shall be recalculated for the additional weight of the lift and the cars, and filed with the Buildings Department by a structural Professional Engineer for adequacy.
4. The indoor use shall be limited to garages with a minimum of 28'-0" ceiling height plus adequate distance for sprinkler coverage.
5. Garages that do not have pre-existing sprinklers, the sprinklers system shall be designed for "High Piled Storage"

Outdoor Use:

1. The car lift shall only be used in attended open parking lots.
2. The requirements of Section 27-4080 of the Administrative Code shall be complied with.
3. Each proposed use of the car lift shall be submitted to the Department of Buildings to determine whether it complies with the Zoning Resolution and whether the soil conditions are adequate. Each unit shall have suitable anchorage of its structural members and integral base plates into concrete footings, the strength, size, and depth of which shall be based on an assumed weight of 6,000 lbs. for each car.

In addition, the anchorage of the appliance shall be designed to meet the 75-mph wind load requirements (say 1,000 lbs side load per level in any direction). The foundation and the steel framing and connections shall be designed adequately to support the above loading combination.

4. Where the property is located in or about residentially zoned districts, this device shall not be located at the first row of cars or within 20 feet of the property line, whichever distance is greater.

For Both Indoor and Outdoor Use:

1. All regulations of Department of Consumer Affairs shall be complied with.

2. Each proposed use of the car lifts shall be submitted to the Department of Buildings to determine whether it complies with the Zoning Resolution.
3. Model EDLEFT-4000 lift shall not be used to park or store any vans, trucks, recreational vehicles or any other type of vehicle other than passenger cars capable of seating up to 6 persons and weighing a maximum of 5,000 lbs. each car.
4. Drawings and specifications shall be filed with Department of Buildings Elevator Division for each site.

All shipments and deliveries of such equipment shall be provided with a metal tag, suitably placed, certifying that the equipment shipped or delivered is equivalent to those tested and accepted for use, as provided for in Section 27-131 of the Building Code.

Final Acceptance March 28, 2001

Examined By Mark Juby