ARROW LIFT

STRUCTURAL LIFTING SYSTEM

FAILSAFE
HOUSE LIFTING SYSTEMS

HELPING YOU REACH HIGHER GROUND

UNRIVALLED SAFETY PERFORMANCE

Flood events, structural foundation failures, insurance requirements, and increasingly densified residential housing development have resulted in the growth of a global market for structural lifting. Developed by Failsafe House Lifting Systems, the ArrowLift is an engineered, steel-fabricated structural lifting system that provides a clear-span work environment under the structure for construction or moving purposes. It is the safest and most advanced structural lifting system available for contractors who want to capitalize on the growing need for lifting services.

SYSTEMATIC AND FLEXIBLE APPROACH TO STRUCTURAL LIFTING

A standard ArrowLift system configuration consists of 4 - ArrowLift towers, 2 - 60-foot primary lifting beams, and 2 - 30-foot secondary lifting beams and provides a total lift capacity of 80 tons. The ArrowLift tower features a continuous travel, mechanical dual-drive system with a 20-ton load capacity, and a maximum lift height of 17 feet. The threaded actuator design of the ArrowLift means a lifted building is always on structure, is never a live load, and allows for height adjustments throughout the course of a project. Additional towers and beams can be added if increased lifting capacity is required.

HIGH PERFORMANCE AND RELIABILITY ONSITE

COMPACT LOADING AND TRANSPORT

The modularity of the ArrowLift means an entire 4 tower system can be transported with a single semi-transport truck and a standard 53 foot flat or drop deck trailer. Collapsible tower bases allow for stacking during transport.

VERSATILE POWER OPTIONS

Hydraulic pressure is used only to drive system motors and can be supplied from a skid loader pump, an excavator's hydraulic system, or other auxiliary equipment that includes hydraulic connections and a compatible flow rate that will support the system.

MAXIMUM MANEUVERABILITY

During preparation for a structural lift, the towers are located outside the perimeter of the building. The primary lifting beams are positioned beneath the structure and are bolted to the secondary lifting beams which are inserted into the lifting yokes of the towers. When the entire system is assembled and locked together, the system functions as a temporary foundation.

LEVEL AND STABLE

Each ArrowLift tower is supported by a 6′ x 6′ base. Optional 8′ base extensions with outrigger-jacks are available if needed, to level the towers and provide additional stability at maximum lift heights, or in challenging site conditions.

ARROWLIFT STRUCTURAL LIFTING SYSTEM SPECIFICATIONS

SINGLE TOWER PERFORMANCE

Tower Height Retracted	11′ 4″	3.454 m
Tower Height Extended	20′ 3″	6.172 m
Tower Foot Print Extended	6′ 1″ x 6′ 3″	1.85 x 1.9 m
Tower Foot Print Retracted	6′ 1″ x 2′ 5″	1.85 x .74 m
Lift Height Stage 1	8′ 2″	2.49 m
Maximum Lift Height Stage 2	17′ 1″	5.21 m
Service Load	30,000 lbs	13,608 kgs
Peak Load	40,000 lbs	18,144 kgs
Break Away Peak Lift	50,000 lbs	22,680 kgs
Weight	3,800 lbs	1,724 kgs
Lift Speed (Avg.)	3″ / min	7.62 cm / min

LIFTING BEAMS

Primary Lifting Beams

- Double-wide W18@60. (combined double-wide weight is 120 lbs/ft).
- Primary lifting beams offered in 30′ sections. 4 - 30′ bolt-together sections total.
- 60′ primary lifting beam is comprised of 2 - 30′ sections (bolted together).
- Weight - 30′ section: 3,600 lbs / 1,633 kgs (approx.).
- Weight - 60′ section: 7,200 lbs / 3,266 kgs (approx.).
- Beam Dimensions: 15 ¼″ tall x 18 ¼″ wide x 30′ long
- 2 - bolt on beam noses included.

Secondary Lifting Beams

- Double-wide W12@35. (combined double-wide weight is 70 lbs/ft).
- Secondary beams offered in 30′ sections. 2 - 30′ sections total.
- Weight - 30′ section: 2,100 lbs / 952.5 kgs (approx.).
- Beam Dimensions: 12 ½″ tall x 16″ wide x 30′ long.
- 3″ space between double-wide beams to accommodate suspension rods.
- 2 - bolt on beam noses included.

SYSTEM REQUIREMENTS

Hydraulic Power Unit

- System requires connection to a hydraulic pump with a 30 GPM@3000 psi flow rate. Typically supplied by an excavator such as a Bobcat S650.
- Control System casement box on fork-able pallet.
- 9 - 100' x ½". hydraulic line (control to tower) with quick couplers.
- 2 - 20' x ¾" hydraulic line (control to hydraulic pump) with quick couplers.
- 2 - section manual directional control valves.
- 4 - panel mounted pressure gauges.
- 4 - station type flow dividers.
- 8 - ½" quick couplers connect control to towers.
- 2 - ¾" quick couplers connect control to hydraulic pump.

SYSTEM FEATURES

- Continuous travel lifting - No resets required.
- System Safety Redundancies – Double-threaded actuators always locked when not in motion. Load is always on structure.
- Collapsible bases allow for compact transport via boat or aircraft to remote locations.
- Accessible lubrication for all drive components.
- Two separate mechanical lifting systems per tower: Beam Yoke & Tower Extension.
- Each lifting system includes a pair of high grade steel actuators, traveler nuts, high weight capacity thrust bearings and pillow block bearings.
- Each system uses a high torque fixed displacement Geroler motor with quick attach couplers.
- System Capacity is expandable with additional towers.

ACCESSORIES & OPTIONS

Base Extensions - Increase effective base footprint for additional lifting stability or tower levelling.

Base Outrigger Stability Jacks - Increase tower stability along excavation edges.

Tower Levelling Jacks - Device for initial levelling of towers.

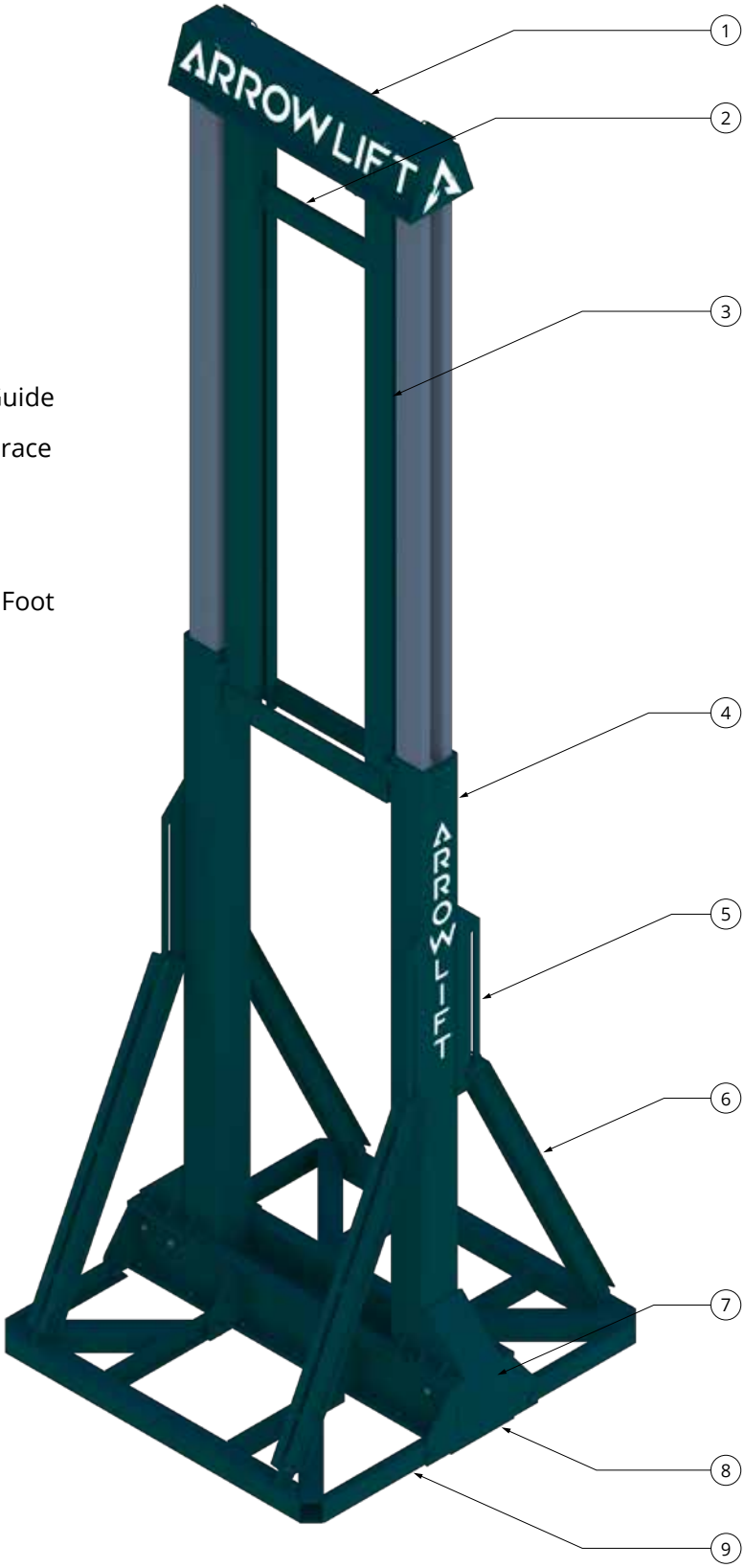
Custom Tower Heights - Special order customization for higher lift systems may be available on request. Contact Failsafe for more information.

Beam Accessories - Beam Suspension, Attachment & Rigging kits.

Load Sensor - Device for measuring load on tower. Available on request.

LIFTING TOWER DETAIL

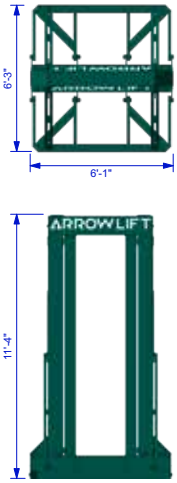
1. Stage 2 Drive
2. Beam Yoke
3. Stage 2 Leg
4. Stage 1 Leg
5. Incline Slide Guide
6. Incline Slide Brace
7. Stage 2 Drive
8. Base
9. Pivoting Base Foot



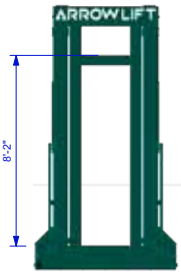
LIFTING TOWER OPERATIONAL POSITIONS

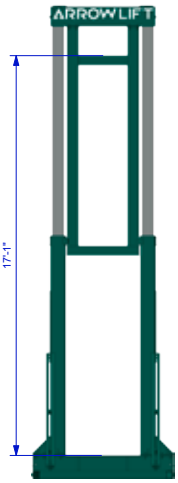
Storage - Transport Position

Lowered Position



Raised Position - Stage 1





Raised Position - Stage 2

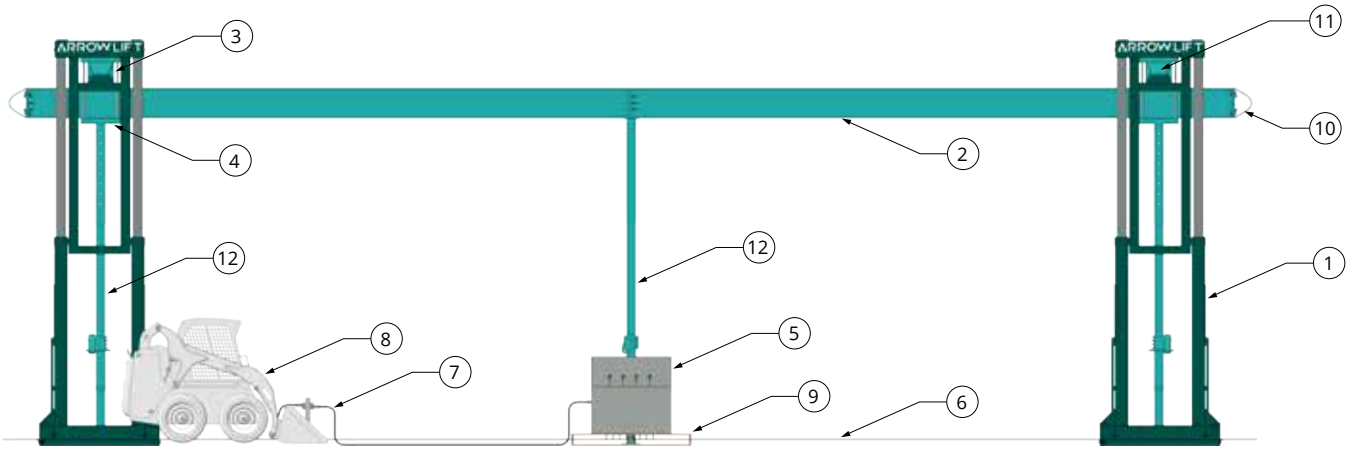
Storage - Transport Position

Lowered Position

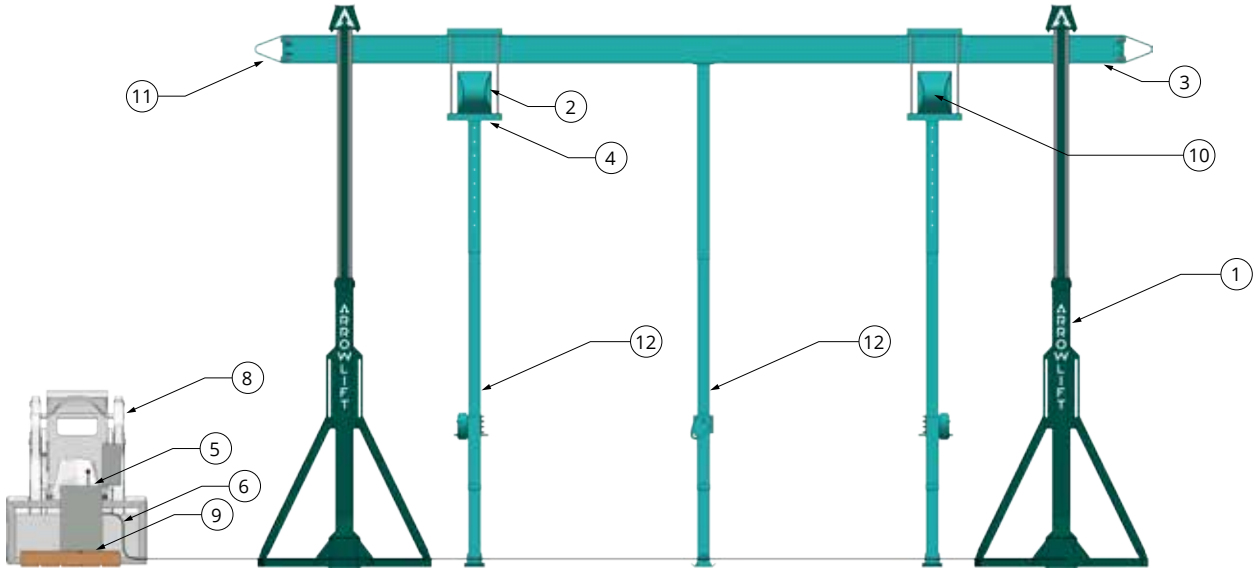
Raised Position - Stage 1

Raised Position - Stage 2

30’ X 60’ SYSTEM CONFIGURATION



1. ArrowLift Tower
2. 60’ Primary Lifting Beam [2 x W18@60]
3. 30’ Secondary Lifting Beam [2 x W12@30]
4. Beam Suspension Plates
5. Hydraulic FD Controller
6. Hydraulic Lines ½”
7. Hydraulic Lines ¾”
8. Hydraulic Pump Source
9. Controller Pallet Base
10. Primary Lifting Beam Nose
11. Secondary Lifting Beam Nose
12. Stability Jack



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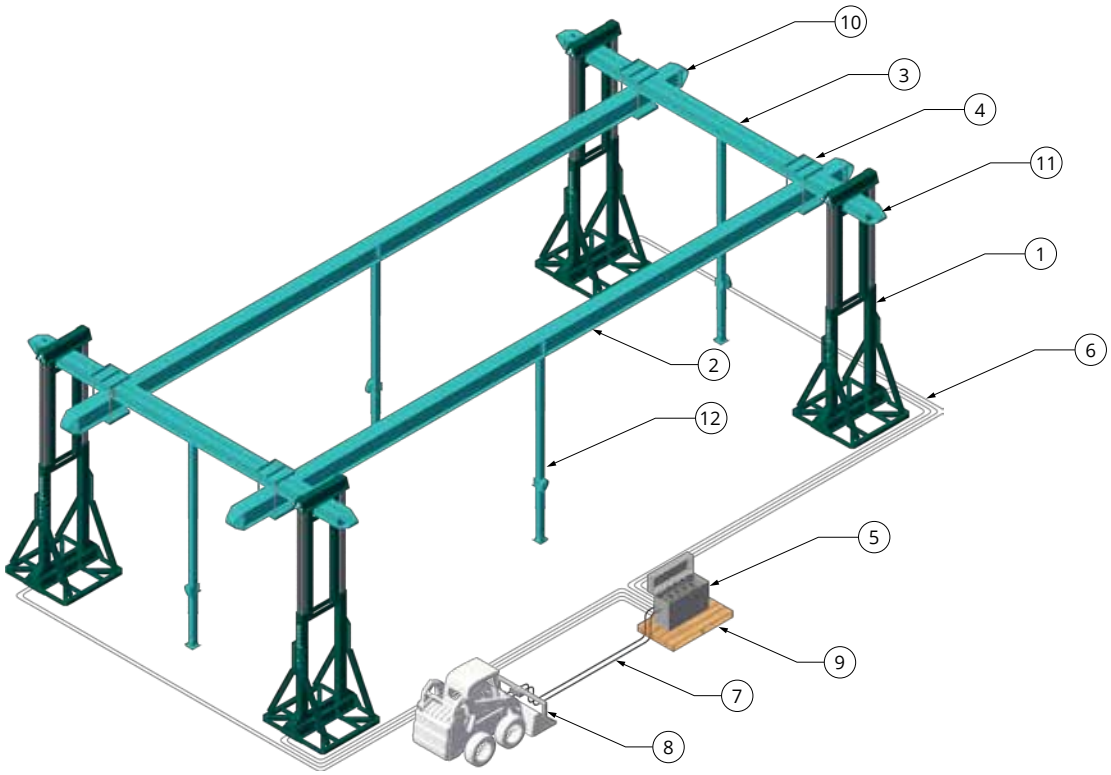

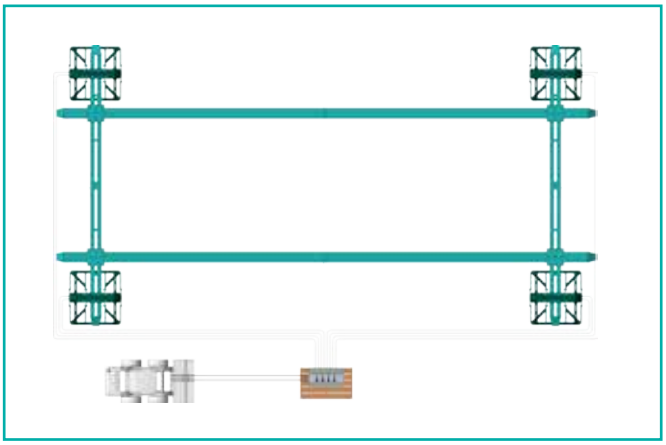

FAILSAFE HOUSE LIFTING SYSTEMS

We provide solutions for elevating structures for foundation construction purposes and flood damage mitigation. Our focus is on the continuous development and sales of the foremost structural lifting technologies available anywhere on the market today. There are emerging markets found globally for lifting structures as a result of property damage associated with flood events, new basements for an aging housing stock, and sublevel residential housing redevelopment in high density urban areas.

We pride ourselves on manufacturing innovative, systematic, and safe structural lifting systems of outstanding quality.

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