NATIONAL
FORMING SYSTEMS

EAGLE

Self Climbing Hydraulic System

- Crane independent
- Single stroke climbing sequence at the rate of 1.0 m /min
- Computerized controled climbing
- Operated by remote control

INTRODUCTION of construction technique

Concrete forming of central cores with stairs and elevator shafts of high-rise buildings is a demanding construction process that requires highly skilled labor, many forming labor hours and considerable crane time to assemble,disassemble and relocate forms from forming position to and from storage area during construction.

National Forming Systems Inc. introduced Self Climbing Hydraulic Systems in 1996, providing considerable advancement in formwork for building concrete cores, overcoming conventional shortfalls.

Today, the most economical and advanced self-climbing hydraulic system for construction of building cores is the **EAGLE** Self Climbing Hydraulic System, that includes leading edge innovations and the use of computerized technology,resulting in a more cost effective, faster and safer concrete forming system.

ADVANTAGES

CRANE INDEPENDENT

EAGLE Self Climbing Hydraulic System is a completely self-sufficient unit that does not require any crane time during construction in order to support operation. Crane time is only required for assembly of **EAGLE** Self Climbing Hydraulic System at the beginning of the project and for disassembly at the end of the project.

CLIMBING SEQUENCE

Having hydraulic cylinder stroke of floor to floor height, **EAGLE** Self Climbing Hydraulic System climbs in a single sequence (stroke) for the entire floor height with the climbing speed of 1.0 m/min.

INTEGRATED SYSTEM

Another feature and advantage of **EAGLE** Self Climbing Hydraulic System is the simultaneous lifting of HYSICO Box form core structure, as well as outside core wall forms, working platforms and placing boom, at the same time.

REDUCED SET UP TIME

Lifting of entire core wall form structure at the same time results in more cost effective, faster and safer concrete forming, minimizing set-up time for next concrete pour.

REMOTE CONTROL

Lifting of **EAGLE** Self Climbing Hydraulic System is accomplished with iPad or iPhone as remote control devices.

CLIMBING IN ALL WEATHER CONDITIONS

EAGLE Self Climbing Hydraulic System can be used regardless of weather conditions, either extreme temperatures or high wind factors, as system is attached to the previously poured concrete structure at all times. Working platforms can be enclosed to protect and ensure a safe and comfortable working environment.

SYSTEM COMPONENTS

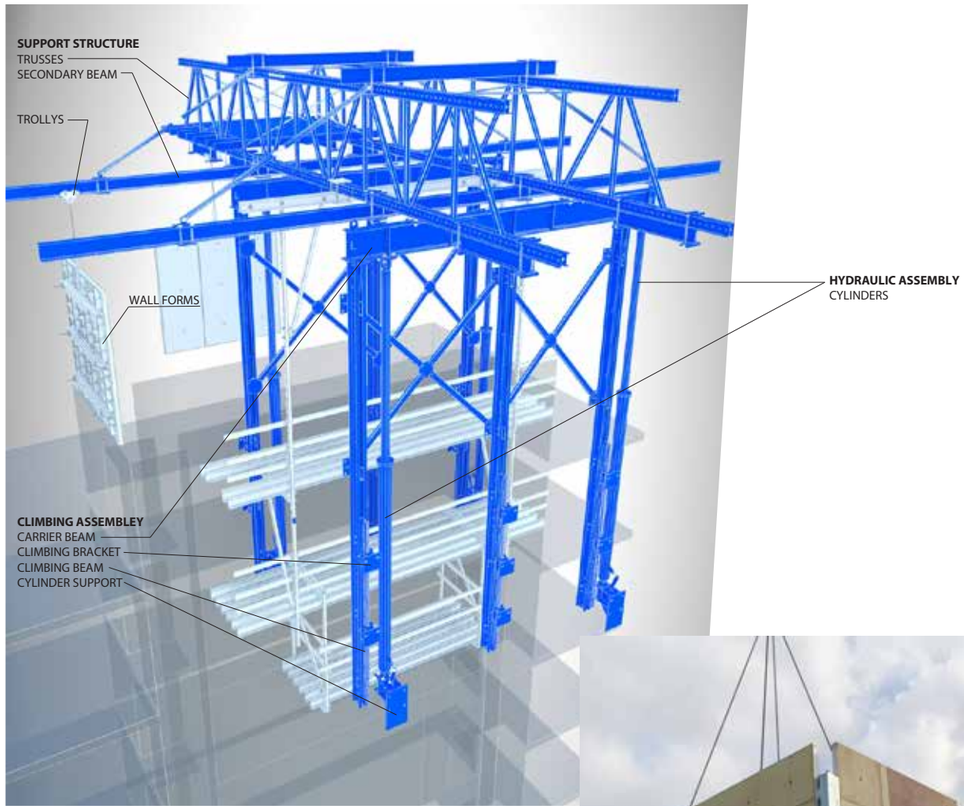
EAGLE Self Climbing Hydraulic System is ONE COMPLETE ASSEMBLY, consisting of four main system components:

HYDRAULIC ASSEMBLY: Computerized Powered Unit with remote controls and hydraulic cylinders

CLIMBING ASSEMBLY: Cylinder support, Carrier Beam, Climbing Brackets and Climbing Beam

SUPPORT STRUCTURE: Trusses, Secondary beams, Trolleys and Lever Hoist

WALL FORMS: HYSCO Box Forms and Wall Form Panes together with work platforms



HYSICO Box Form

COMPONENT PARTS

Carrier Beam
Carrier Beam placed over Climbing Beams, support Trusses and entire overhead structure from which wall form assemblies are hung. Carrier Beams are designed for each project separately and are custom made in their lenght and capacity in order to accommodate required design criteria.

Hydraulic Cylinders
Hydraulic Cylinders attached to Carrier Beam lift entire structure up in a single stroke, from floor to floor.

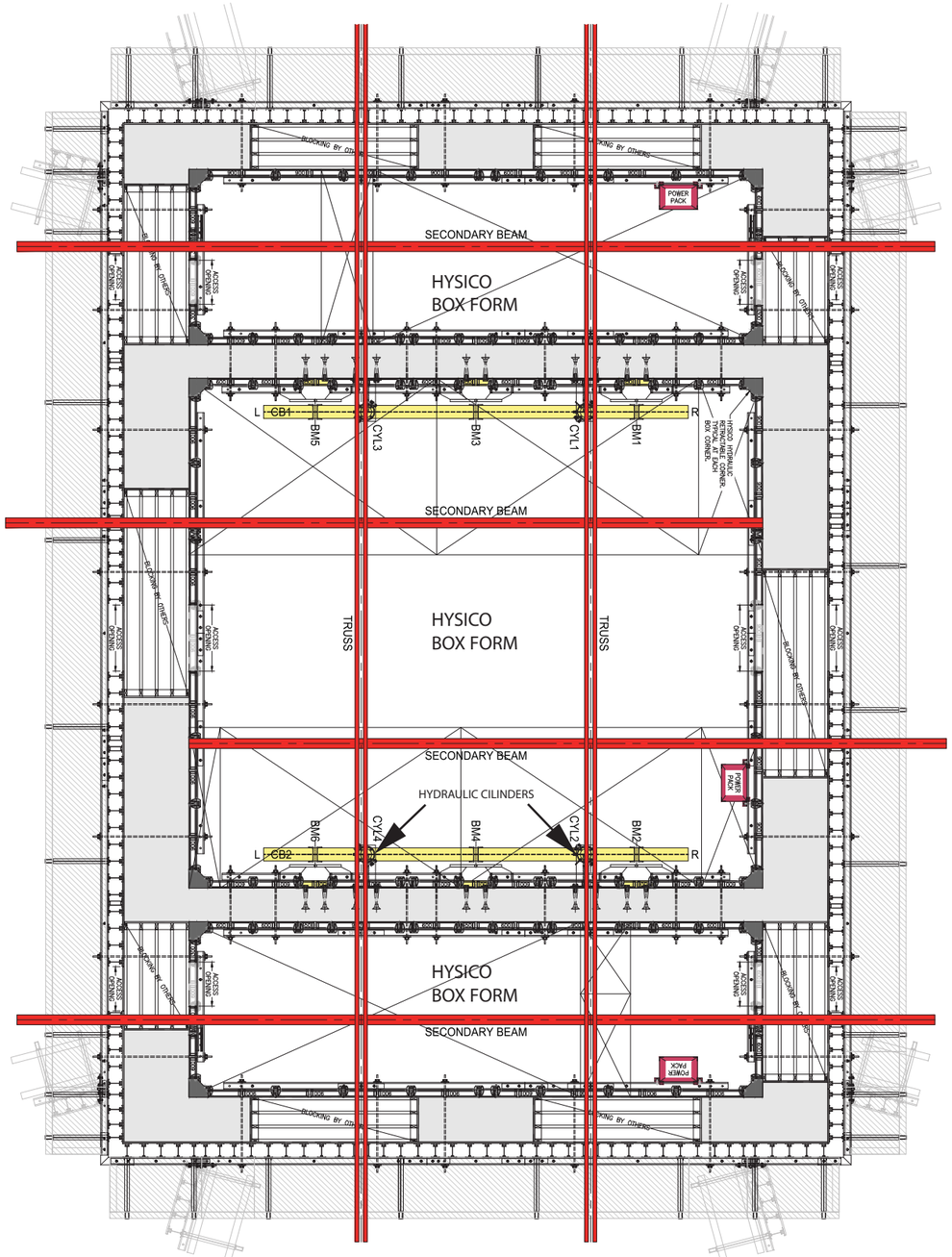
Climbing Brackets
System climbs over Climbing Brackets, attached at all time to the concreate structure during the climbing sequence, pushed up by Hydraulic Cylinders. Climbing Brackets guide Climbing Beams and lock in place entire system at required position upon lifting.

Climbing Beams
Climbing Beams have a roll to keep entire assembly in vertical and plumb position during climbing sequence and to support entire assembly in position over Climbing Brackets attached to previously poured concrete wall.

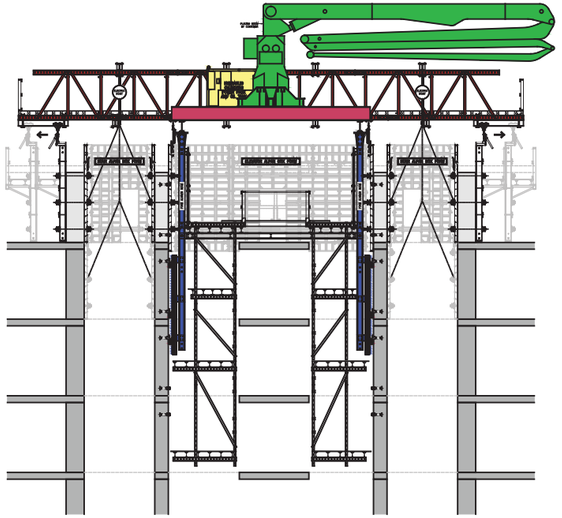
Cylinder Support Bracket
Attached to cured concrete wall and permanently to the Hydraulic Cylinder, it supports cylinder during stroke extension. Upon lifting of entire system and locking in place by Climbing Brackets, detached from concrete wall, Cylinder Support Brackets are lifted by retraction of Hydraulic Cylinder.

Power Unit
The heart of **EAGLE** Self Climbing Hydraulic System is the computerized Power Unit that provides equal lifting and precise leveling of entire forming system controlled by GPS lifting height measurement device.

ENGINEERING DESIGN DATA

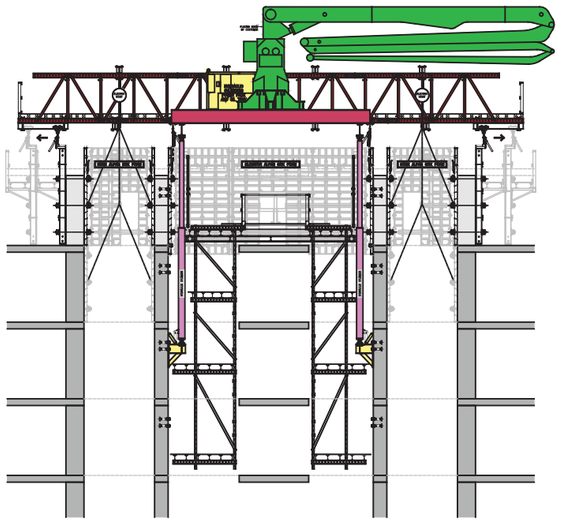


Core Forming plan view design



Section at Hydraulic Cylinders

Support structure



Section at climbing rails

Support Truss Structure Assembly

JOBSITE APPLICATIONS

NATIONAL FORMING SYSTEMS

REFERENCE PROJECTS

POTALA TOWER, Seattle, WA
PCL Construction Ltd.

POTALA TOWER, Seattle, WA

WALL SHERATON HOTEL, Vancouver, B.C.

COSMOS TOWER, Vancouver, B.C.
Concord Pacific

THE MET, Burnaby, B.C.
Concord Pacific

M3 TOWER, Coquitlam, B.C.
Cressy Development Group

METROPLACE, Burnaby, B.C.
Bosa Development Ltd.

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