2019 – REV 0

OWNER'S MANUAL

Flatbed Fall Protection MP-Series
Powered Unit

RollAStep 219 Safety Avenue / Andrews, SC 29510 / Ph 888 948 0005 / Fx 843 264 8584

RollaStep Flatbed Fall Protection MP-Series

Thank you for purchasing a RollaStep Flatbed Fall Protection MP-Series unit

Your new RollaStep Flatbed Fall Protection MP-Series unit has been manufactured using the latest technologies, along with only the highest quality materials to ensure dependable service for years to come.

Please take care, to follow all guidelines and installation instructions to ensure your stair unit performs as designed.

For further questions or concerns, please contact Customer Support at 888.875.1839

Thanks again for choosing RollaStep!

RollaStep Flatbed Fall Protection MP-Series

IMPORTANT

Read carefully and understand all instructions before starting installation. Adhere to all instructions in manual.

FAILURE TO FOLLOW ALL INSTRUCTIONS MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

DANGER! Electrical hazard; Unit is conductive.

Ensure that all casters contact the ground. Shim casters as needed.

Equipment should not be altered or modified from its original design without consultation with the manufacturer.

Equipment which is damaged or becomes damaged during use, handling, or shipping should be set aside and not used.

Unit is designed for a maximum capacity of 500 lbs.

WARNING! This product can expose you to chemicals including cadmium, which is known to the State of California to cause cancer, and/or birth defect or other reproductive harm. For more information go to www.P65warnings.ca.gov

RollaStep Flatbed Fall Protection MP-Series

IMPORTANT

All bolts to be tightened per AISC.

TORQUE DATA:

All ½" bolted connections = 678 in-lbs. (56 ft-lbs.) lubricated or 904 in-lbs. (75 ft-lbs.) dry +/-10%.

Use of impact wrenches NOT sanctioned.

Use of Anti-seize compound on hardware recommended.

WARNING! After a usage period of 60-90 days, check all fasteners to ensure connections are secure. Periodic inspection is recommended to ensure all fasteners are secured. FAILURE TO SECURE ALL FASTENERS MAY RESULT IN DEATH OR SERIOUS PERSONAL INJURY.

WARNING! Handrail backing plates must be used where designated in the instruction manual. FAILURE TO USE HANDRAIL BACKING PLATES WHERE DESIGNATED MAY CAUSE EQUIPMENT TO FAIL AND MAY RESULT IN DEATH OR SERIOUS PERSONAL INJURY.

CAUTION! Handrails/ handrail sockets must be secured prior to use.

RollaStep Flatbed Fall Protection MP-Series

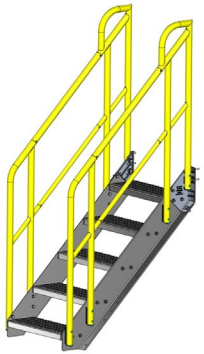
INTRODUCTION:

The RollaStep Flatbed Fall Protection Powered Unit is a highly mobile platform designed to bring the user to the level of a flatbed trailer with an unparalleled level of confidence and safety. The powder coated handrails, full size 45 degree rise stair stringer, and standard width and depth steps meet OSHA specifications for mobile platforms.

The RollaStep Flatbed Fall Protection Powered Unit's lightweight aluminum construction allows precise positioning and easy maneuvering by a single operator. Use of a three-box system helps to reduce motor and reservoir size and excess hydraulic hose to the cylinders by using one main control box on one side of the truck and two secondary boxes to house individual pump and revisor for each cylinder (one system operates one platform for one side of the truck). A combination of limit switches, internal pressure sensors, and flow controls keep the system from damaging the trucks and platform.

Optional removable handrails give the unit unparalleled versatility and easy access to work of the end of the unit or down either side. Each handrail slides securely into and out of its socket bracket without tools, allowing operators to reconfigure the platform in the field.

COMPONENTS (1 OF 2)



MP STAIR UNIT

PLATFORM HANDRAIL

STAIR SUPPORT BRACE

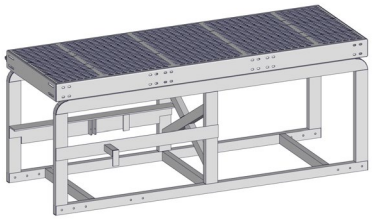
RIGID CASTERS

CASTER BRACKET

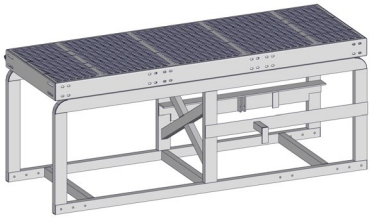
OPTIONAL REMOVABLE HANDRAIL SOCKET KIT

- Min 2 people are recommended for assembly.

COMPONENTS (2 OF 2)

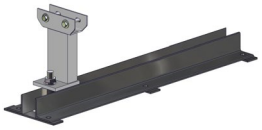


MP FRAME/PLATFORM LH

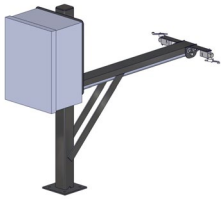


MP FRAME/PLATFORM RH

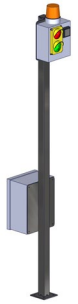
MP FRAME PLATFORM TYP



TRACK COMPONENTS

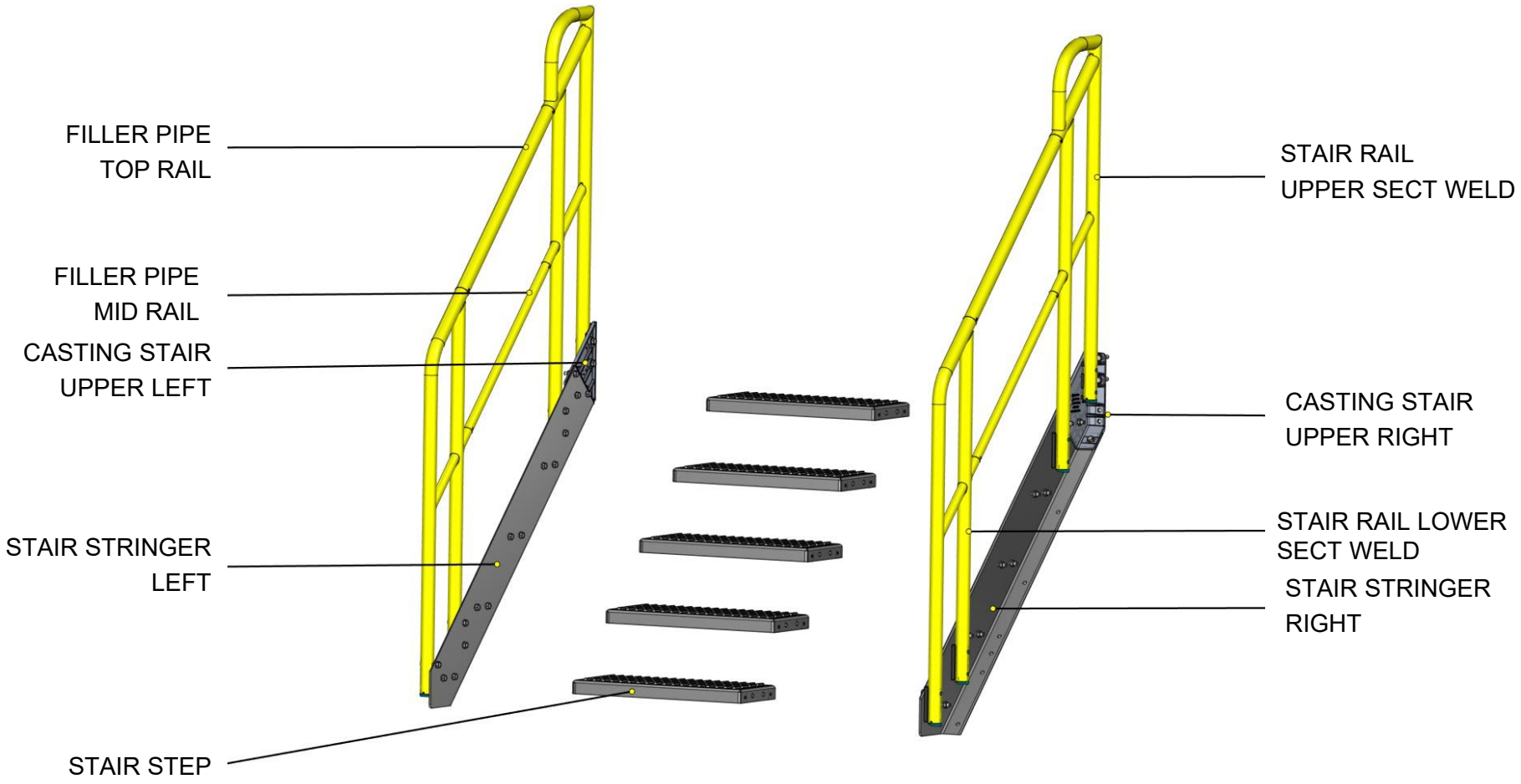


CYLINDER MOUNT COMPONENTS



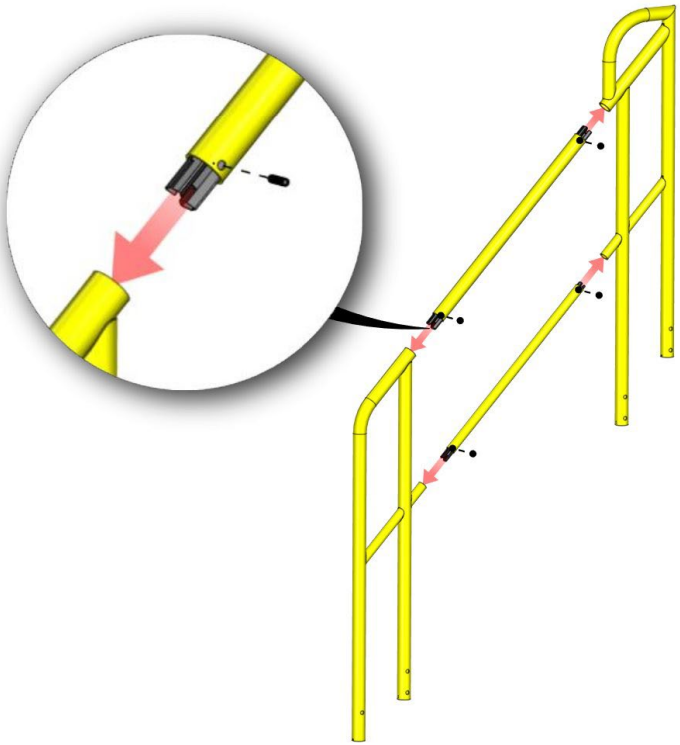
CONTROL COMPONENTS

STAIR COMPONENTS



Note: Some components may ship pre-assembled.

STAIR RAIL INSTRUCTIONS

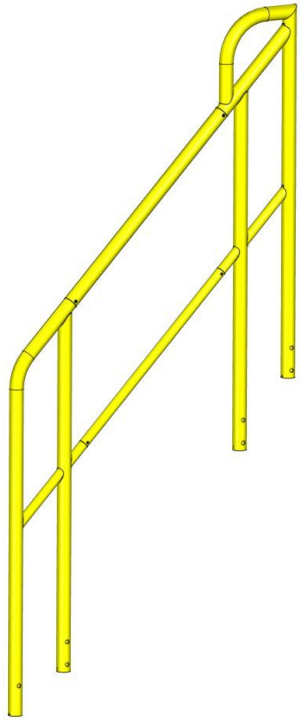


STEP 1

Orient components as shown.

STEP 2

Insert pipe couplers into the filler pipes. Insert coupler set screw and loosely tighten.

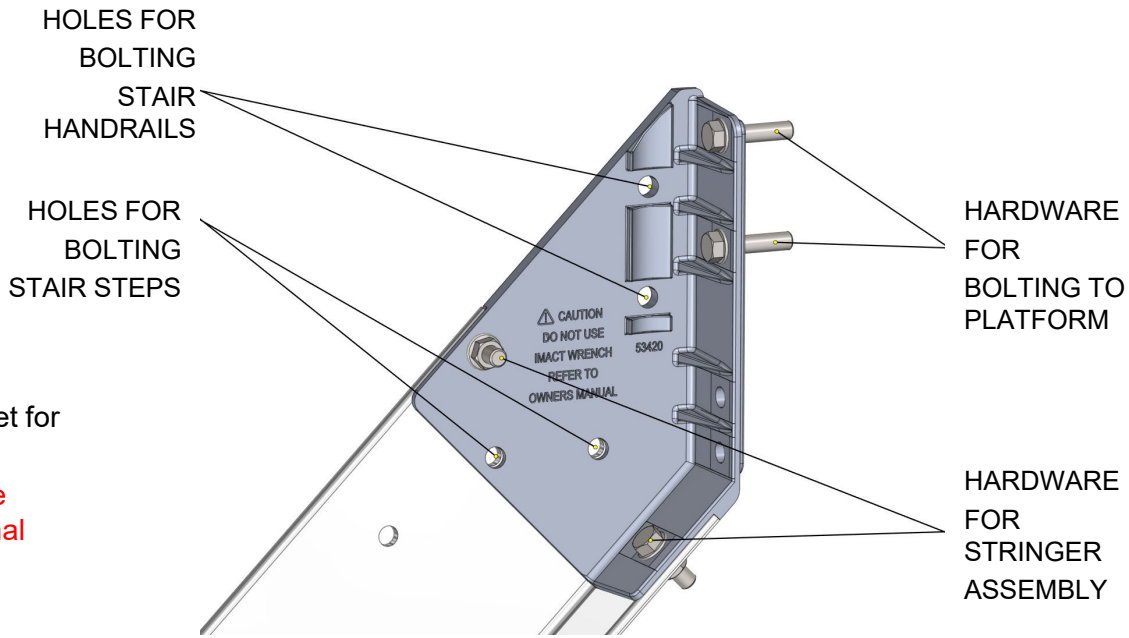


STEP 3

Slide all components together, then securely tighten coupler set screw.

Note: Some components may ship pre-assembled.

STAIR STRINGER INSTRUCTIONS



STEP 1

Orient components as shown.

STEP 2

Insert and securely tighten hardware (see next sheet for detailed views).

WARNING! Do not use impact wrench. May cause damage to unit which could result in serious personal injury or death. See torque data.

NOTICE:

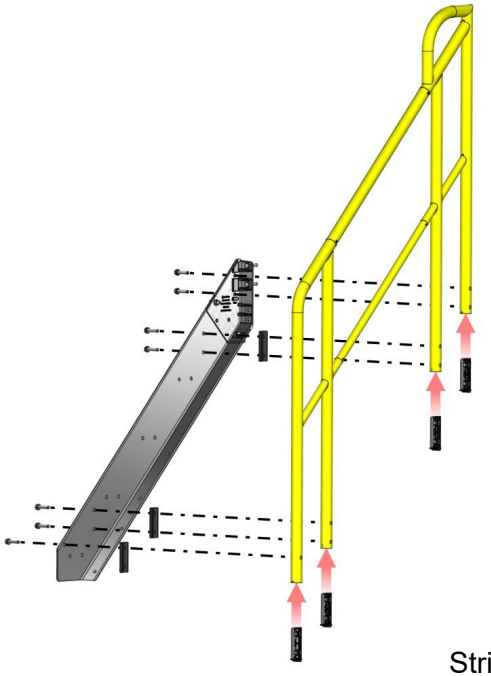
Some holes are used to connect both casting to stringer as well as connect stair steps and/or handrails.

Hardware to bolt to platform must be inserted prior to installing stair handrails.

WARNING! Do not use impact wrench. May cause damage to unit which could result in serious personal injury or death. See torque data.

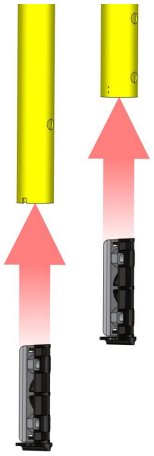
Note: Some components may ship pre-assembled.

STRINGER/STAIR RAIL INSTRUCTIONS

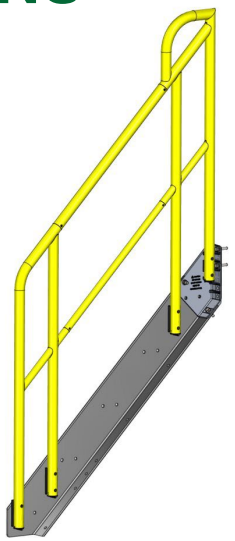


Some components may ship pre-assembled.

Stringer side of handrail



Steel side of insert face towards stringers



STEP 1

Slide rail insert into stair handrails.

Orient steel side towards stringer.

(May require tape to hold in place while assembling).

STEP 2

Position stair handrails on to stringer with handrail spacers (spacers only needed at stringer connection–castings have spacer incorporated.

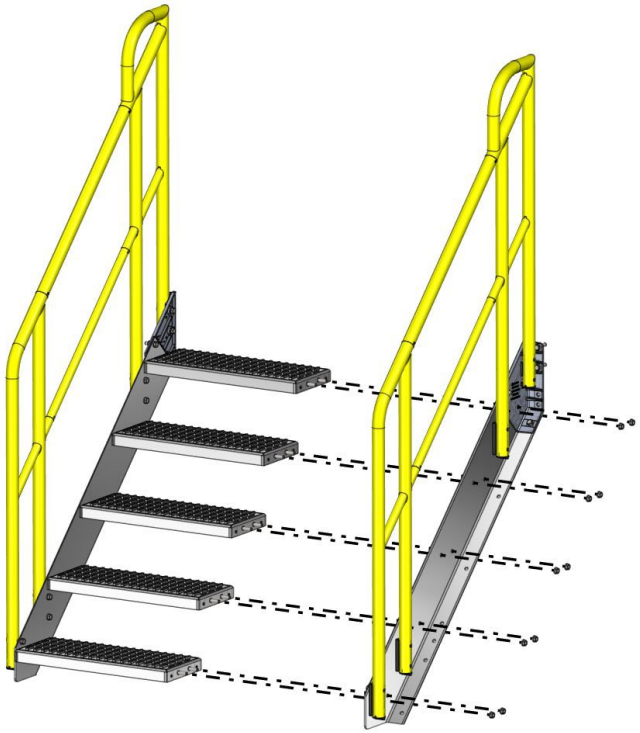
STEP 3

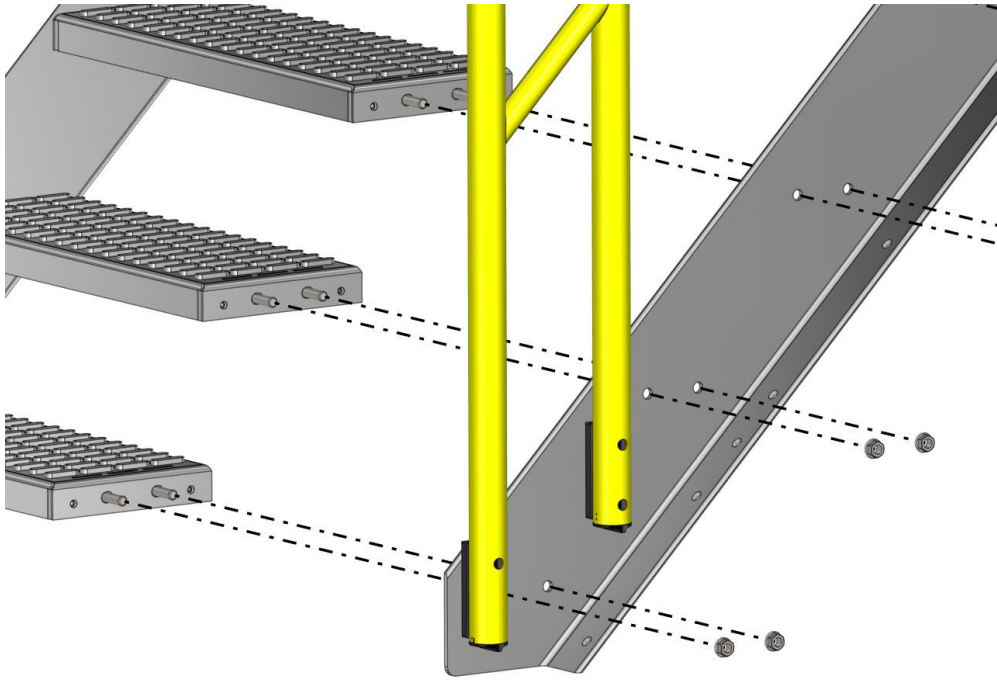
Insert hardware and tighten hardware.

WARNING! Do not use impact wrench. May cause damage to unit which could result in serious personal injury or death. See torque data.

Note: Some components may ship pre-assembled.

STAIR STEP INSTRUCTIONS





STEP 1

Orient left and right stringer assembly sections as shown and bolt in all steps.

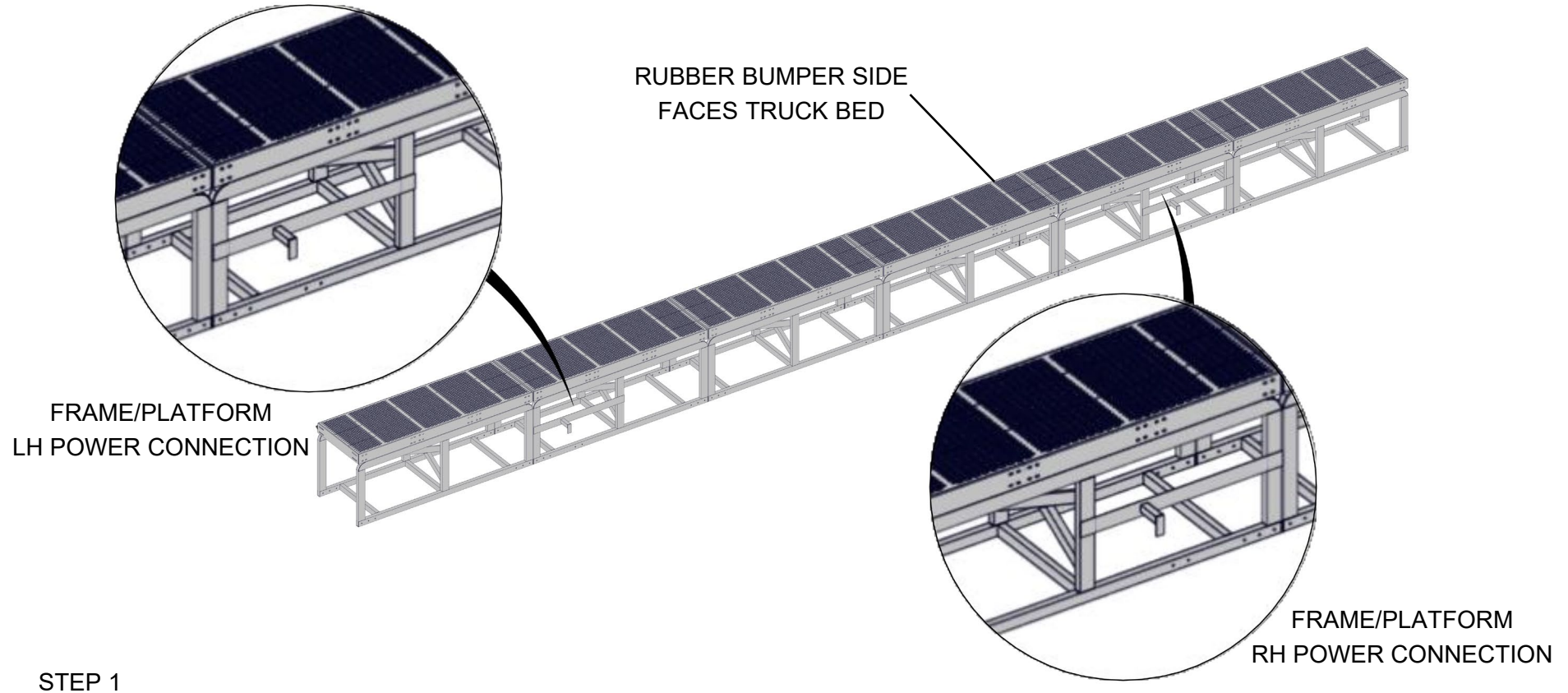
STEP 2

Securely tighten all step hardware.

WARNING! Do not use impact wrench. May cause damage to unit which could result in serious personal injury or death. See torque data.

Note: Some components may ship pre-assembled.

FRAME/PLATFORM ORIENTATION INSTRUCTIONS

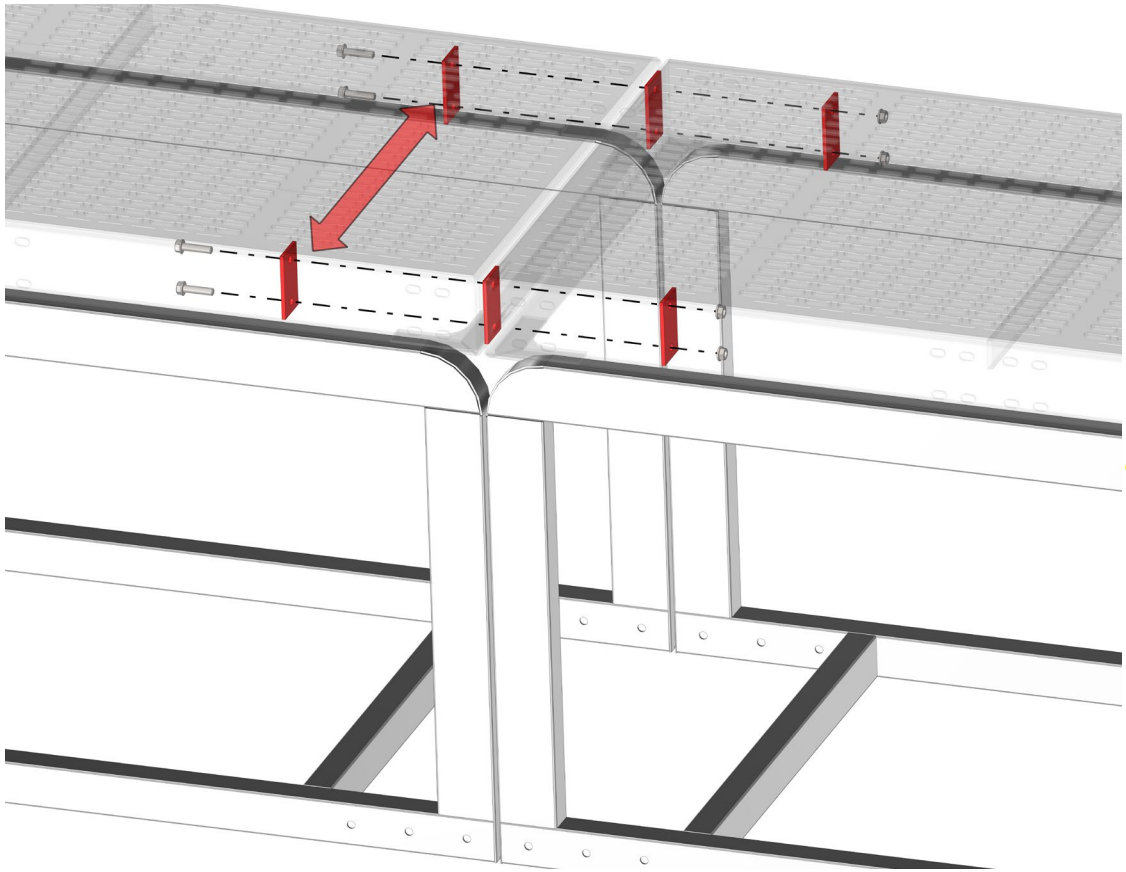


STEP 1

Position and orient frames/platforms per IFC drawings. See typical layout above.

NOTE: Two frame/platforms (LH & RH) are different than the others and therefore position and orientation of frame/platforms are important.

CONNECTING PLATFORM SECTIONS INSTRUCTIONS



STEP 1

Align platforms as shown using backing plate as a spacer between platform walk surfaces.

STEP 2

Insert hardware (1/2” x 2” bolt and nut) and tighten securely as shown.

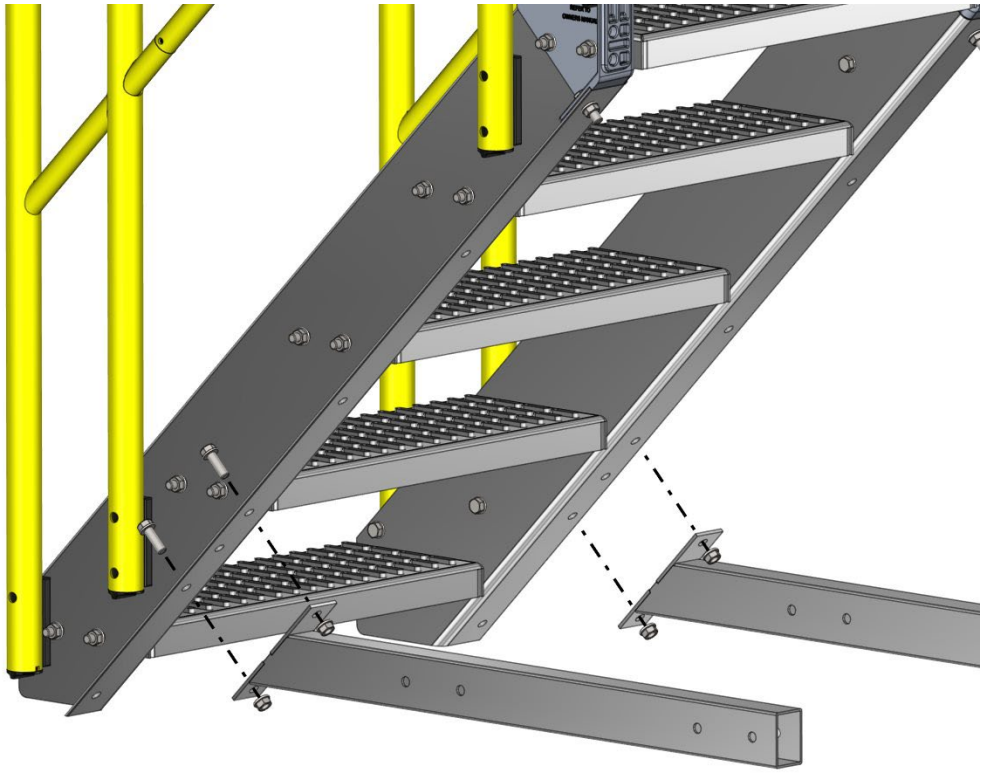
Note: As shown, there will be total of six backing plates used when connecting two units.

WARNING! Backing plates must be used at this connection. Failure to use backing plates may cause equipment to fail and may result in death or serious personal injury.

Position backing plates as close to platform corners as possible.

WARNING! Do not use impact wrench. May cause damage to unit which could result in serious personal injury or death. See torque data.

STAIR SUPPORT BRACE INSTRUCTIONS

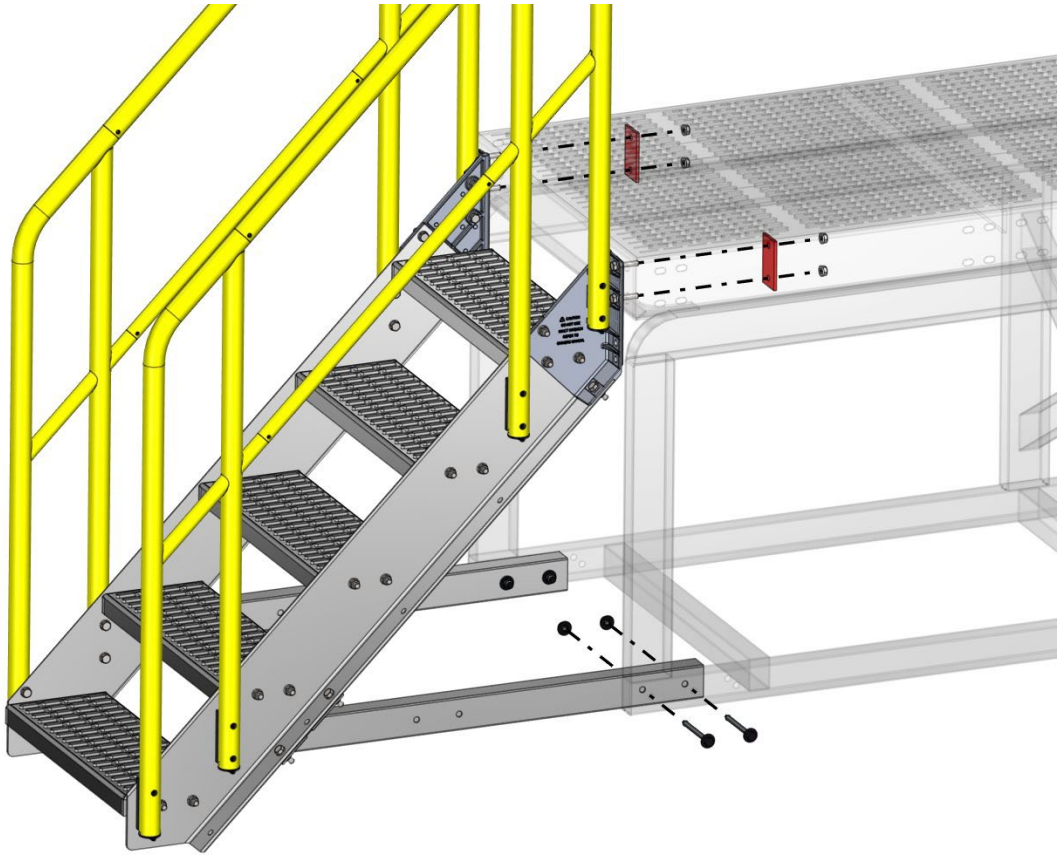


STEP 1

Orient stair support braces as shown and bolt to stair stringer.

Leave hardware loose until stair unit is attached to MP frame.

STAIR UNIT INSTRUCTIONS



STEP 1

Orient stair unit against frame/platform as shown.

STEP 2

Attach upper stairs to platform using backing plates as shown.

STEP 3

Attach stair support braces to lower frame using ½” x 5” bolt, nylock jam nut and washer.

STEP 4

Securely tighten all step hardware.

WARNING! Do not use impact wrench. May cause damage to unit which could result in serious personal injury or death. See torque data.

CASTER/CASTER BRACKET INSTRUCTIONS

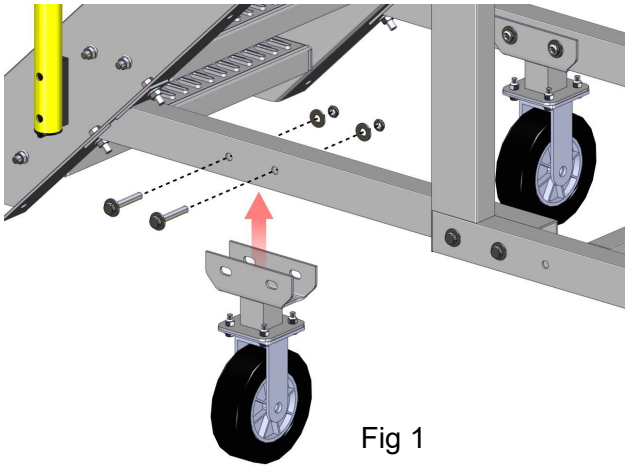


Fig 1

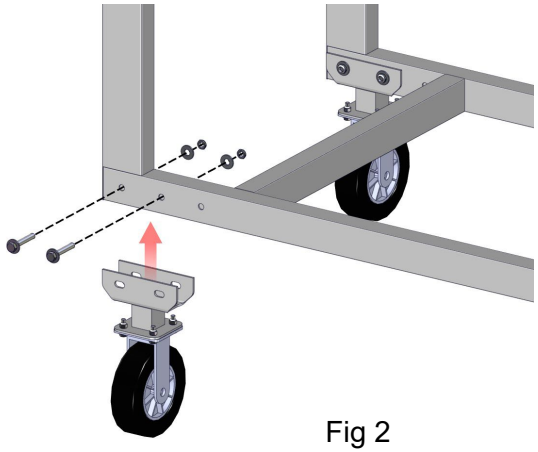


Fig 2

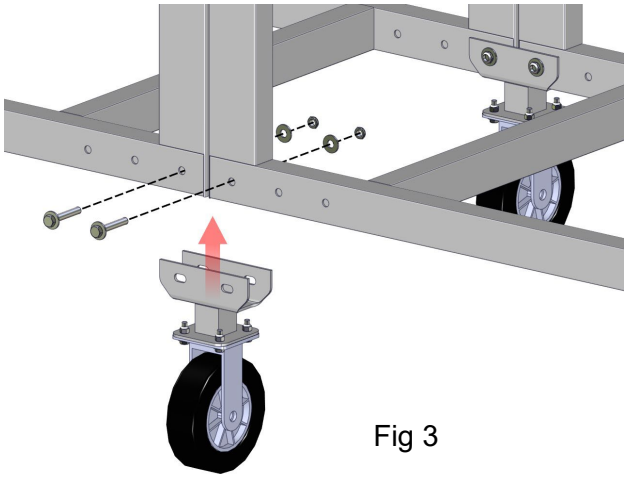


Fig 3

STEP 1

Attach caster to caster bracket using 3/8” x 1 ¼” bolt, nylock nut and double flat washer. Note orientation of wheel to bracket

STEP 2

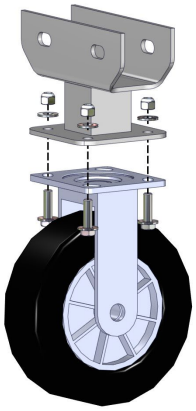
Attach caster to frame or stair support brace based on configuration using ½” x 3” bolt, nylock jam nut and flat washer.

Note: Unit will require two casters attached to stair support brace see Fig 1. If no stair is used on one end, see Fig 2. At each joint between frame/platform sections, see Fig 3.

STEP 3

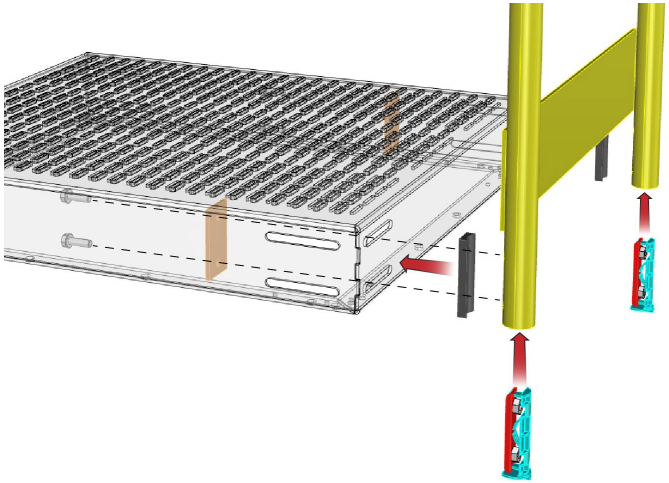
Once unit is level, tighten all hardware.

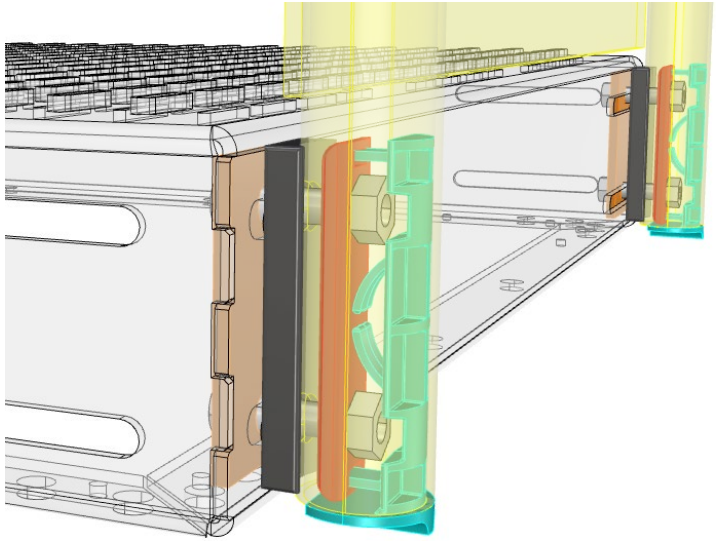
Shim caster to caster bracket as needed if unit is being used on uneven ground.



WARNING! Do not use impact wrench. May cause damage to unit which could result in serious personal injury or death. See torque data.

HANDRAIL TO PLATFORM INSTRUCTIONS





STEP 1

Slide rail insert into handrails. Orient steel side towards platform. May require tape to hold in place while assembling.

STEP 2

Position handrails on to platform with backing plate inside as shown.

STEP 3

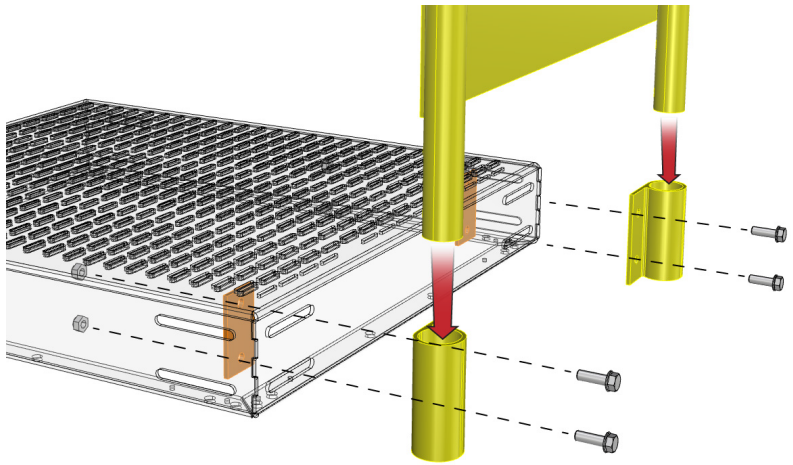
Insert hardware and tighten hardware.

NOTICE: Metal piece should be oriented so that nuts are facing plastic.

WARNING! Backing plate must be used at this connection. Failure to use backing plates may cause equipment to fail and may result in death or serious personal injury.

WARNING! Do not use impact wrench. May cause damage to unit which could result in serious personal injury or death. See torque data.

OPTIONAL REMOVABLE HANDRAIL SOCKET INSTRUCTIONS



STEP 1

Loosely attach handrail sockets using hardware and backing plates.

STEP 2

Slide handrails into sockets for fit and alignment, then tighten hardware.

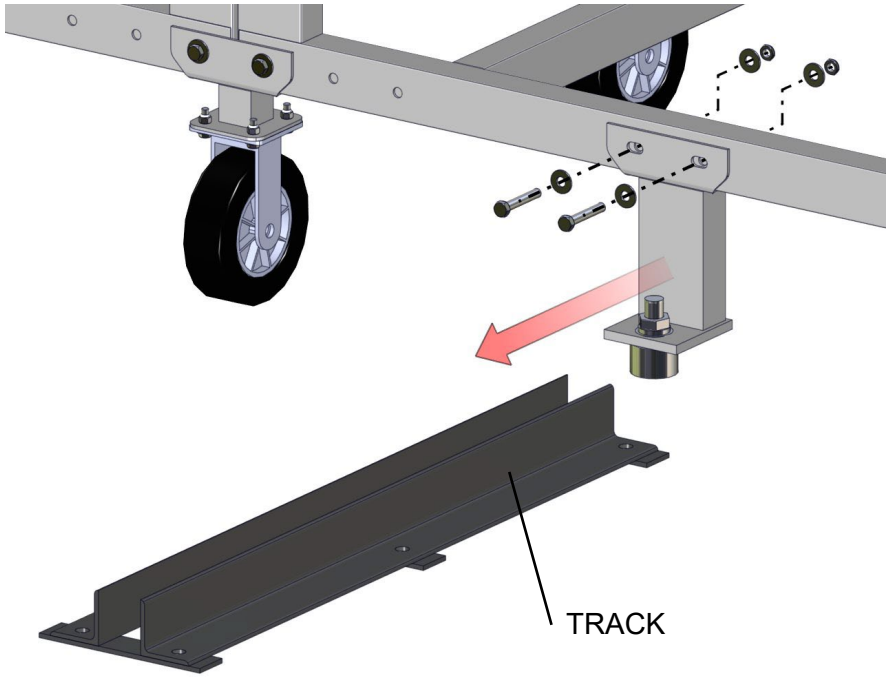
NOTICE:

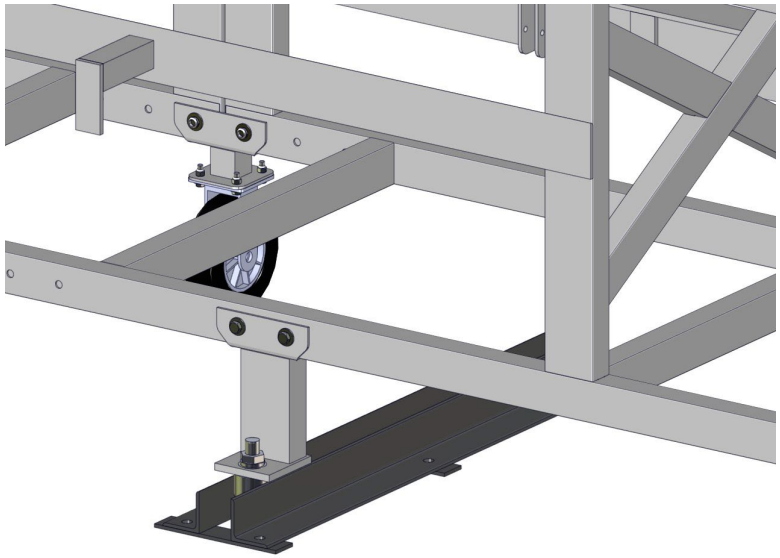
Sockets should be plumb and square to allow handrails to slide in and out.

WARNING! Backing plate must be used at this connection. Failure to use backing plates may cause equipment to fail and may result in death or serious personal injury.

WARNING! Do not use impact wrench. May cause damage to unit which could result in serious personal injury or death. See torque data.

TRACK ASSEMBLY INSTRUCTIONS





STEP 1

Position and secure track to ground per IFC drawings.

STEP 2

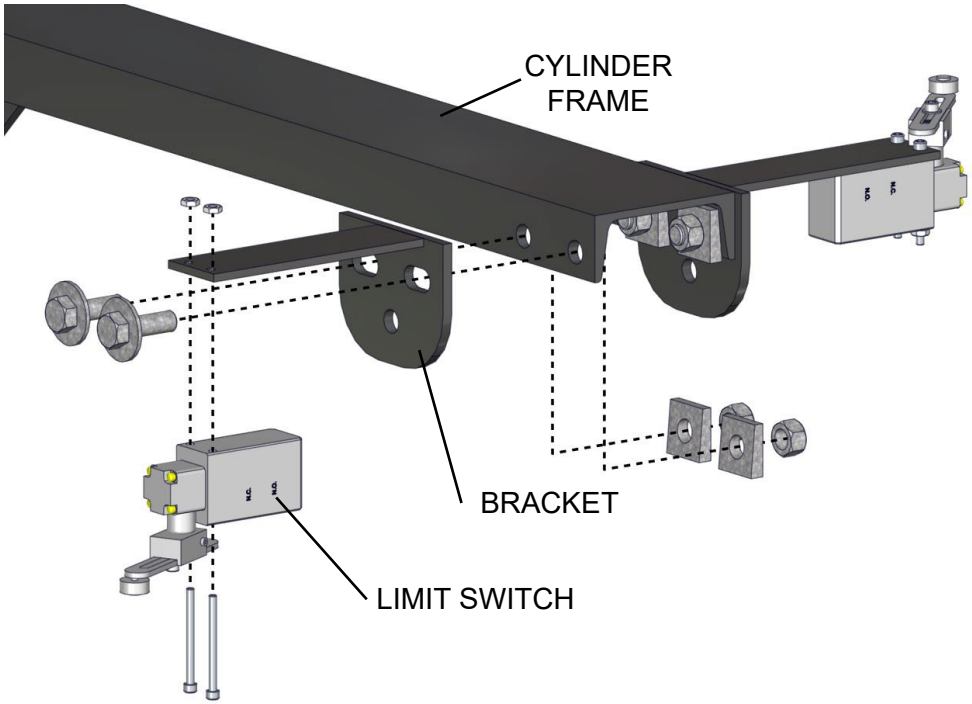
Position and orient frame/platforms relative to tracks.

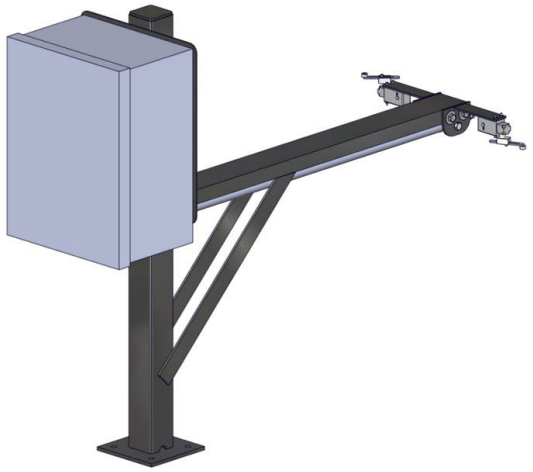
STEP 3

Attach track roller bracket to fame using ½” X 3” stainless steel bolt with two flat washers and low-profile nut.

NOTE: Orientation of roller should be away from truck bed.

CYLINDER & LIMIT SWITCH BRACKETS INSTRUCTIONS





STEP 1

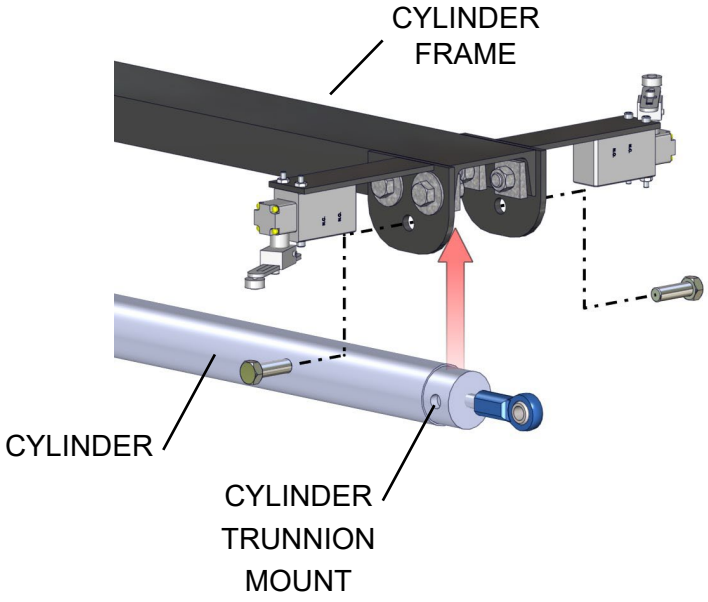
Attach brackets to channel of cylinder frame as shown using 1/2” X 1 1/2” galvanized bolt, nut, bevel washer and flat washer.

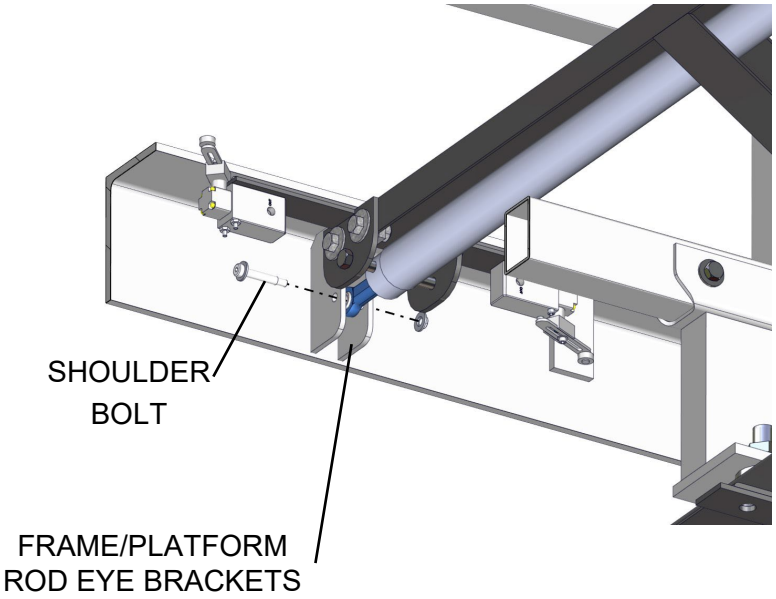
STEP 2

Attach limit switches as shown using #10 X 2 1/2” stainless steel bolt, and jam nut.

NOTE: Orientation of limit switch and hardware is important.

CYLINDER MOUNT INSTRUCTIONS





STEP 1

Attach cylinder to cylinder frame as shown using ½" X 1 ½ fine thread stainless steel bolt.

Bolts attach to cylinder at trunnion mount.

NOTE: DO NOT OVER TIGHTEN BOLT. Cylinder trunnion mount is ½" deep & cylinder should be able to pivot at this connection.

STEP 2

Attach rod end of cylinder to frame/platform rod eye brackets using 3/8" X 2 ½" stainless steel shoulder bolt with two flat washers and nut.

INSTRUCTIONS

CONTROL INSTALLATION INSTRUCTIONS:

1) Supply 120 volt, 20 amp Power to the main control.
2) Wire between main control and the Left and Right hydraulic power controls, Light control and limit switches.
3) Limit switches must be mounting and lever arm adjusted.

NOTE:

All wiring to be as shown on electrical drawings.

All mechanical assembly should be completed prior to wiring.

OPERATING INSTRUCTIONS:

With main control door closed and disconnect turn on.

1) To extend the platform, push the “EXTEND” push button. The platform will extend until the push button is released.
2) To retract the platform, push the “RETRACT” push button. The platform will retract until the push button is released or until the fully retracted limits are made.

NOTE:

Each hydraulic control is equipped with a pressure switch that will operate at 350 PSI if:

1) The operator continues to push the extend push button after the platform has fully extended.
2) If the platform is obstructed in the extend direction.

If either pressure switch operates, both power units will shut down.

In addition to the pressure switches, limit switches are provided to stop the extension when contact is made with the trailer.

WARNING: This is a mechanical safety and is not and should not be considered a personnel safety. Each hydraulic cylinder will generate 600 pounds of force at 350 psi.

WARNING: Power Unit shipped with non-vented caps installed. After installation and before operation, replace non-vented caps with vented caps supplied.

ADJUSTMENT PROCEDURES

FIELD PRESSURE AND FLOW ADJUSTMENT PROCEDURE:

The pressure and flow controls have been preset prior to shipping and should not be re-adjusted unless instructed by SafeRack Technical personnel. In the event adjustments are required then the following procedure should be followed.

Cylinder Speed Adjustment:

1) Locate flow control in the hydraulic control for the cylinder to be adjusted (the flow control controls the oil out of the cylinder – see hydraulic control layout sheet for location of flow control.) Turn control knob clockwise to slow cylinder and counter clockwise to increase speed.
2) Always start adjustment procedure with both flow controls fully open – all the way counter clockwise.
3) Extend platform – if one side is faster than the other, then slow that cylinder to the speed of the other side by turning the fast speed cylinder flow control clockwise.
4) Retract platform and if needed adjust as in step 3.

Pressure Adjustment:

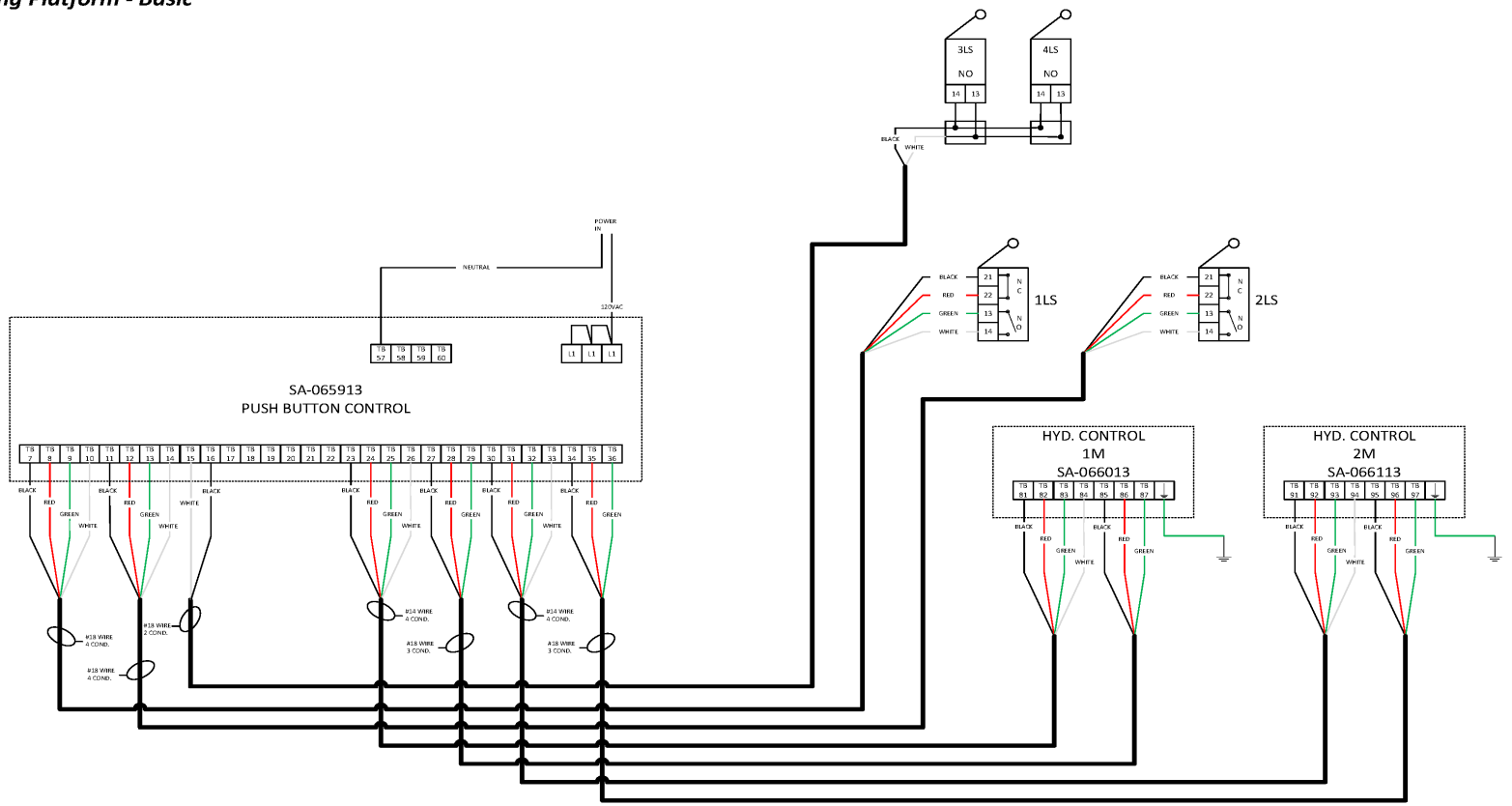
With the platform fully extended.

1) Open the needle valve by turning fully counter clockwise.
2) Push setup push button (power unit will run), start closing the needle valve slowly.
3) Watch pressure gauge and red indicator light (on setup push button box). The pressure will continue to rise as the needle valve is closed. The point at which the light turns off is the set point of the pressure switch. That should be 350 psi.
4) If desired pressure is not achieved and more adjustment is needed, then remove the plug in the center of the top of the pressure switch – with an allen wrench adjust the pressure by turning clockwise to increase and counter clockwise to decrease. Check pressure by repeating steps 1 through 3.
5) Once complete, close needle valve completely. System is ready for normal operation.

POWER WIRING DIAGRAM

Electrical Connection Diagram

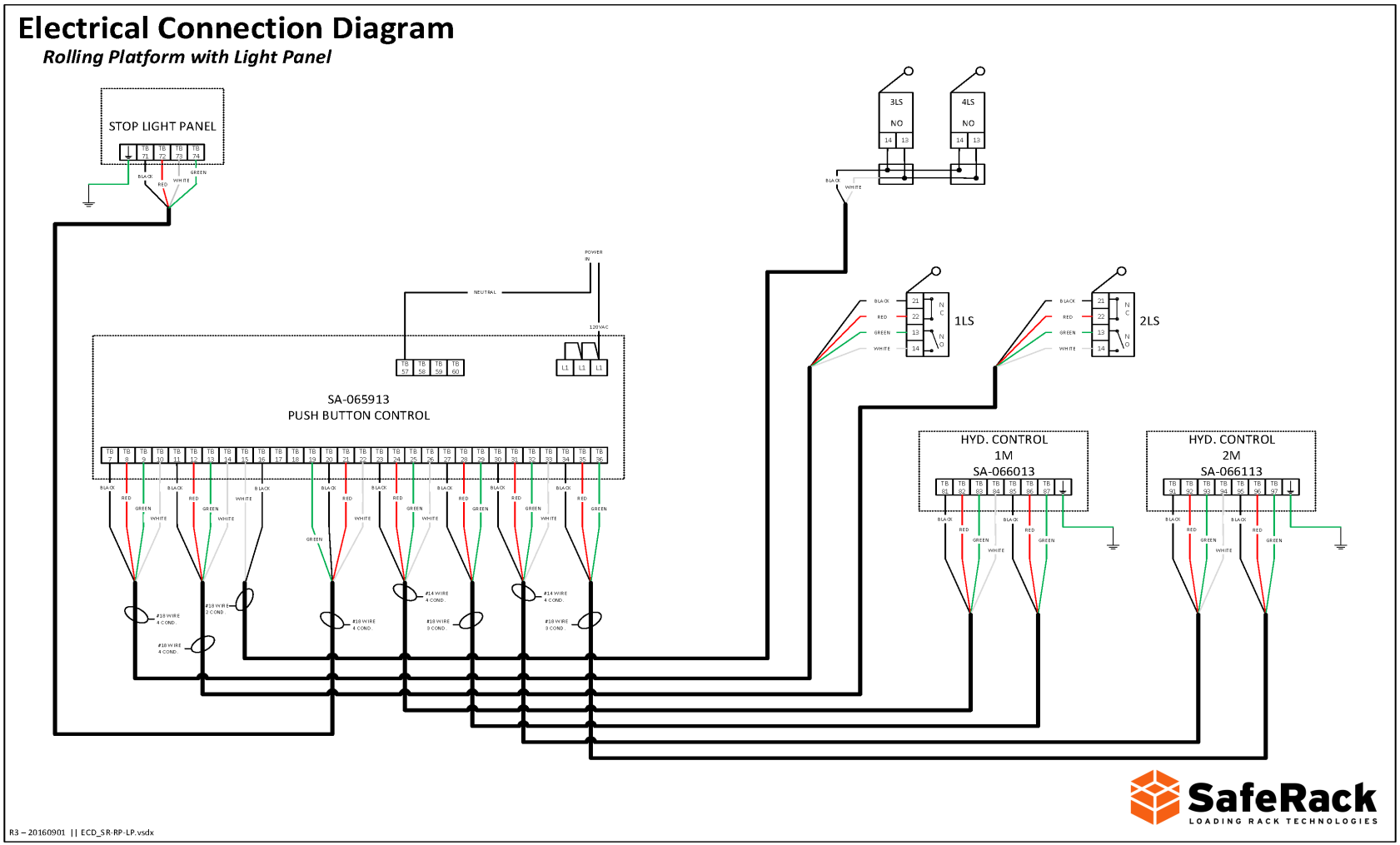
Rolling Platform - Basic



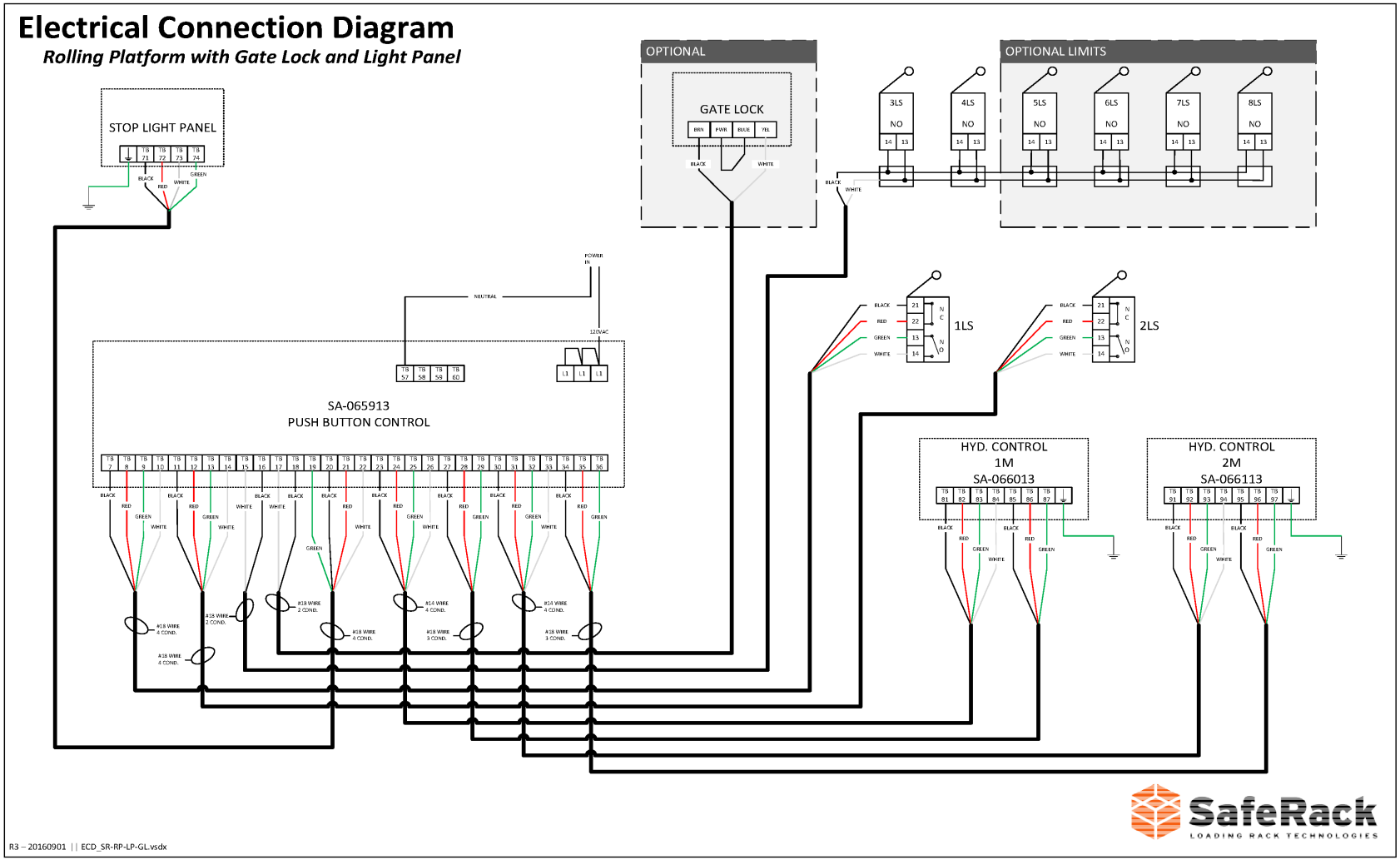
SafeRack
LOADING RACK TECHNOLOGIES

R1 – 20160901 | | ECD_SR-RP-BASIC.vsdx

POWER WIRING DIAGRAM

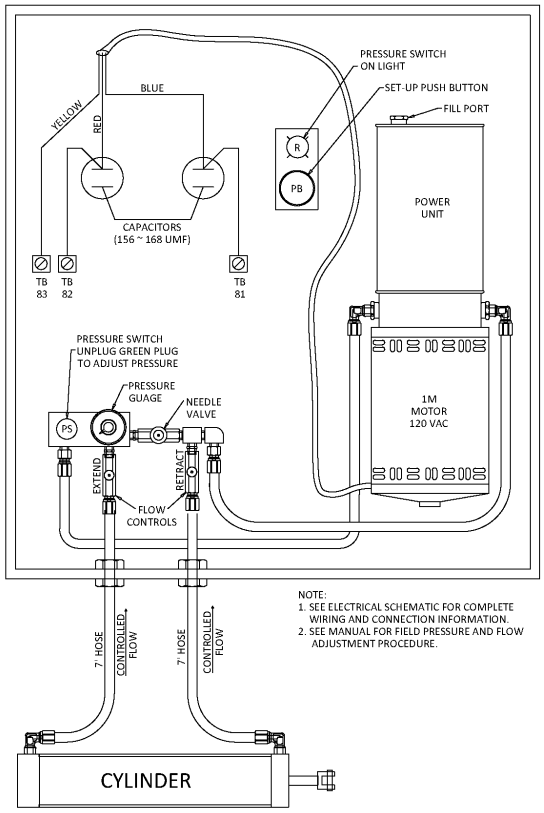


POWER WIRING DIAGRAM

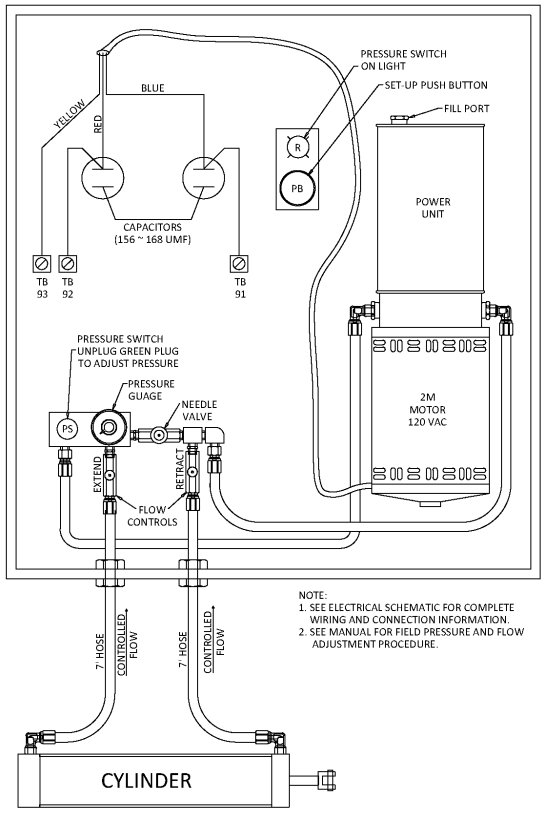


POWER DIAGRAM

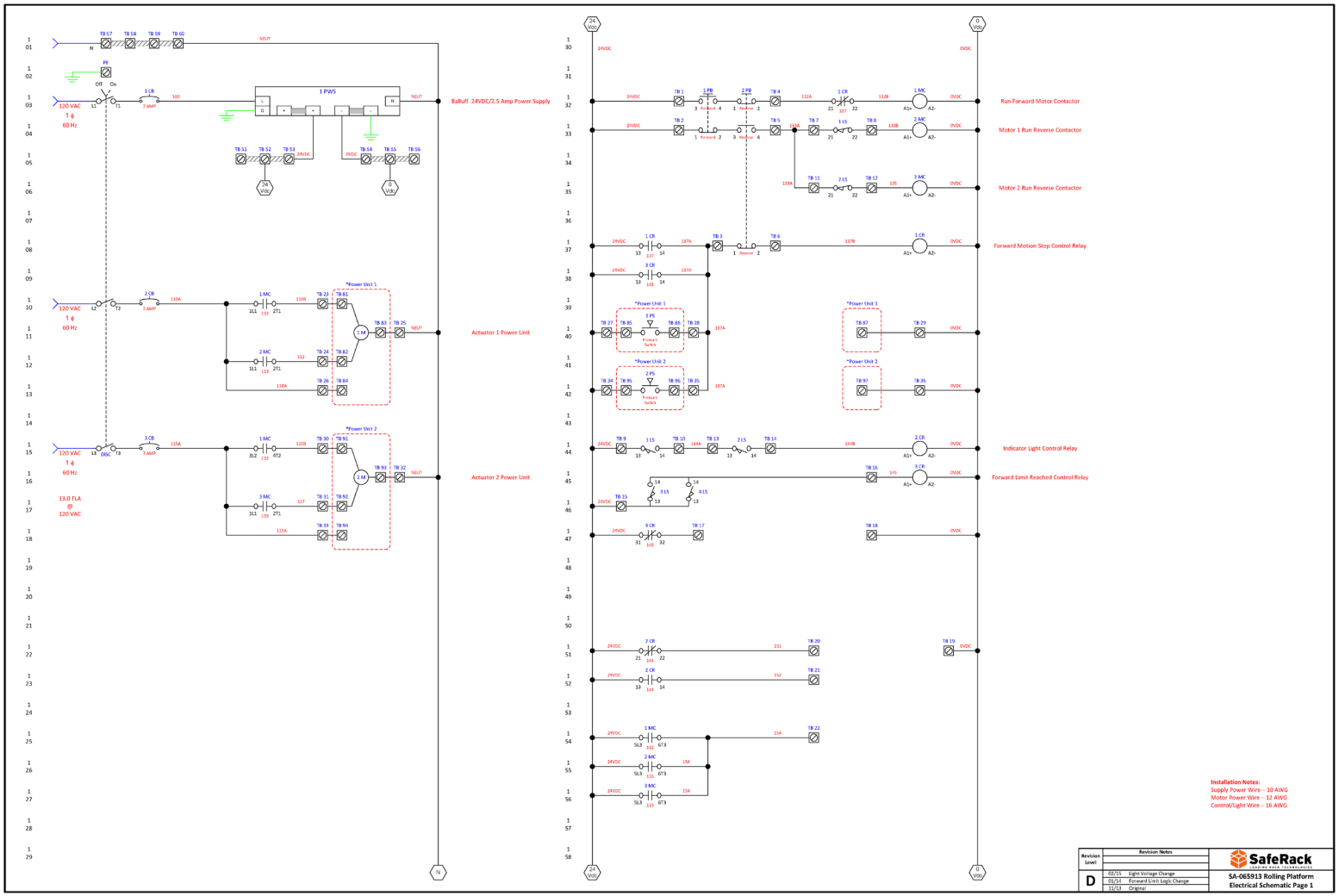
ROLLING PLATFORM
POWER DIAGRAM



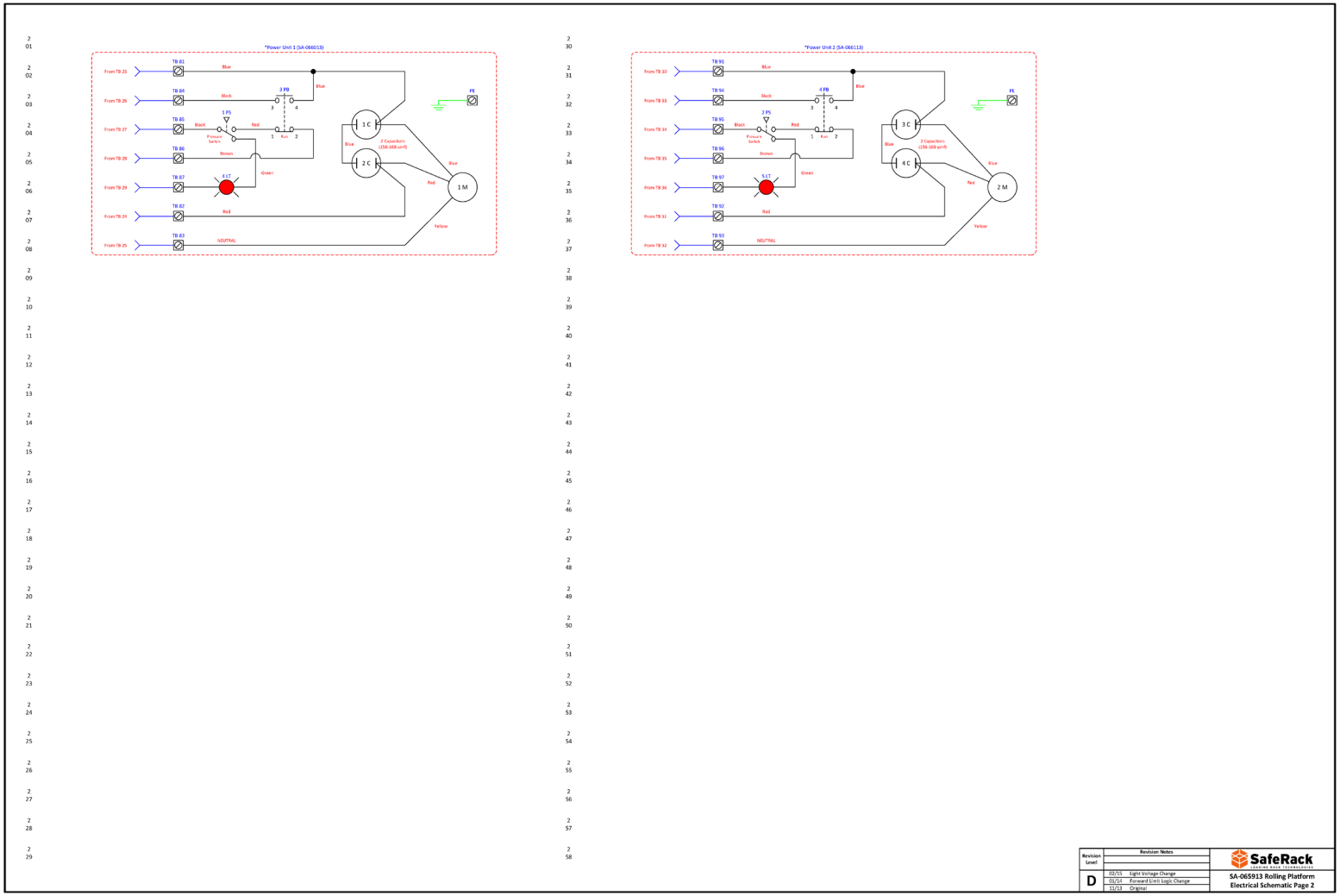
ROLLING PLATFORM
POWER DIAGRAM



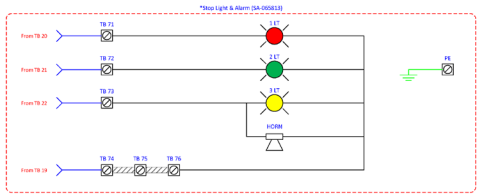
ELECTRICAL SCHEMATIC (PAGE 1)



ELECTRICAL SCHEMATIC (PAGE 2)



ELECTRICAL SCHEMATIC (PAGE 3)



Revision Level	Revision Notes	
D	02/15	Light Voltage Change
	01/14	Forward Limit Logic Change
	11/13	Original

SafeRack

SA-065913 Rolling Platform
Electrical Schematic Page 3

MAINTENANCE

*If a loss of oil occurs then refill with automatic transmission FLUID – DEXTRON III

Filling Instructions:

Step 1 Make sure the Cylinder is fully retracted.

Step 2 Unscrew the fill cap in the top of the power unit reservoir and fill to approximately 2” from the top of the fill cap.

Step 3 AFTER adding fluid:

a) Run system to extend the cylinder fully

b) Wait 1 minute to allow any excess air to escape through vented fill cap

c) Retract Cylinder fully

(NOTE: If fluid level is below two inches from the fill cap then add to approximately 2” from the fill port and repeat Step 3).

WARNING:

1) When adding fluid – always leave oil level at least 2” below fill cap
2) Always make sure cylinder is fully retracted before adding fluid

SYSTEM DESIGN

United States of America
Department of Labor
Occupational Safety & Health Administration

1910.29(a)
"General requirements"-

1910.29(a)(1)
"Application." This section is intended to prescribe rules and requirements for the design, construction, and use of mobile work platforms (including ladder stands but not including serial ladders) and rolling (mobile) scaffolds (towers). This standard is promulgated to aid
in providing for the safety of life, limb, and property, by establishing minimum standards for structural design requirements and for the use of mobile work platforms and towers.

1910.29(a)(2)
"Working loads."

1910.29(a)(2)(i)
Work platforms and scaffolds shall be capable of carrying the design load under varying circumstances depending upon the conditions of use. Therefore, all parts and appurtenances necessary for their safe and efficient utilization must be integral parts of the design.

1910.29(a)(2)(ii)
Specific design and construction requirements are not a part of this section because of the wide variety of materials and design possibilities. However, the design shall be such as to produce a mobile ladder stand or scaffold that will safely sustain the specified loads. The material selected shall be of sufficient strength to meet the test requirements and shall be protected against corrosion or deterioration.

1910.29(a)(2)(ii)(a)
The design working load of ladder stands shall be calculated on the basis of one or more 200-pound [91kg] persons together with 50 pounds [23kg] of equipment each.

1910.29(a)(2)(ii)(b)
The design load of all scaffolds shall be calculated on the basis of:
Light – Designed and constructed to carry a working load of 25 pounds per sq. ft. [11 kg].
Medium – Designed and constructed to carry a working load of 50 pounds per sq. ft. [23 kg].
Heavy – Designed and constructed to carry a working load of 75 pounds per sq. ft. [34 kg].
All ladder stands and scaffolds shall be capable of supporting at least four times the design working load.

1910.29(a)(2)(iii)
The materials used in mobile ladder stands and scaffolds shall be of standard manufacture and conform to standard specifications of strength, dimensions, and weights, and shall be selected to safely support the design working load.

1910.29(a)(2)(iv)
Nails, bolts, or other fasteners used in the construction of ladders, scaffolds, and towers shall be of adequate size and in sufficient numbers at each connection to develop the designed strength of the unit. Nails shall be driven full length. (All nails should be immediately withdrawn from dismantled lumber.)

1910.29(a)(2)(v)
All exposed surfaces shall be free from sharp edges, burrs or other safety hazards.

1910.29(a)(3)
"Work levels."

1910.29(a)(3)(i)
The maximum work level height shall not exceed four (4) times the minimum or least base dimensions of any mobile ladder stand or scaffold. Where the basic mobile unit does not meet this requirement, suitable outrigger frames shall be employed to achieve this least base dimension, or provisions shall be made to guy or brace the unit against tipping.

1910.29(a)(3)(ii)
The maximum platform width for any work level shall not be less than 20 in [508 mm] for mobile scaffolds (towers). Ladder stands shall have a minimum step width of 16 in [406 mm].

1910.29(a)(3)(iii)
The supporting structure for the work level shall be rigidly braced, using adequate cross bracing or diagonal bracing with rigid platforms at each work level.

1910.29(a)(3)(iv)
The steps of ladder stands shall be fabricated from slip resistant treads.

1910.29(a)(3)(v)
The work level platform of scaffolds (towers) shall be of wood, aluminum, or plywood planking, steel or expanded metal, for the full width of the scaffold, except for necessary openings. Work platforms shall be secured in place. All planking shall be 2-inch [51 mm] (nominal) scaffold grade minimum 1,500 f. [457 m] (stress grade) construction grade lumber or equivalent.

1910.29(a)(3)(vi)
All scaffold work levels 10 feet [3048 mm] or higher above the ground or floor shall have a standard (4-inch [508 mm] nominal) toeboard.

1910.29(a)(3)(vii)
All work levels 10 feet [3048 mm] or higher above the ground or floor shall have a guardrail of 2 [51 mm]- by 4-inch [102mm] nominal or the equivalent installed no less than 36 inches [914 mm] or more than 42 inches [1067 mm] high, with a mid-rail, when required, of 1 [25 mm] - by 4-inch [102 mm] nominal lumber or equivalent.

1910.29(a)(3)(viii)
A climbing ladder or stairway shall be provided for proper access and egress, and shall be affixed or built into the scaffold and so located that its use will not have a tendency to tip the scaffold. A landing platform shall be provided at intervals not to exceed 30 feet [9144 mm].

1910.29(a)(4)
"Wheels or casters."

1910.29(a)(4)(i)
Wheels or casters shall be properly designed for strength and dimensions to support four (4) times the design working load.

1910.29(a)(4)(ii)
All scaffold casters shall be provided with a positive wheel and/or swivel lock to prevent movement. Ladder stands shall have at least two (2) of the four (4) casters and shall be of the of the swivel type.

1910.29(a)(4)(iii)
Where leveling of the elevated work platform is required, screw jacks
or other suitable means for adjusting the height shall be provided in the base section of each mobile unit.

1910.29(e)
"Mobile work platforms" –

1910.29(e)(1)
"Design." Units shall be designed for the use intended and shall comply with the requirements of paragraph (a) of this section.

1910.29(e)(2)
"Base width." The minimum width of the base of mobile work platforms shall not be less than 20 inches [508 mm].

1910.29(e)(3)
"Bracing." Adequate rigid diagonal bracing to vertical members shall be provided.