SL100 2018
USER'S MANUAL
STAGELINE 2018

© 2018 - All rights reserved, Stageline Mobile Stage Inc. Any and all forms of adaptation or reproduction of this document, including the plans and drawings found herein, in whole or in part, are strictly forbidden without the written authorization of Stageline Mobile Stage Inc. Stageline products are designed and built by Stageline Mobile Stage Inc., the international leader in mobile staging.

TABLE OF CONTENTS

1. TECHNICAL INTRODUCTION

1.1 RECOMMENDATIONS

READ ALL INSTRUCTIONS CAREFULLY BEFORE SETUP!

The Stageline SL100 is **designed to provide safe and reliable service if operated according to these instructions.** This unit must be **properly maintained and correctly operated for total efficiency**. **Follow instructions** in sequence and **respect cautionary notes**. For your safety and the safety of others, **always follow basic safety precautions**.

- The SL100 unit must be operated by trained personnel certified by Stageline.
- This unit must be installed on a relatively smooth and level surface. The ground must be firm enough to support wheels and stabilizers without sinking.
- Leveling the unit is a very important step. To avoid difficulties, make sure the SL100 is properly leveled before proceeding any further with setup.
- The load capacity of floor stabilizers (or legs) is limited by their length. Distance from the ground to the top of the floor must not exceed 4'3'' (1.3 m). In situations where this regulation cannot be met, you must contact Stageline for alternative measures.
- Every pin has a purpose. Always pin and secure designated components and structures. When removing pins to set up, it is recommended that you do not place them on the ground or in your pockets.
- During setup, the structure must be checked and double-checked repeatedly. During each event, a visual inspection is your priority.
- Keep in mind that hydraulics are much stronger than the human body.
- The roof's fiberglass cover is not designed to support a person's weight. If for any reason you must access the roof, use 1/2'' (13 mm) plywood to redistribute the load of the crew on the purlins. Certain regulations require you to wear a safety harness.
- Do not attempt to customize the SL100 unit or make any structural changes without first consulting Stageline.
- When replacing hardware or accessories, use the same type as supplied by Stageline. Pins and bolts that are frequently lost must be replaced with the same grade and caliber.
- Check for oil leaks.
- Safety nets or similar devices must be attached to guardrails if the general public is given access to the stage.
- All figures indicated in this manual are nominal.

STAGELINE STRONGLY RECOMMENDS AN ANNUAL STRUCTURAL AND MECHANICAL INSPECTION TO BE DONE BY A COMPETENT AUTHORITY. BIENNIAL INSPECTION IS MANDATORY FOR RENEWAL OF THE UNIT'S CERTIFICATE.

1.2 CUSTOMER SERVICE

The technologically cutting-edge mobile stage unit you operate has been **designed, engineered and manufactured under Stageline's precise quality standards** to give you complete satisfaction and dependable operation for several years. However, with time, your SL100 mobile stage unit **may require some adjustments, maintenance or replacement parts**. Should you need technical assistance or parts, **please contact our Customer Service Department**.

Phone
1 450 589-1063 (Europe)
1 800 267-8243 (Toll-free / North America)
Fax
1 450 589-1711
E-mail
customer@stageline.com or info@stageline.com
Web Site
www.stageline.com

Address
STAGELINE MOBILE STAGE INC.
Customer Service
700 Marsolais
L'Assomption, Quebec
J5W 2G9
Canada

OUR TOLL-FREE TECHNICAL SUPPORT LINE IS AVAILABLE **24 HOURS A DAY, 365 DAYS A YEAR**
FOR ALL CERTIFIED TECHNICIANS (NORTH AMERICA ONLY).

1.3 SPARE PARTS AND SUPPLIED TOOLS

1 Engine Maintenance Manual
2 Black Ratchet Straps
1 Roof Rubber Sealing Strip Repair Sample
1 Windwall Vinyl Repair Sample
1 Level

A tool box with spare pins and designated tools for general maintenance can be purchased from Stageline.

1.4 REGISTRATION CERTIFICATE AND LOCK KEYS

The container holding the trailer registration and keys is located on the driver's side, at the front of the chassis.

2. OPERATION OF THE HYDRAULIC SYSTEM

MAKE SURE YOU FULLY UNDERSTAND THIS SECTION BEFORE PROCEEDING WITH SETUP.

CAUTION **If your stage is equipped with both a gas engine and an electric motor, use one power unit at a time.**

2.1 GAS HYDRAULIC POWER UNIT

- Remove the compartment cover.
- Turn the engine on. Turn the choke on.
- Pull on crank-cord handle or turn the electric starter key.
- Gradually turn the choke off. In cold weather, it may be necessary to keep the choke at mid-position for approximately three (3) to four (4) minutes to let the engine warm up. Then turn the choke off.
- For winter use conditions, refer to the engine user manual.
- Do not leave the engine idling, as this will cause oil to foam in the tank. Keep the throttle slightly engaged.
- The hydraulic system works best at different RPM for different operations. Adjust speed accordingly. Higher engine speeds will generate faster hydraulic movements.

*Sliding controls are located around the engine's left side. Arrows point to the **"On" position.***

THROTTLE ←

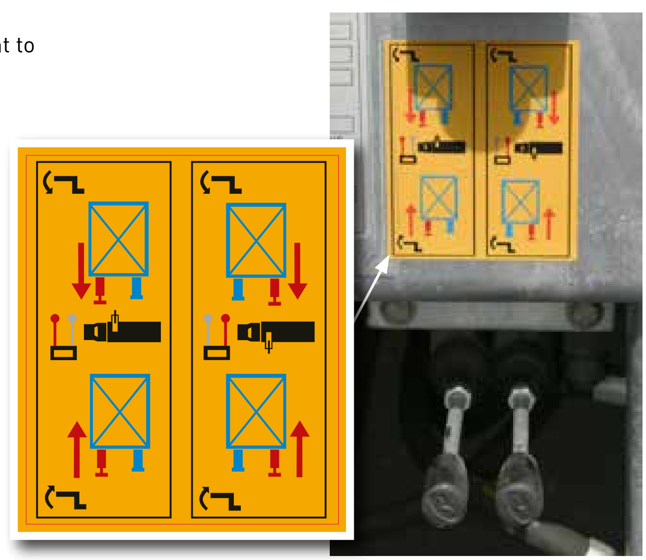
CHOKE ←

GAS LINE →

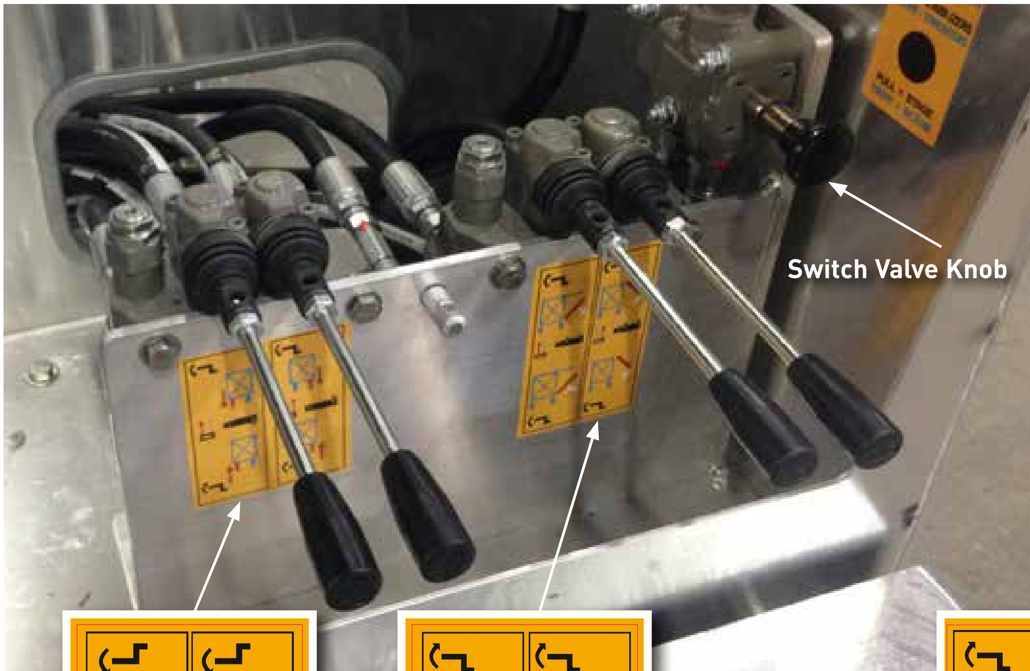
2.2 HYDRAULIC LEVERS

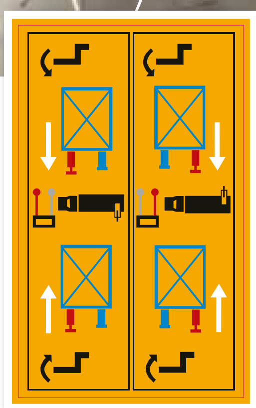
- Push on the switch valve knob located in the engine compartment to activate the hydraulic stabilizers. Pull on the knob to activate roof and floor panels and raise the roof.
- Each stabilizer, floor and roof panel has its own control lever.
- The roof is raised with two (2) levers, one for each column. Both levers can be operated simultaneously with caution.

IMPORTANT Levers are spring-loaded. In case of problems, release levers. System will stop.

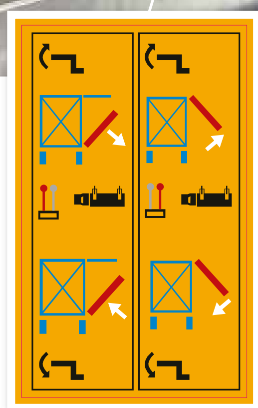


Front Stabilizer Levers



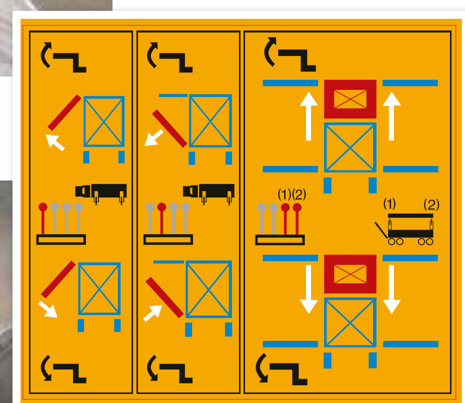


Rear Stabilizer Levers



Upstage roof and
floor panel levers

Downstage roof and floor
panel and roof levers



IMPORTANT Levers are spring-loaded. In case of problems, release levers. System will stop.

3. STAGE SETUP

When parking the trailer on site, remember that by default downstage is located on the left side of the vehicle, as seen from the driver's perspective. Make sure the area where the SL100 will be installed is clear of aerial cables, tree limbs, street lamps and other hazards. Remember that trailer size is not the stage's final configuration, as its width will more than triple once the stage is deployed and the length will increase if lateral banners are installed.

FOLLOW INSTRUCTIONS IN SEQUENCE AND RESPECT CAUTIONARY NOTES.

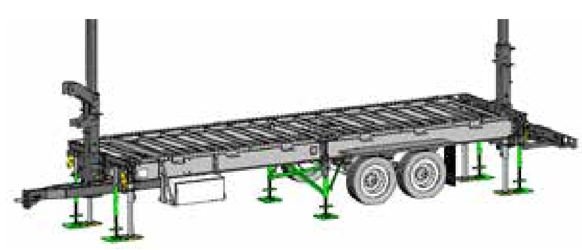
3.1 LEVELING TRAILER UNIT

CAUTION

Leveling the trailer is a very important step. To avoid difficulties, make sure the stage unit is properly leveled before proceeding with the setup.

- Place a rubber/woodpad under each hydraulic stabilizer (4). Refer to Section 5.4 for additional information.
- Start the engine and let it warm up.
- Push the switch valve knob.
- Lower all four (4) hydraulic stabilizers and level trailer lengthwise first and then widthwise. During this operation, the trailer must remain relatively leveled. Raise in small increments of a maximum of 6" (15 cm) at a time.

  For greater stability on softer ground, it is preferable to leave the wheels on the ground.
- Shut the engine off.
- Once leveled, secure the trailer and hydraulic stabilizers with the six (6) legs and the screw jacks found under the chassis. To retrieve the screw jacks, partially open the roof panels (see Section 3.2.1 for details).



CAUTION

Make sure the legs underneath the trailer are properly secured before proceeding any further.

3.2 SETUP

3.2.1 OPENING ROOF PANELS

CAUTION
As a security measure, make sure surroundings of the trailer are clear.
Do not operate more than one control lever at a time except when lifting the roof.

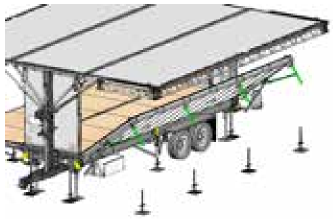
- Remove the ratchet straps locking the roof panels at the front and rear of the unit.
- Pull the switch valve knob.
- Start the engine.
- If required, open the overhang rigging beams at each extremity of the roof panel.
  Pin and secure.
- Raise the roof panels to a horizontal position, one side at a time.

3.2.2 OPENING FLOOR PANELS

- Lay out leveling jacks, support leg extensions and wooden pads on the ground where the support legs will be located. Make sure there is nothing left in the panels to prevent unwanted vibrations during use.
- One at a time, slowly lower the floor panels to working height.

CAUTION
Pulling the floor lever completely will cause the panel to lower rapidly.

- Release the floor legs from underneath the floor panel.
- Continue lowering the panels until they are horizontal.
- Place a woodpad under each floor leg.
- Insert leveling jacks into the floor legs.
- Level the stage floor with hydraulics, then with the leveling jacks.
- Only after the installation of all support legs will the floor capacity be rated.
  The load capacity of the floor is limited by the length of the legs.
  The distance from the ground to the floor must not exceed 4'3" (1.3 m).



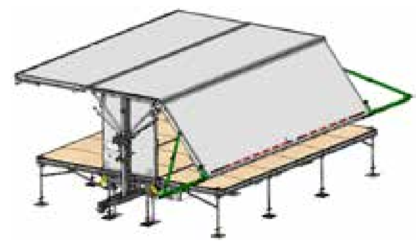
CAUTION
Do not walk on the stage floor before the leveling jacks are installed.

- Once the floor panels are leveled and secured, install cover plates over hinges.
- Install the floor cross braces (4) at each end of the floor panels.
- Shut off the engine.
- If you have equipped your Stageline SL100 with extension platforms, refer to point 8.7 for installation.

3.2.3 INSTALLING WINDWALL

If you have equipped your Stageline SL100 with windwalls, refer to point 8.2 for installation. The Stageline SL100 windwalls will cover the rear as well as both upstage sides of the stage.

3.2.4 INSTALLING SOUND, LIGHT EQUIPMENT & ACCESSORIES

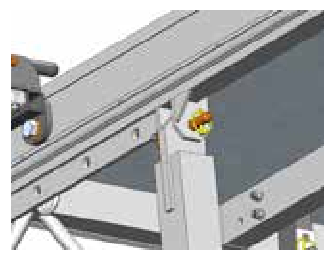


- Lower the downstage roof panel to working height.
- Make sure the overhang rigging beams are secured.
- Install sound and light equipment as necessary.
- If you have equipped your stage with banner supports, refer to points 8.3 and 8.4 for installation.

CAUTION

The SL100 can lift equipment rigged to the roof structure.
Load capacities must be respected. Refer to the Rigging Plan for details.

3.2.5 RAISING ROOF STRUCTURE

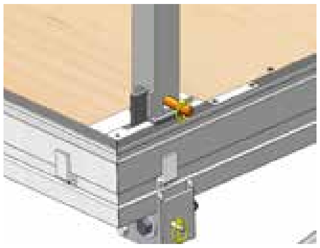


- If the corner posts are not used, refer to point 8.11 for cylinder locks installation.
- Pin the four (4) corner posts to the roof brackets.
- Join together both upstage and downstage corner posts using rubber straps to prevent dragging on the floor.
- Start the engine.
- Raise the roof panels to their maximum height. Periodically verify the windwall.
- Make sure all the hooks located along the bottom of the windwall are free of any restraints and blockage.
- The roof structure may be raised using both control levers simultaneously. Use caution, as the rear cylinder tends to raise slower than the front cylinder. Handle the levers accordingly.

CAUTION

Check the windwall when raising the roof structure. Make sure it does not get pinched or snagged with surrounding structural components. Serious damage to windwall could occur.
Never attempt raising the roof structure unless roof panels are in the horizontal position. Severe damage could occur.
Always raise the roof structure slowly and evenly. Loads must be symmetrically distributed in the roof structure. Refer to the Rigging Plan for details.

- Insert pins into the lower holes of the front and rear telescopic columns in order to lock the middle section of the columns into place.
- Raise the roof structure to approximately 4' (1.2 m) high or until you see the pin holes under the top section of the columns. Pin and secure.
- Lower the roof structure enough to remove the pins at the bottom of the columns middle sections.
- Remove the middle pin in the corner posts. Pull on the bottom section.
- Resume raising the roof structure. Once the roof structure is fully raised, pin and secure the bottom of the middle section with the remaining two (2) locking pins. Gently lower the roof to settle its weight on the column pins.
- Pin and secure the downstage and upstage corner posts to the floor. Gently lower the roof panels to settle their weight on the corner post pins.
- Attach and tighten all hooks at the bottom of the windwall to the stage floor, if applicable.



CAUTION **Refer to the Rigging Plan for lifting restrictions.**

3.3 FINAL STAGE SETUP

3.3.1 INSTALLING STAIRWAYS

There are two different stairways available. If you purchased the adjustable stairway, please refer to point 8.10 for installation.

- Slide the stairway into the stage floor edge brackets. If positioned onto an extension platform, set against platform edge. Remove the pin securing the hook on each side of the first upper step, position hook, pin and secure.
- Remove the pin on each interior side of the stairway between the first and second steps off the ground.
- Adjust the legs. Pin and secure. Maximum allowable load is 600 lb (272 kg).
- Insert the handrails into the receptacles. Pin and secure.

3.3.2 INSTALLING GUARDRAILS

To install guardrails as a safety measure for your stage floor, please refer to point 8.6.
For extension platform guardrails, please refer to point 8.8.

4. TRAILER SETUP

4.1 LOWERING ROOF STRUCTURE

- Unfasten all windwall bottom hooks, if applicable.

CAUTION
Beware of flying windwall hooks in windy conditions.
To protect and extend the life span of your windwall, pull it onto the stage floor as the roof is being lowered.

- Remove the locking pins from the corner posts.
- Start the engine, raise the upstage roof panel and attach both corner posts together with rubber bungee straps.
- Raise the downstage roof panel and attach both corner posts together with bungee straps.
- Raise the roof and remove the column pins from the bottom sections.
- With the engine running, lower the roof as evenly as possible.
  A height difference of no more than 4'' to 6'' (10 to 15 cm) between the front and the rear of the trailer is acceptable.
- Resume lowering the roof.
- Insert the pins in the bottom sections of the front and rear telescopic columns.
- Slightly raise the roof structure in order to remove the weight on the pins from the upper sections of the front and rear telescopic columns.
- Remove the pins from the top sections of the front and rear telescopic columns.
- Slide in the upstage and downstage corner posts.
- Raise the roof panels slightly to disengage the cylinder locks, if applicable. Lower the roof all the way down.
- Lower the roof panels to working height.

CAUTION
Untie the corner posts before they reach the stage floor. They will drag on the stage floor during closing of roof structure. Make sure they do not get stuck or collide together. Severe damage to the corner posts and the floor could occur.

- Remove the corner posts.
- Remove and fold the windwall in an area clear of any material.
- Remove the banner supports, all equipment rigged to the roof and skirting.
- Raise the roof panels back to the horizontal position.
- Remove the extension platforms.

4.2 CLOSING FLOOR AND ROOF PANELS

- Remove the floor cross braces from each corner.
- Remove the cover plates from the floor hinges.

CAUTION
Remember to remove the floor cross braces otherwise damage will be caused to the trailer and the floor structures.
Remember to remove the cover plates otherwise damage will be caused to the deck and the floor structures.

- Load all equipment to be transported into the trailer unit. All cargo must be properly secured.
  Refer to point 5.7.

- Raise the floor panels to working height.
- Fold the built-in floor legs within the floor structure. Pin and secure.

CAUTION **Failure to fold built-in floor legs will cause serious damage to the roof panels.**

- Close the floor panels completely.
- Store leveling jacks and struts underneath the floor.
- Lower the roof panels to working height.
- Fold the overhang rigging beams. Pin and secure.
- Close the roof panels, one side at a time.

CAUTION **Make sure there are no obstructions between the closed floor panels and the roof panels.**

4.3 LOWERING TRAILER TO GROUND LEVEL

- Slide up all six (6) leg extensions underneath the chassis. Pin and secure.
- Lower the trailer slowly and steadily until it rests on its wheels.
  Trailer must remain relatively leveled. Lower the trailer in small increments of approximately 6'' (15 cm) at a time.
- Hitch the trailer to the towing vehicle.
- Connect lighting and braking power cord to the tractor.
- Check and connect the emergency breakaway cable to the tractor (refer to section 7.4).

CAUTION **Make sure hauling system is secured before leaving site.**

- Raise all four (4) stabilizers completely.
- Fasten the ratchet straps to secure the roof panels at the front and rear of the trailer.
  Use the provided hooks; do not install ratchet straps to rigging plates.
- Make sure the trailer is ready for transport. All retractable equipment and components must be fastened and secured. Storage and engine compartments must be closed and secured.

NOTE **If your stage is equipped with an air ride suspension:** Make sure the suspension sets evenly in its sockets. Do not drop the stage onto its wheels before completing disassembly. Make sure the air bags do not become wedged while inflating.

CAUTION **Stageline Mobile Stage recommends a speed limit of 60 mph (97 km/h). In the event of windy conditions, reduce your speed.**

5. WARNINGS AND SPECIAL MEASURES

5.1 SPECIAL LOADS AND OVERLOAD

5.1.1 DYNAMIC LOADS

All loading criteria used for the design of the Stageline SL100 mobile stage meet or exceed the requirements of American and European standards. Moreover, when designing our products, dynamic loads generated by the normal operation of a stage were taken into account, such as lighting and sound equipment movement, winch operation as well as dance or acrobatic performances.

However, some unusual dynamic loads, such as stunt performances on the stage floor or trapeze artists securing themselves to the structure could be dangerous for the users and the equipment. When special dynamic loads are anticipated, please contact Stageline beforehand.

CAUTION

Certain dynamic loads may provoke sudden and excessive movements of the floor and roof structures. This could jeopardize the stage's stability and the safety of its users.

5.1.2 ADDITIONAL LOAD FROM PERIPHERALS

Standard supports are provided along the floor sides to allow the insertion of floor extensions. The stages are not designed to support additional vertical and horizontal loads brought on by this peripheral equipment. It is therefore necessary to plan the position of peripheral equipment in such a way as to not add significant loads to the stage structure. If in doubt, contact Stageline.

5.1.3 PREVENTION OF FLOOR OVERLOAD

The SL100 mobile stage manufactured by Stageline is designed to support a uniformly distributed load of 150 lb./sq. ft. (732 kg/m²). To support this weight, the stage must be in good condition and set up in accordance with the procedure found in this manual. It is possible to raise the floor capacity of the stage. Please contact Stageline for details.

Taking into account the floor surface, its total capacity is substantial when all the equipment is equally distributed. However, a heavy load concentrated on a small surface could damage the floor.

Overload occurs when a local curvature of the floor structure exceeds 3/8'' (10 mm) or a curvature in the plywood between its support girders exceeds 1/8'' (3 mm).

If the floor structure is overloaded, it can be supported locally by adding legs. These must be placed underneath the structure girders. They must also be solidly secured in order not to fall if the stage were to move.

If the plywood floor covering is overloaded, the load must be moved or redistributed on the girders using beams or platforms.

CAUTION

Even if the floor seems to support an overload, this does not necessarily mean that the load is acceptable and safe. Vibrations or a slight weight addition could cause a sudden rupture.

5.1.4 RIGGING LOAD MANAGEMENT

The SL100 mobile stage manufactured by Stageline is designed with rigging points. The positioning and the load capacity of these points have been established to allow the highest number of light and sound layouts.

A presentation of all rigging points, their maximum capacity as well as the load combinations permitted can be found in the Rigging Plan.

CAUTION

Under no circumstances can loads other than those shown be added without prior written approval by Stageline.

In the case of an unusual layout, please contact Stageline and submit a proposed rigging plan before installing any light or sound systems.

5.2 OPERATING IN WINDY CONDITIONS

STAGE CONFIGURATION	WITH WINDWALL	WITHOUT WINDWALL
Standard with All Corner Posts	77 mph (123 km/h)	115 mph (185 km/h)
Standard with Cylinder Locks	64 mph (103 km/h)	90 mph (144 km/h)
Bandshell Setup*	N/A	50 mph (80 km/h)

*Special restrictions apply; refer to technical drawings for details.

5.2.1 ANTICIPATION OF EXTREME WIND

The SL100 mobile stage is designed to resist winds as per the table above. However, this wind resistance depends on a proper installation of all support equipment and braces. In any windy conditions, the stage must be inspected and all its components must be secured as described in this manual.

High velocity winds are rare but possible. In such situations, it is important to take emergency measures (refer to Procedures in Case of Heavy Winds for details):

1. The public and all personnel present must evacuate the area around the stage and remain at least 100 ft. (30 m) away.
2. When possible, all sound and lighting equipment should be lowered and secured.
3. Windwall doors should be rolled up and fastened.
4. The roof structure should be lowered to reduce exposed surface only if winds are still below 30 mph (50 km/h). The stage is more vulnerable during lowering and raising operations.
5. If the storm intensifies and the stage starts to move or partially raise, openings should be slashed in windwall. It is better to sacrifice a windwall than to risk damage to the equipment or injury to its personnel or the public.

CAUTION

The most probable scenario during a violent storm is that the windwall will be torn away. This is why it is so important to keep all technicians and the crowd at a safe distance.

5.2.2 SETUP AND REMOVAL OF WINDWALL

The windwall is the element most at risk in windy conditions and its installation can become problematic. Wait until the wind has calmed down before installing the windwall. If this is not possible, fasten the windwall to the stage floor before raising the roof structure so as to not lash and hurt anyone. We also suggest increasing your staff to have this operation done faster and more safely. If the wind speed exceeds 20 mph (30 km/h), windwall installation is not recommended. If the stage must be set up, do not install the windwall.

CAUTION

Any component attached to a windwall, such as snap hooks and ratchet straps, can be moved or lifted suddenly by the wind. To prevent any injuries, these components must always be secured.

5.3 DAMAGED COMPONENTS

Stage components can get damaged for different reasons throughout their lifetime. When you find a damaged component, it is important to identify the cause of its failure. A damaged component can be the result of a failure of another component. In this case, stop using the component immediately. Evaluate the damage to see if the component can be repaired or should be replaced.

CAUTION **A small defect can conceal a major problem, such as microscopic cracks in metal or in the weld.**

5.4 GROUND AND GEOGRAPHIC STATUS

Stage stability is ensured by stabilizers and legs set down on the ground. The ground has to be firm enough to support the concentrated load applied by these support points (refer to the Annex).

Sinking trailer tires are a sign of the weak capacity of the ground. If tires sink more than 1'' to 1½'' (3 to 4 cm), do not set up the stage at that location. Contact geotechnical services for more information and instructions.

CAUTION **Supporting properties of certain soils are highly dependent on their humidity level. A site that seems quite firm may lose some of its support capacity due to a rainstorm.**

Before setting up a stage, it is important to check the ground's support capacity. If the stage is positioned on a slope or atop a hill, make sure there is no risk of landslide. It may be necessary to consult with geotechnical services.

5.5 TRAILER CENTER OF GRAVITY

A Stageline mobile stage is a combination of different panels that can be deployed and closed using hydraulic cylinders. These panels are joined to a trailer frame. Once closed, this assembly looks like any other trailer. However, because of its design, the stage has a slightly higher center of gravity on the vertical axis than a standard trailer.

CAUTION **The unit could overturn more easily when forced into a sharp turn or as a result of a driver's mistake.**

5.6 PARKING YOUR UNIT

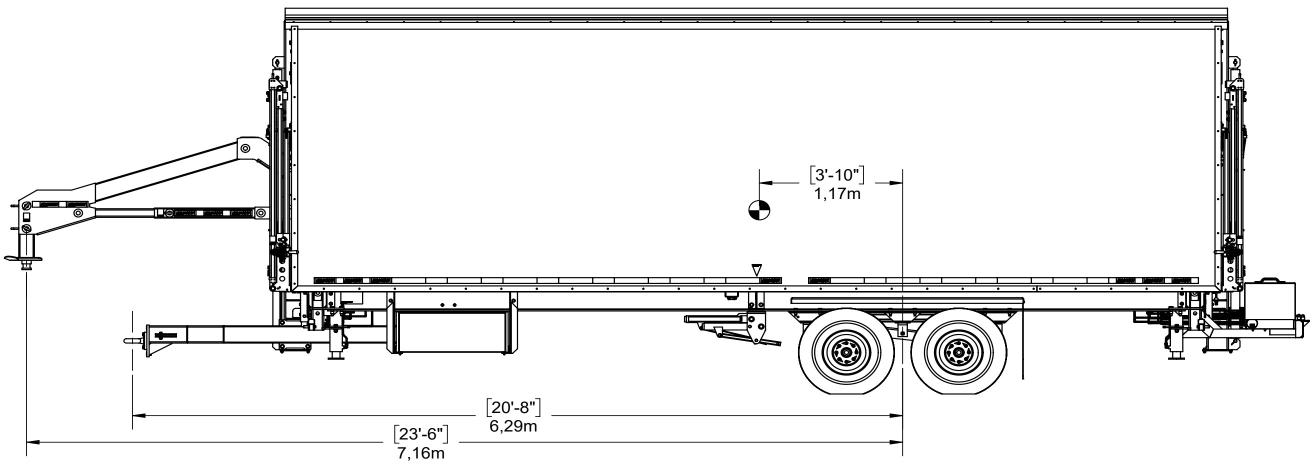
The SL100 is equipped with a braking system that is only activated when in movement. Therefore, when parking your unit, always place one (1) rubber chock in front of a front wheel and one (1) behind a back wheel.

5.7 FREIGHT CAPACITY AND POSITIONING

Stageline mobile stages can transport a certain quantity of freight. The weight of this freight must be carefully distributed between the hitching device and the axles of the trailer in a ratio of one (1) to three (3). Therefore, the location of the center of gravity of the cargo should be placed 3'10'' (1.17m) in front of the center of the axles.

CAUTION **The maximum vertical load from the hitching device must not exceed 3,750 lb. (1,700 kg). Exceeding this load capacity could damage the system.**

IMPORTANT When loaded with equipment such as corner posts, windwalls, guardrails, and stairways, a vertical load of 908 kg (2,000 lbs.) is already present on the hitching device.

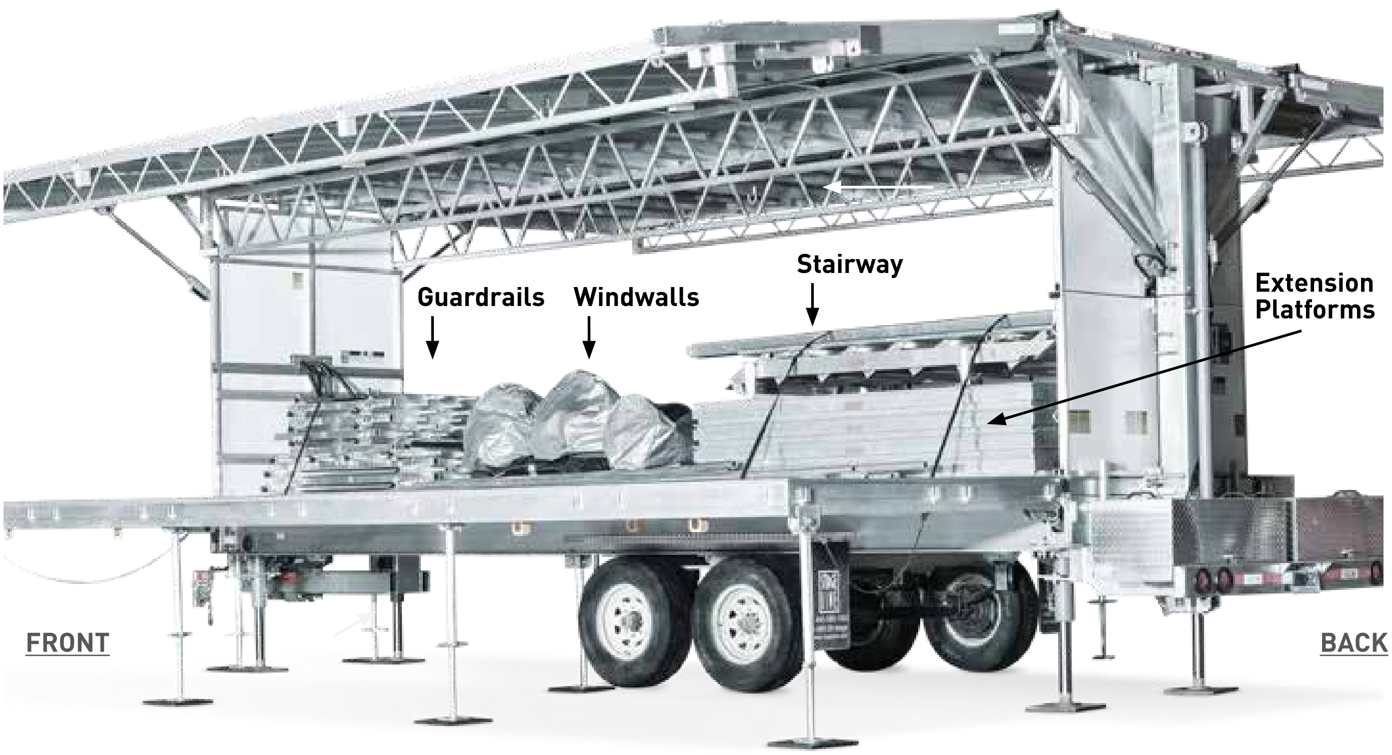


The table below indicates how the weight should be distributed between the hitching device and the centre of the axles according to load positioning.

LOAD POSITION (FROM HITCHING DEVICE)	LOAD DISTRIBUTION HITCHING DEVICE/FRONT OF STAGE	AXLES/REAR OF STAGE
0 x D	100%	0%
0.25 x D	75%	25%
0.5 x D	50%	50%
0.75 x D	25%	75%
1.0 x D	0%	100%
1.25 x D	-25%	125%

D: Distance between the hitching device and the centre of the axle.

Because of the axle's position, the weight of the stage is for the most part set on the axle. Loading your stage efficiently will allow you to transport an impressive quantity of scenic accessories and equipment.



5.8 WINTERTIME

Stageline Mobile Stage Inc. designed its stages to meet or exceed applicable requirements as described in the current building codes and their supplements. The nature of the structures manufactured by Stageline requires that environmental loads considered for the designs are reduced using the provisions contained in ANSI E1.21 2013. Thus, for safety concerns, specific procedures need to be applied by trained personnel (refer to official Stageline documents for details) depending on current and forecasted weather conditions.

During winter in regions where snow and ice accumulations are possible, the weather can be hard to predict to an acceptable degree of precision. To guarantee a safe use of Stageline mobile stages during this season, special measures described herein are mandatory and pertain to standard safety procedures.

The following restrictions apply:

1. If installed over a snow covered surface, a certified technician must remain on site at all times while the stage is open. If the technician needs to leave the site for more than 2 hours, the stage must be closed.
2. During use of the stage, monitor regularly (minimum every 2 hours) and check for abnormalities such as sinking, slippage on the ground or snow/ice formations on the structure.
3. Overall structure resistance is calculated at 20 psf. Snow can weigh as much as 10 psf for every 1 foot of accumulation. It is therefore recommended to remove snow or ice from the roof before it builds-up; thicker than 6 inches of snow, or 1 inch of ice. During wintertime, to account for loads generated by precipitations as described above, rigging capacity of the roof should therefore be used at 50% of its normal capacity.

4. Pay attention to weather forecasts, especially if heavy precipitations are anticipated. It is preferable to close the stage as a preventive measure.
5. The public, as well as all non-essential personnel must remain clear of the stage while snow removal and de-icing processes are underway.
6. If the stage is set up directly on asphalt or concrete and temperatures are below the freezing point, wind resistances are reduced by 50%. For wind resistances to remain the same, ballast weights must be added. On any other surface type (such as snow or ice), ballast weights are mandatory. Contact Stageline for details.
7. If the stage is set up on a snow or ice covered surface, Stageline cannot take responsibility for ground stability. Contact geotechnical services for an evaluation and instructions.

If additional information or clarifications are required, please do not hesitate to contact Stageline.

5.9 BANDSHELL CONFIGURATION

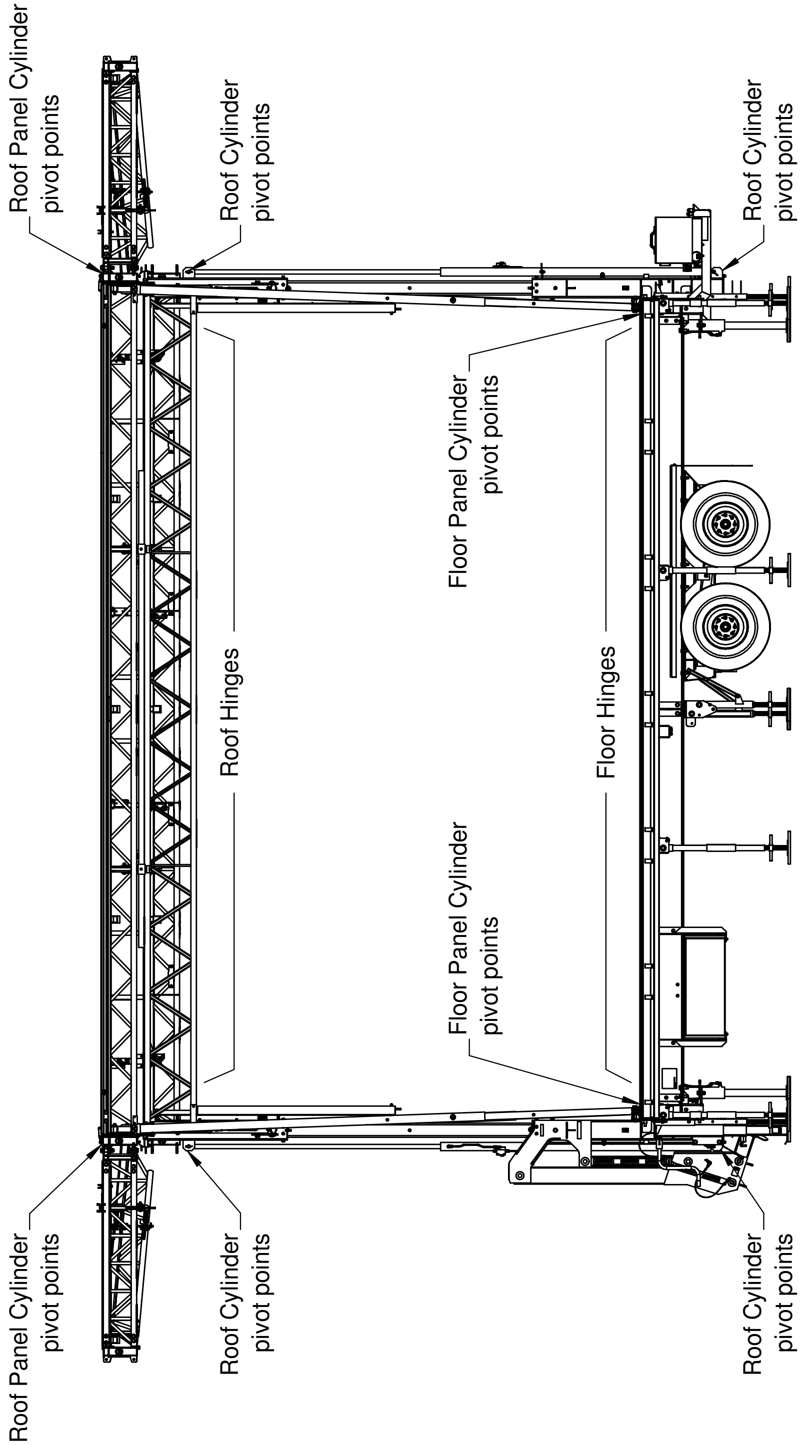
Setting up the SL100 in the bandshell configuration requires that special measures be taken to guarantee a safe use.
See the INSTALLATION OF BALLAST FOR BANDSHELL CONFIGURATION drawing in the Annex for details.

6. TROUBLESHOOTING

SITUATION	CHECK POINTS
Gas engine will not start	• Check fuel level. • Open fuel valve (located under air filter). • Check spark plug connection. • Check oil level. • Check if emergency stop button is engaged.
Gas engine will not idle properly	• Check if choke is on. • Clean or replace spark plug. • Clean air filter. • Check state of gasoline (stale, contaminants).
Electrical motor stops	• Check electrical circuit supply. • Remove compartment cover for ventilation. • If motor casing is hot, let motor cool down for 30 to 60 minutes.
Floor panel will not close	• Remove any component or accessory left on the floor panel.
Hydraulic cylinder will not move	• Check all pins. • Look for any obstruction. • Check engine throttle. • Check hydraulic oil pressure.
Trailer lights do not come on	• Check that trailer is connected to towing vehicle. • Verify trailer connection for loose wires or contamination. • Check towing vehicle's fuses. • Verify state of towing vehicle's battery (if engine is not running).

7. MAINTENANCE

7.1 STAGE LUBRICATION DIAGRAM



7.2 STAGE MAINTENANCE RECORDS

ITEM	SERVICE INTERVAL	LUBRICANT	DATE	DATE	DATE	DATE	NOTES
Aluminum Structure	Visual inspection of structure and welded points before each use. Thorough annual inspection.						
Axles	Inspect hubs, drums and bearings annually or every 19,000 km. Replace grease.	NLGi Grade 2 Lithium grease or equivalent					
Suspension	Grease leaf spring ends every 5,000 km.	NLGi Grade 2 Lithium grease or equivalent					
Brake Components	Test before each use. Adjust after the first 1,500 km and thereafter every 4,800 km.						
Electric System	Check before each use. Thorough annual inspection.						
Wheels and Tires	Check tire pressure with each use. Check and re-torque wheel nuts after first 80 km (120–140 lbs–ft.) and periodicaly thereafter. Visual inspection of wheel nut indicators with each use.						
Hydraulic Lines	General inspection after each use for leaks, break-age, cuts. Thorough annual inspection.						
Hydraulic Filter	Change annually. Synthetic filter. 10 microns minimum.						
Hydraulic Fluid	Check for contamination annually. Oil should be red & clear. If necessary, flush system and refill.	ATF oil Dexron III or equivalent					
Cylinders and Hinges	Grease annually or prior to a long storage period.	Synthetic-based lube with silicone®					
Cylinder Rods	Lubricate before long period of inaction. It is recommanded to operate and use all the hydraulics at least once a month.	ATF oil					
Telescopic Roof Columns	Clean annually. Lubricate if necessary.	ATF oil					

Note: The frequency of inspection for the trailer and stage components set by Stageline Mobile Stage inc. is a minimum safety requirement and does not prevail over the laws and regulations of the country, state, province or town where it is operated.
Important: Before and during each event, a visual structural inspection must be your priority. As steel tends to rust with time, all parts subjected to friction should be sanded and repainted as necessary.

7.3 ENGINE MAINTENANCE RECORDS

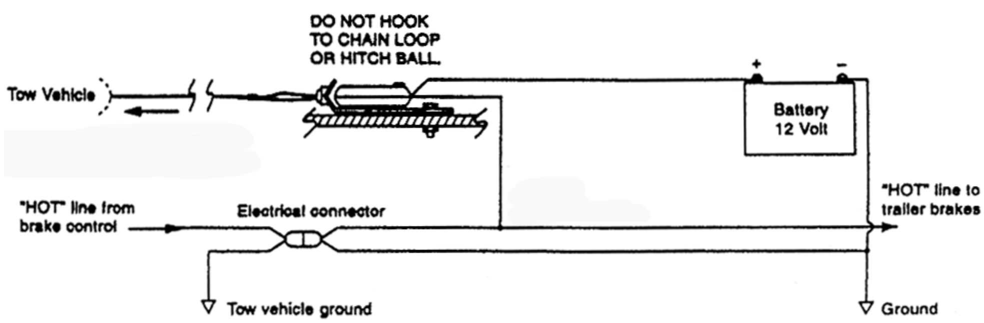
ITEMS	REQUIRED SERVICE INTERVAL	DATE Check / Change	DATE Check / Change	DATE Check / Change	DATE Check / Change	DATE Check / Change	NOTES
Engine Oil 10W30 (-5°C to 30°C) 5W30 (-30°C to 20°C)	Check before each use. Change every 6 months / 100 hrs or less.						
Air Filter	Check before each use. Clean every 3 months / 50 hrs or less.						
Spark Plug	Clean or change every 6 months / 100 hrs or less.						
Sediment Cup	Clean every 6 months / 100 hrs or less.						
Fuel Line	Check every 2 years and replace when necessary.						

Note: Refer to Engine Owner's Manual for other maintenance tips, such as valve clearances, etc.

7.4 BREAKAWAY SYSTEM

7.4.1 BREAKAWAY SYSTEM CHECK

- Disconnect trailer's electrical connection from the tow vehicle.
- Raise the trailer on its hydraulic stabilizers until all wheels are off the ground.
- Spin one of the wheels.
- Pull the breakaway pin. If the wheel stops, there is adequate charge for the battery to function.
- While the pin is pulled, move the tow vehicle forward. Brake should be on and wheels locked.
- Replace the pin and secure to the tow vehicle.
- Plug the trailer's electrical connection into the tow vehicle receptacle.
- Test brakes with the brake controller.
- When disconnecting the trailer from the tow vehicle, make sure to replace the safety pin on the breakaway switch.
  Failure to replace the safety pin will drain the battery and render the breakaway system useless.
  This system should NEVER be used as a parking brake.



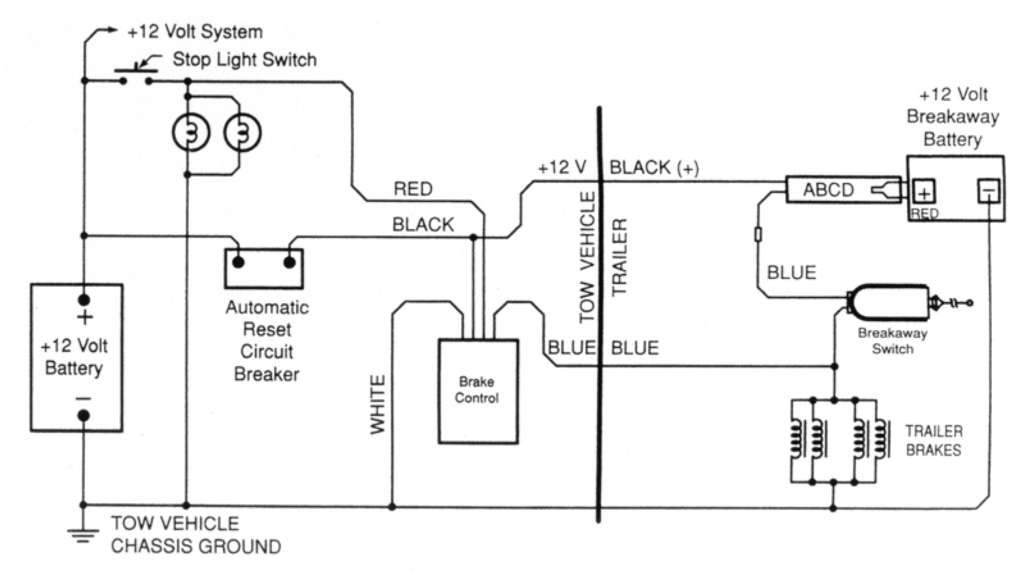
IMPORTANT Check your breakaway system periodically to ensure that wiring and connections are secure. A short or an open circuit can result in a no-brake condition.

CAUTION

Attach the breakaway switch cable securely to the tow vehicle. Locate the attachment so little slack is left in the cable, but enough to allow for turning without disengaging the pin. The cable will activate brakes the instant the trailer becomes disengaged.

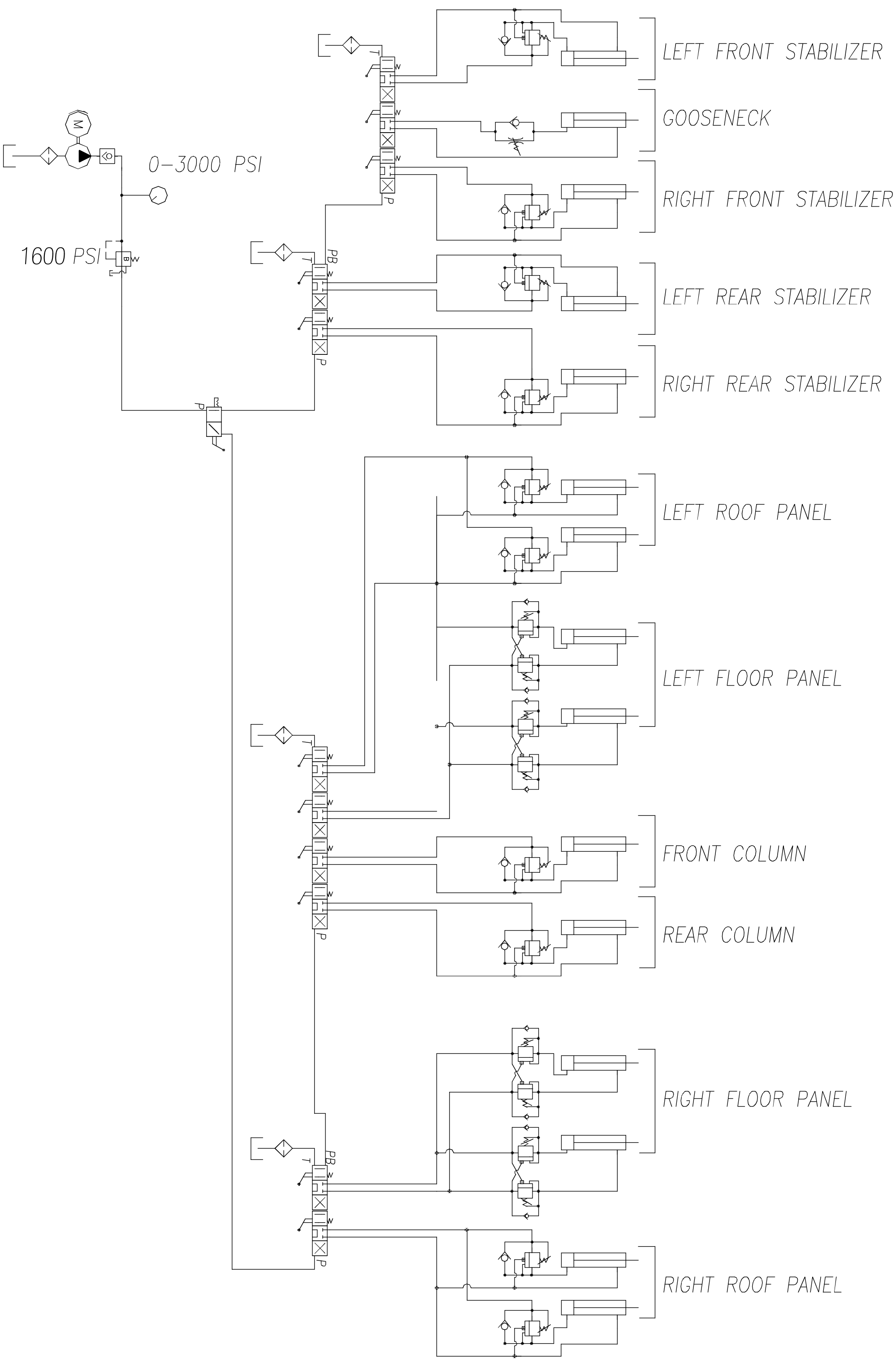
7.4.2 MAINTENANCE AND DISPOSAL OF BATTERY

- Disconnect the trailer's electrical connection from the tow vehicle.
- The maximum discharge current is 40 amp.
- The maximum charge current must be limited to 1.2 amps or less. Use a heavy-duty, two-stage maintenance charger or a commercial (AC to DC) 12-volt charger.
- Under normal operating conditions, this battery has a service life of 4-5 years in standby applications or 200-1000 charge/discharge cycles depending on the depth of discharge and the rate of charge.
- Avoid over or undercharging the battery.
- It is recommended to fully charge the battery once every month or two months to avoid complete drainage (the battery will need to be replaced if this happens).
- Do not place the battery in close proximity to objects that can produce sparks or flames. Do not store the battery in a discharged state or at an elevated temperature.
- Do not allow the battery to freeze (if unused for extended periods of time in freezing conditions).
- Do not expose the battery case to organic solvents or adhesives. Do not throw batteries into fire as they could rupture or explode. Do not attempt to disassemble the battery.



Battery Charging Diagram

7.5 HYDRAULIC DIAGRAM



7.6 STORING YOUR UNIT

Your Stageline® SL100 has been designed to last you at least 20 years. If you are using it in a continental climate, you might have to store it for a period ranging from four (4) to six (6) months during the off-season or wintertime. We recommend that you carry out the following steps to avoid any damage or deterioration during this period of inactivity.

- Store the stage windwall and skirting off the ground in a dry location.
- Cover the trailer and gooseneck with a protective wax.
- Remove the ratchet straps securing the roof panels.
- Close the roof panels completely.
- Grease the extremities of the cylinders and exposed cylinder rods.
- Change the engine oil.
- Fill up the gas tank and add a gas stabilizer.
- Store the battery off the ground in a dry location.
- Close the hydraulic oil flow valve, replace filter and reopen valve.

Maintenance required on a monthly basis during a storage period:

- Charge the battery, preferably with a battery charger.
- Start the engine and run until it warms up.
- Open and then close all cylinders i.e. central roof, roof panels and floor panels.

8. OPTIONS

Your SL100 has been equipped with one or more of the following options as per your request. These features are hereby explained to better facilitate the day-to-day use of your stage.

8.1 GOOSENECK

8.1.1 LOWERING GOOSENECK

- Gooseneck handling should be done by two (2) technicians due to the weight of the gooseneck parts.
- Remove both locking pins and take away the head of the gooseneck (picture 1).
- Remove the locking pin on the telescopic arm (picture 2) and manually lower the gooseneck (picture 3).

Picture 1: gooseneck head

Picture 2: telescopic arm

8.1.2 RAISING GOOSENECK

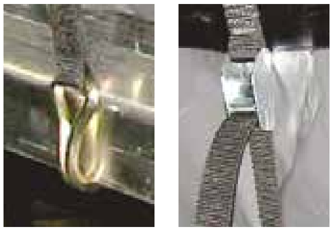
- Lift the gooseneck and put the locking pin back in on the telescopic arm.
- Install gooseneck head and insert both locking pins.

Picture 3: lowered gooseneck

8.2 WINDWALL

- Raise the upstage roof panel to working height.
- Starting at the center of the rear panel, insert the right end of windwall keder into the aluminum track and slide it up to the corner of the panel. Repeat the same operation with the left end of the windwall.
- Insert and slide the windwall keder into the aluminum track on each side of the panel starting from the corner and up to the center of the roof. Attach the corner end of the windwall with hooks on the other side of the telescopic column and tighthen.

- Monitor the windwall while the roof is being raised to ensure that it does not get caught in surrounding components.
- Hook straps to the floor edge. Tighten and secure once the stage guardrails have been installed.



CAUTION

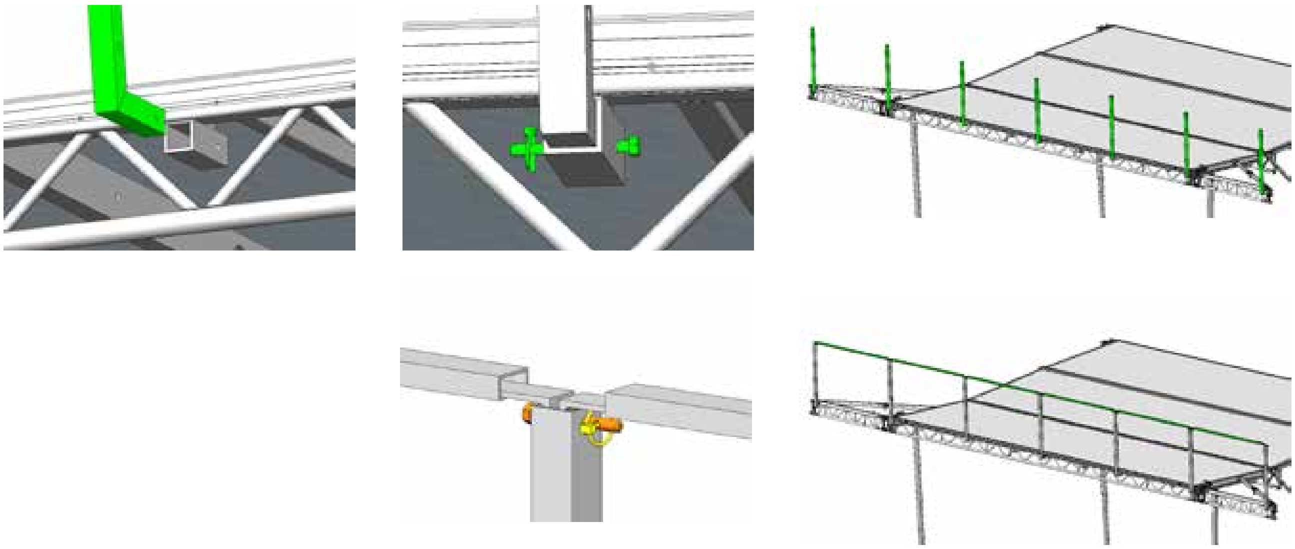
Ensure that the windwall does not get stuck between the cylinders and any other component. This could damage the windwall.

8.3 ROOFTOP BANNER SUPPORTS

Two versions of the rooftop banner supports are available from Stageline. A short version will allow the installation of a rooftop banner that extends from one end of the roof panel to the other end. The long version will allow a rooftop banner to be installed from one end of a side overhang beam to the other. Both versions are installed in the same manner. Refer to the Banner Book for detailed information about the banners.

The process is the same for all the rooftop banner supports.

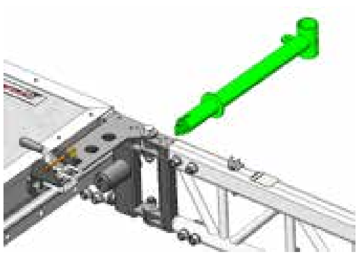
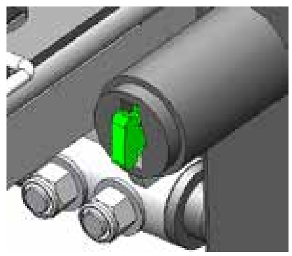
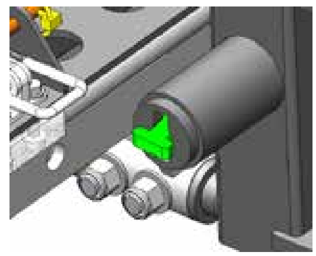
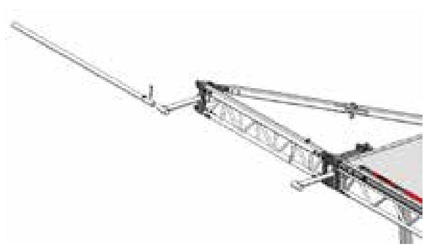
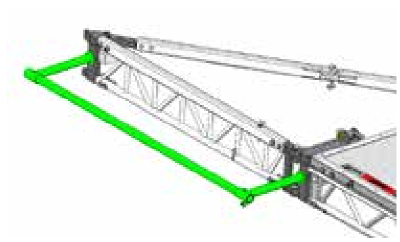
- Insert the bottom of the banner support in the bracket at the front of the roof panel.
- Insert the pin and the safety pin.
- If you purchased the horizontal rooftop banner support option, install by sliding them into the opening at the top of the vertical supports. Pin and secure.
- Attach the banner to the supports. The banner should be stretched for a better look.



8.4 LATERAL BANNER SUPPORTS

Installation of lateral banner supports is done in the same manner for both sides of the stage. All the parts are interchangeable.

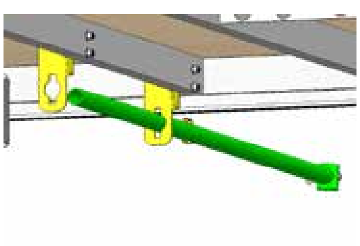
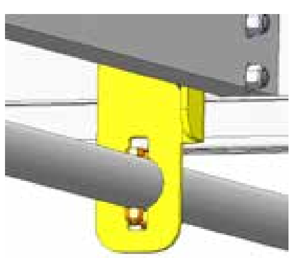
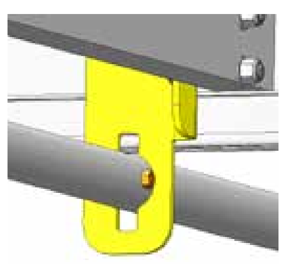
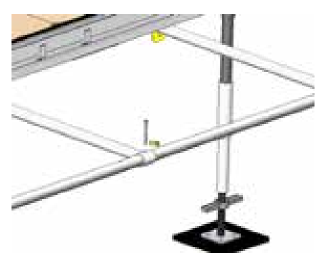
- Slide the banner supports into the openings as shown. Once inside, turn the support 90°. Make sure the pulley bracket at the front of the support is towards the ground.
- Slide the banner pole into the supports as shown. Pin and secure.

8.5 LATERAL BANNER RETAINING BARS

These are used to hold the bottom section of any lateral banner in place.

- Slide the banner supports through the frontal skirting orifices and under the stage floor. When in place, rotate the banner support 90 degrees to prevent it from sliding out.
- Slide the banner pole into the supports. Pin and secure.

CAUTION

**It is recommended to use zip ties (tie wraps) rather than rope or steel cable to install the banners.
In the event of high winds the tie wraps will break away easier. Please refer to RETRACTABLE BANNER SYSTEM for additional safety tips about banner use.**

8.6 STAGE GUARDRAILS

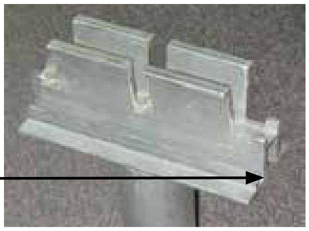
- Insert the upper hook of the bracket into the groove of the floor panel.
- Push the guardrail legs down until the hook sits on the groove. The lower end of the bracket should be in contact with the floor panel side.
- Secure by turning the handle clockwise until the blocking plate is in contact with the underside of the stage.
- Do not overtighten as it will not have any bearing on resistance to weight.

8.7 EXTENSION PLATFORMS

The Stageline extension platforms will allow you to increase the stage dimensions.
They can also be used to install skirting, stairways and guardrails.

- Have all necessary supports and screwjacks ready and positioned on the ground, where they will be required before starting installation.
- Slide the first set of the platforms into the brackets located along the stage sides.
- To join two or more platforms together, always use the side with the lip first, to facilitate insertion of the second platform.
- Insert the leg extensions and screwjacks. Level.
- The 3' (0.91m) wide guardrail is to be used next to stairways.

Lip



CAUTION

Do not allow personnel to walk on or under rows of platforms before all supports have been installed and tightened and all platforms leveled.

8.8 EXTENSION PLATFORM GUARDRAILS

- Insert the upper hook of the bracket into the groove of the extension platform.
- Push the guardrail down until the hook sits on the groove.
  The lower end section of the bracket should be in contact with the lower side of the platform.
- Secure by turning the handle clockwise until the blocking plate is in contact with the underside of the platform.
- Do not overtighten as it will not have any bearing on resistance to weight.

Plate

8.9 SKIRTING

- Unfold the skirt on the ground in front of the stage and align the middle of the skirt with the middle of the stage.
- Using the pockets sewed on the skirt, hang it on hooks located on the edge of the stage.
- Install the skirt starting from the middle toward the outside.

8.10 ADJUSTABLE STAIRWAYS

- Remove the lynch pin to unlock each stairway locking device.
- Pull the handle and disengage the locking device. Position the stairway.
- Insert the stairway in brackets along the floor sides. The first step should lay flat on the stage floor.
- Move the locking device to the proper position and push the handle back to maintain position.
- Pin to secure selected position. Maximum allowable load is 600 lbs (272 kg).

8.11 CYLINDER LOCKS

These cylinder locks must be installed when downstage corner posts are not used. They are not to be considered a complete substitute to the corner posts. The rigging capacity of the downstage panel is notably reduced. Please refer to the Rigging Plan for more information.

- Raise the downstage roof panel completely.
- Slide the cylinder lock over the cylinder rod.
- Link the extremities of the safety cable under the cylinder lock using the spring hook.
- Slightly lower the downstage roof panel to secure the cylinder lock.

8.12 STAGE REVERSIBILITY

Reversibility implies that the passenger's side of the stage normally used as the upstage can also be used as the downstage.

- If you have not purchased two (2) additional side overhang rigging beams, remove the downstage right overhang rigging beam and install it in the upstage left position. Pin and secure.
- Remove the downstage left overhang rigging beam and install it in the upstage right position.
  Pin and secure. Proceed with stage setup.

8.13 ELECTRIC HYDRAULIC POWER UNIT

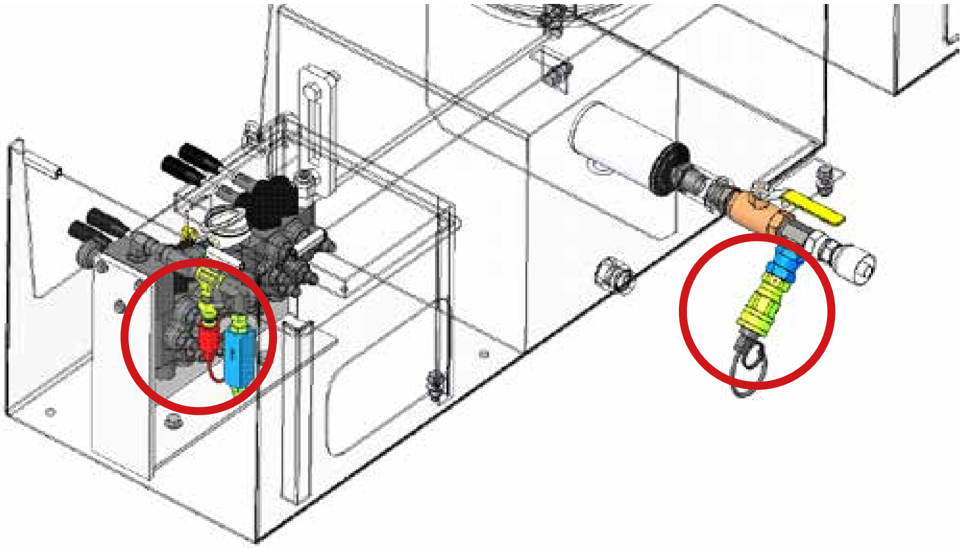
This unit can serve as an alternative power source or be used indoors where gas engines are often forbidden.

- Turn the gas engine off.
- Plug the motor into an electrical power source. If necessary, use an extension cord of 12 AWG or larger.
- Turn the switch to the "On" position to start the motor.
- Power source voltage must be compatible with the motor. If in doubt, consult a professional electrician.

8.14 QUICK CONNECT SYSTEM

This system will allow you to use an electrical power unit or to replace the gas hydraulic power unit installed on your Stageline SL 100 in case of failure. A power unit not exceeding 1500 psi (103.42 bars) with a flow rate of 1 to 3 gpm per minute (4.6 to 13.6 liters) is required.

- Connections are located at the rear on the driver's side, behind the engine compartment.
- Turn the gas engine off.
- Plug in the power unit and connect it to the stage.
- Turn the power unit on and adjust pressure to a maximum o f 1500 psi (103.42 bars).



CAUTION **Ensure the gas engine is turned off before connecting this system.**

8.15 OVERHANG RIGGING BAR OR F.O.H. INSTALLATION KIT

8.15.1 LIST OF MATERIALS

- The overhang rigging bar (F.O.H.) kit contains:

  -Two (2) rigging pipes.

  -Four (4) overhang pipes.

  -Eight (8) 4.5" pins.

  -Eight (8) ¼" lynch pins.

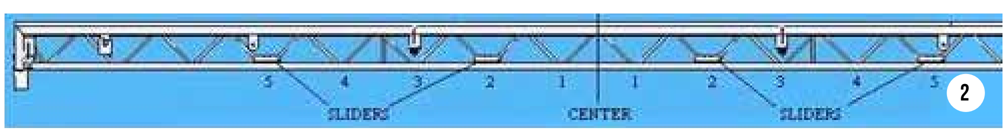
  -Four (4) plastic sliders.

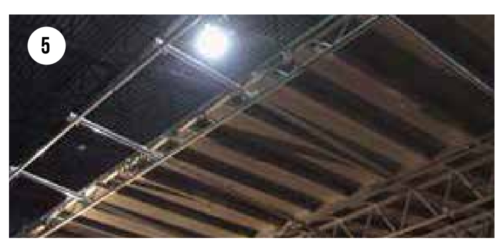
  -Four (4) 2" pins.

  -Four (4) 3/16" lynch pins.

8.15.2 INSTALLATION PROCEDURE

- Lower the front roof panel to a comfortable working height. ①
- Locate the second and fifth bottom "V groove" of the roof panel T2 truss and install plastic sliders. Secure with a 2" pin and a 3/16" lynch pin. ②
- Slide each of the 4 overhang pipes over the sliders and secure them to the center roof T1 truss as shown. ③
- Use a 4.5" pin and a 1/4" lynch pin and lock in place. ④
- Pin both rigging pipes to the other end of the overhang pipes with the remaining 4.5" pins and 1/4" lynch pins. ⑤

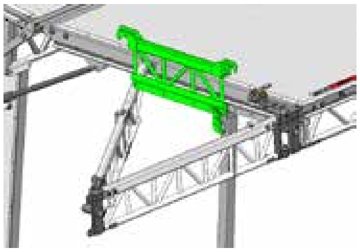


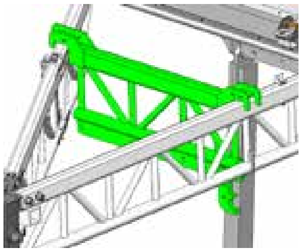


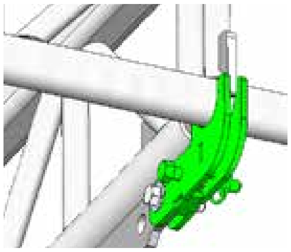
8.16 LINE ARRAY SUPPORTS

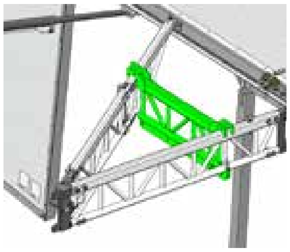
CAUTION **Side overhang rigging beams must be opened, pinned and secured before attempting to install line array supports.**

- Line array supports are reversible and each one can be installed on either side of the stage.
- Lay the line array support over the side overhang rigging beam.
- Close the lock, pin and secure.









CUSTOMER SERVICE

TOLL-FREE/NORTH AMERICA: 1 800 26-STAGE (78243)

EUROPE: +1 450 589-1063

stageline.com | info@stageline.com