



# INSTALLATION INSTRUCTIONS

## SUMMIT RACING STAGING LOCK SYSTEM Part No. SUM-760000

Thank you for purchasing the Summit Racing Staging Lock System. Follow the steps outlined in this guide to ensure that your Staging Lock System is installed correctly.

For the best results, we recommend you also purchase our Summit Racing Staging Lock Installation Kit (part number SUM-G3904). This kit includes most of the required connectors, flare adapters, unions, plugs, and brake lines needed to properly install the Summit Racing Staging Lock System.

The Summit Racing Staging Lock System will keep a race car's front brakes engaged up to 60 seconds while staging for a drag race. It is not meant to function as a long-term holding device, such as a parking brake, or as a replacement for a driver depressing the brake pedal. This system should only be used on cars and light trucks (3/4 ton or less rating) with safe, fully-operational braking systems. The Staging Lock System should not interfere with normal brake operation.

Please read all of the enclosed information before beginning any work. These instructions contain warnings that must be observed; otherwise your vehicle may be rendered inoperable. If you have any questions regarding installation, contact the Summit Racing Equipment Technical Department at 1-330-630-0240, Monday through Friday from 9 am to 9 pm EST.

### Parts Checklist

You should have received the parts listed here. Please verify the quantities of each component received.

- (1) Staging Lock solenoid valve assembly
- (1) Activation switch with wiring harness
- (1) Indicator lamp with wiring harness
- (1) Snap-Lok fuse holder with 5 amp fuse
- (2) 1/8" NPT plugs
- (4) 1/4" mounting screws

*If you are missing an item or a part was received in error, please contact the Summit Racing Customer Service Department at 1-800-517-1035, 24 hours a day, 7 days a week, before beginning any work.*

### Installation Notes

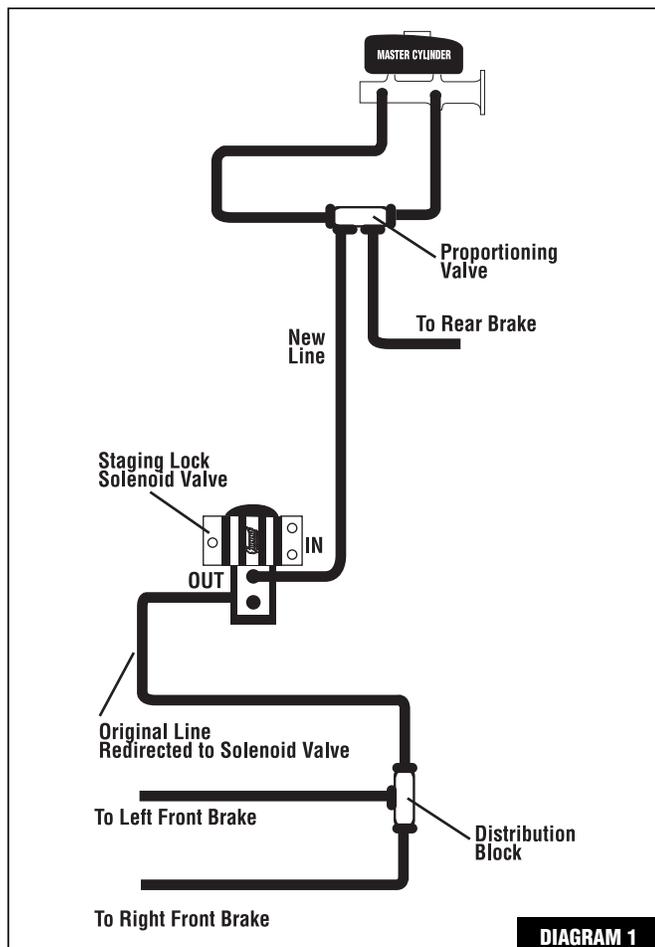
- The Staging Lock System should be installed on the front braking system in a manner that does not interfere with normal brake operation.
- The Staging Lock System must be mounted securely to prevent brake line flex and fatigue.
- The Staging Lock System must be installed away from moving parts and exhaust components.
- Do not use copper tubing under any circumstances! Use only SAE-approved seamless steel tubing with double flare ends of the correct size and length.
- Do not cut brake lines.
- When bending the brake lines, use an appropriate size tubing bender to avoid kinking or crushing the tubing.
- Use thread sealer on all fittings, except inverted flare connections.  
**CAUTION:** Use thread sealer sparingly to avoid contaminating the solenoid and/or braking system.
- Line fitting wrenches are recommended to tighten all brake line fittings.
- Do not allow dirt, moisture, or any other contaminants to get into the lines or fluid.

### Recommended Tools

- Line fitting wrenches
- Tubing bender
- Teflon® tape
- 3/16" or #13 drill bit
- 11/16" drill bit
- Thread sealer

## Recommended Components

- Staging Lock Installation Kit** (part number SUM-G3904). This kit includes most of the required connectors, flare adapters, unions, plugs, and brake lines needed to properly install the Summit Racing Staging Lock System.
- Tubing Bender** (part number SUM-900675). The Summit Racing tubing bender can accurately bend 1/4", 5/16", and 3/8" tubing from 0-90 degrees and includes calibrated markings for precise left and right hand bends.
- Shrink Sleeve Assortment** (part number SUM-890092). Summit Racing shrink sleeving can be used to protect electrical connections throughout the vehicle. The shrink sleeving will not split and is designed to withstand high underhood temperatures.
- Universal 18-Gauge Electrical Wire** (part numbers SUM-878100BK, black; SUM-878100R, red; SUM-878100B, blue; SUM-878100W, white; SUM-878100Y, yellow; and SUM-878100G, green). Summit Racing's high-quality stranded copper core wire resists grease, oil, acids, and fuel. Plus, it meets SAE Type GPT specifications for use in automotive applications.
- Hydraulic Brake Light Switch** (Wagner part number FC-5106). The Wagner hydraulic brake light switch must be used on vehicles that do not activate the brake light circuit when the braking system is under pressure and the Staging Lock System is engaged. This product can be sourced from a local auto parts store.



## Brake Line Installation

*Refer to Diagram 1*

### Step One:

Install the proper size male fittings from the Staging Lock Installation Kit (part number SUM-G3904) into the inlet port (top port closest to the heat sink) and in selected outlet ports of the Staging Lock solenoid valve. Elbow fittings may be substituted where necessary (not included). Any of the outlet ports can be used to install a pressure gauge. If you're going to mount a pressure gauge, do that now. Seal unused outlet ports with the included 1/8" NPT plugs.

**NOTE:** Choose which outlet ports to use after you decide where to install the solenoid valve. Mount the solenoid valve in an easily accessible area so installing the brake lines will not be difficult.

**CAUTION:** Do not clamp the Staging Lock solenoid valve in a vise; using a vise may damage the solenoid valve. Do not over-tighten fittings.

### Step Two:

Mount the Staging Lock solenoid valve as close to the brake lines as possible, away from headers and exhaust manifolds, exhaust pipes, and steering and suspension components. The solenoid valve can be mounted in any position. Using a 3/16" or #13 drill bit, drill four mounting holes and fasten the solenoid valve with the 1/4" mounting screws included in the Staging Lock System.

**CAUTION:** Use caution when drilling. Always check for obstructions before drilling any holes.

### Step Three:

Follow the brake lines from the front wheels all the way back to the master cylinder to determine which line is used for the front braking system. Remove the front brake line between the proportioning valve and the front brake distribution block.

### Step Four:

Install a new steel brake line between the proportioning valve and the Staging Lock solenoid valve, and then connect the vehicle's original front brake line to the outlet port of the solenoid valve. Use the appropriate-sized brake lines and fittings from the Summit Racing Staging Lock Installation Kit to make the connections.

### Step Five:

On some applications it may be necessary to permanently remove one brake line from the proportioning valve. If this is required, plug the line with the proper size inverted flare plug.

**CAUTION:** Be sure to use an inverted flare plug only. Use of an NPT pipe plug will cause thread damage, leakage, and improper operation of the vehicle braking system and the Staging Lock System.

# Electrical Installation

## Refer to Diagram 2

The Summit Racing Staging Lock System is designed for use for 8-16 volt DC operation. For proper electrical connections, use 18-gauge insulated automotive wire and solder all connections. Wrap all connections with electrical tape or use shrink sleeving to help protect the connections from the elements.

**CAUTION:** Always use the proper length wire. Never stretch a wire to make a connection.

### Step One:

Disconnect the negative (-) battery cable from the battery. Secure the black ground wire of the Staging Lock solenoid valve to a good electrical ground, such as the engine block, negative (-) battery terminal, or under one of the solenoid valve mounting screws.

### Step Two:

Mount the Staging Lock activation switch inside the vehicle. The switch should be located in a comfortable position that's easy to reach by hand under any circumstance.

### Step Three:

Mount the Staging Lock indicator lamp under the dashboard, or in the instrument panel by drilling an 11/16" hole in the panel. Mount the indicator lamp in an easily accessible area so making electrical connections will not be difficult. Connect a wire from the indicator lamp to a grounded metal surface.

**CAUTION:** Use caution when drilling. Always check for obstructions before drilling any holes.

### Step Four:

Connect the remaining indicator lamp wire to one of the activation switch wires and then to the red positive (+) wire of the Staging Lock solenoid (three connections total).

### Step Five:

Connect the other activation switch wire to one end of a length of 18-gauge wire, and the other end of the 18-gauge wire to the Snap-Lok inline fuse holder. Connect the other end of the inline fuse holder to a switched 12 volt positive (+) source so that the Staging Lock solenoid valve is only operable with the ignition turned on. In the event of a short circuit, the inline fuse holder will protect the vehicle's electrical system.

### Step Six:

Reconnect the negative (-) battery cable and turn the ignition switch on. Depress the Staging Lock activation switch several times and check the fuse. If the fuse is burned, check to make sure the connections are correct and for other short circuits.

### Step Seven:

To remain D.O.T. legal, the brake lights must operate when the brake pedal is depressed and the braking system is under pressure. In the event the installation of the Staging Lock System defeats this function, a hydraulic brake light switch must be installed.

**NOTE:** D.O.T. legality is not required for off-road use or sanctioned drag racing.

Depress the brake pedal and engage the Staging Lock activation switch. While still engaging the switch, release the brake pedal. If the vehicle's brake lights remain lit, move on to the next step. If the brake lights go out, then a hydraulic brake light switch must be installed into one of the outlet ports of the Staging Lock solenoid valve. Electrical connections should parallel the factory brake pedal switch wiring.

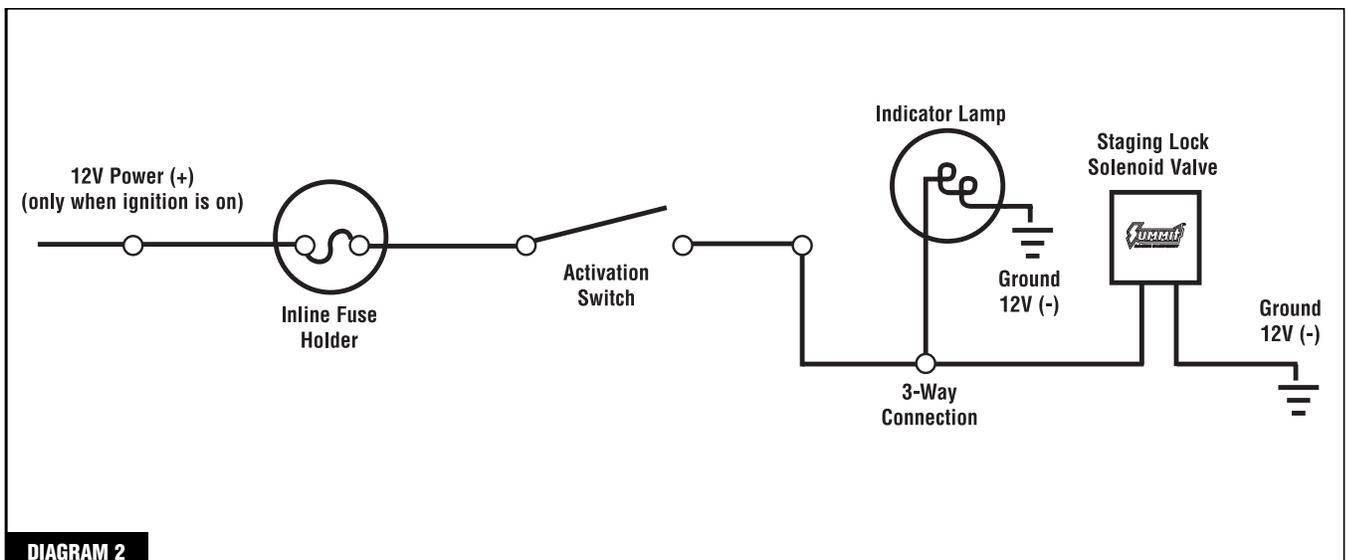


DIAGRAM 2

## Final Installation

When the installation of the Summit Racing Staging Lock System is complete, follow the vehicle manufacturer's recommended procedure for bleeding the brakes. Be sure to check all connections for leakage under pressure; all leaks must be eliminated before continuing. Before driving the vehicle, verify the brake system is operating correctly and that the brake pedal is solid.

Test the Summit Racing Staging Lock System several times to ensure that it is operating correctly, including that the correct wheels have the brakes engaged when the Staging Lock System is actuated and that all four wheels rotate freely when the system is disengaged.

## Operating Instructions

### Step One:

Turn the ignition switch to the "on" position, fully depress the brake pedal, and then depress the Staging Lock activation switch. The Staging Lock indicator lamp will illuminate to indicate that the solenoid valve and front brakes are engaged.

### Step Two:

Release the brake pedal. This will allow you to preload the drivetrain and do your burnout without the vehicle rolling forward.

### Step Three:

To disengage the Staging Lock System, release the activation switch button.

**CAUTION:** *Never depress the Staging Lock activation switch when applying the brakes or a loss of vehicle control may result.*



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