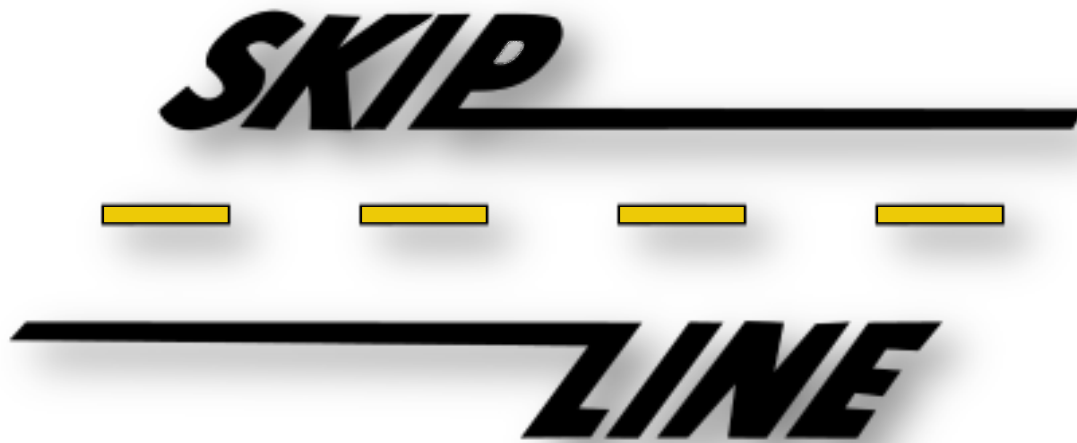


SG-10 Grinder

Installation and Operation



CAUTION

READ BEFORE INSTALLING!

THIS EQUIPMENT IS FOR +12 VOLT NEGATIVE GROUND SYSTEMS ONLY!

Do not connect to positive ground systems or damage will result.

All control units have threaded inserts on each side to facilitate mounting. Fabricate a suitable "U" bracket to firmly support the timer. Please use the two 1/4inch diam. coarse thread hex bolts provided with the timer. If substitutions are necessary, be sure the mounting bolts do not penetrate more than 1/2 inch into the threaded inserts. **Long bolts may damage internal components.**

Avoid locations that are exposed to excessive vibration, direct sunlight, moisture, and extremes of temperature.

Be sure to allow room for the cable to plug in at the rear of the timer.

Note: The timer is not waterproof. A waterproof box or cover must protect outboard installations. Such enclosures need a small vent to prevent moisture accumulation.

Be sure to use a fuse in the 12-volt supply wire. Typical solenoids draw about 1 ampere, so a 5 to 20 ampere fuse will protect the wiring from short circuits.



SG-10 GRINDER CONNECTIONS

PIN #	COLOR	FUNCTION
1	RED	+24 VOLTS SUPPLY
2	BROWN	NOT USED
3	BLACK	GROUND
4	Sensor Red	SENSOR +5 VOLTS
5	Sensor Clear	SENSOR SIGNAL
6	Sensor Black	SENSOR GROUND
7	BLUE	UP VALVE
8	ORANGE	+24 VOLTS supply
9	GREEN	DOWN VALVE
	WHITE	NOT USED

CONTENTS

- Installation 2
- Wiring 3
- Contents 4
- Menu Modes 5
- Main Menu 5
 - Adjust Grind Length 5
 - Adjust Cycle Length 5
 - Offset 5
- Time Menu 6
- Counters Menu 6
 - Reset One Channel 6
 - Reset All Channels 6
 - Memory 6
- Setup Menu 6
 - Metric 7
 - Sensor Test 7
- Calibration 7
 - Adjust Calibration 7
- Limited Warranty 8



MENU MODES

There are (4) MENU levels in the SG-10 Grinder system.

MAIN MENU

(Grind LENGTH, CYCLE, and OFFSET)

TIME MENU

(UP and DOWN travel times for grinder)

COUNTERS MENU

(Distance, Odometer, Grind strokes)

SETUP MENU

(Metric, Sensor test, Calibration)

Access the different MENU modes by pressing the MENU keys (*PREV.* and *NEXT*) simultaneously.

MAIN MENU shows LENGTH and CYCLE numbers and MPH or Km/H.

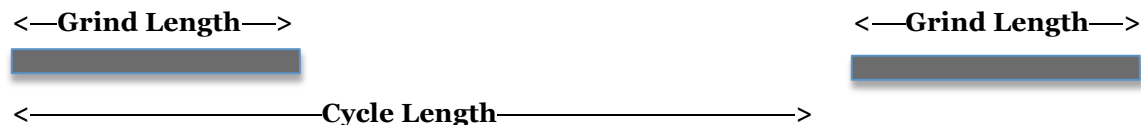
To adjust the grind LENGTH, the word “LENGTH” must appear on the display. In the Main Menu. press *PREV.* or *NEXT* until “LENGTH” appears, then use (+) or (-) to raise or lower the grind LENGTH.

To adjust the CYCLE, the word “CYCLE” must appear on the display. In the Main Menu. press *PREV.* or *NEXT* until “CYCLE” appears, then use (+) or (-) to raise or lower the CYCLE length.

OFFSET is the third selection from the MAIN MENU. This is the delayed distance before the start of a grind. This can be used to evenly space the grinds from the end of existing striping for example. Use the (+) or (-) keys to raise or lower the OFFSET.

The skip timer displays and is calibrated for one-tenth-of-a-foot nominal resolution. In other words, the dial can alter the grind pattern by approximate one-tenth-of-a-foot increments.

The cycle is measured from the BEGINNING of one grind to the BEGINNING of the next.



The CYCLE adjustment is calibrated in one-tenth-of-a-foot increments.



CYCLE and grind LENGTH controls may be adjusted at any time, in motion or at rest.

TIME MENU shows the raise and lower time for the grinder wheel.

Use the (+) or (-) keys to raise or lower the UP time or DOWN time (in seconds).

The grinder **MUST** have physical limits for the travel of the grinder.

The travel times of the grinder wheel should be long enough to allow the full travel of the grinder against a mechanical stop.

The UP time may be adjusted to raise the grinder a small amount out of the pavement to reduce the travel time of the grinder wheel between grinds.

COUNTERS MENU

To change to the COUNTERS Menu, from the MAIN Menu, press the menu keys (*PREV.* and *NEXT*) twice.

The *NEXT* button will then advance to the next counter channel.
The *PREV.* button will take you to the previous counter channel.

Reset One Channel:

Push and hold the (+) button. The currently displayed channel goes to zero.

Reset All Channels Simultaneously:

Push and hold the (-) button* All channels will clear.

* NOTE: This delay time in clearing is a safety feature so all channels won't be reset accidentally.

Memory:

The counter remembers all readings when the power is off, even if unplugged from its wiring harness!

There are no internal batteries to worry about. It is prudent to regularly log readings to guard against accidental or unauthorized erasure. Accidental erasure is possible if unreasonable voltage surges occur on the 12-volt power line.



SETUP MENU

To change to the SETUP Menu, press the MENU keys (*PREV.* and *NEXT*) three times.

“CHANGE SETUP?” is the first question in this menu. Press the (+) key to change any of the setup functions.

To scroll through the various items in this menu, press the *PREV.* or *NEXT* buttons to change to the next or previous menu items.

In this MENU, the (+) button changes the different options to be ON, and the (-) button changes the various options to OFF.

Metric: can be selected on or off.

Sensor Test: can be turned on for testing the sensor.

A steady "SENSOR +" display indicates the truck is moving and pulses are regularly spaced.

Any missing or extra pulses are detected during the sensor check, and cause "SENSOR O" to flicker into the display, instead of "SENSOR +".

A steady "SENSOR O" display indicates the truck is not moving, or the sensor is spaced too far out, or defective parts.

A flickering "SENSOR +" / "SENSOR O" indicates the sensor is not spaced properly, the sensor may be rubbing, holes are not concentric, the plate is warped, or the mount is vibrating, or electrical spikes are contaminating the signal.

CALIBRATION

Before entering the calibration mode, make sure the ODOMETER counter has been RESET to zero. Travel a known distance (1000 feet min.) with the START switch in the on position. A number will be recorded in the ODOMETER counter. Now enter the calibration mode.

To adjust the calibration, change the distance number using the (+) or (-) buttons until the distance number reads what the vehicle actually traveled with the START switch on. As the distance number is changed, the calibration number will also change.

NOTE: The calibration memory is limited to a number between 0.1500 and 0.0500.



LIMITED WARRANTY

LIMITED WARRANTY In the event that equipment manufactured by SKIP-LINE, INC. (hereinafter referred to as manufacturer) fails to operate properly due to defect in material or workmanship within a period of 180 days from the date of the original purchase, said equipment will be repaired at manufacturer's facilities without charge for parts or labor. Equipment reasonably deemed by the buyer to be unsatisfactory must be returned, transportation costs prepaid, to manufacturer. Manufacturer shall be the sole judge concerning the application and/or effect of this warranty, and this limited warranty shall only be effective to cover repairs performed at manufacturer's facilities. Warranted repaired equipment will be returned to buyer by surface freight. Any premium freight requested will be paid by buyer.

LIMITED WARRANTY CONDITIONS The above limited warranty shall not be effective or actionable if the equipment has been tampered with, physically abused, misapplied, or if any unauthorized repair has been attempted.

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