Traffic Safety Corporation

TS400 Series Lights
Installation and Owner's Manual

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TS400 Series In-Pavement Light Fixture
Installation Instructions

Your Traffic Safety TS400 Series includes models TS400, TS401, TS420, TS421, and TS450. The TS400, TS420, and TS450 are bidirectional lights, while the TS401 and TS421 are unidirectional lights. The light fixtures have been designed to provide you years of service if you follow our recommendations outlined in this guide.

The TS400 Series Lights can be AC: 120 to 240VAC or DC models which operate from 10 to 30 VDC. The TS400 is designed to be installed in a parallel circuit, which maintains a constant voltage and brightness for all light fixtures.

1. Safety Measures:

You must know whether your heliport lighting system is powered by AC or DC before installing the fixture. AC LED lighting fixtures work on a range of 120 to 240VAC. DC models operate from 10 to 30VDC. The lights are designed to be installed in a parallel circuit, which maintains a constant voltage and brightness for all lights.

Ensure power is off before installing or servicing heliport fixtures!

Follow the local electrical code!

Make sure the equipment is rated and approved for the environment in which you are intending to use it. Do not operate this equipment in humid, flammable, or explosive environments unless it has been rated for safe operation in these environments.

Use only electrical wire of sufficient gauge and insulation to handle the rated current and voltage demand.

Route electrical wiring along a protected path. Make sure they will not be damaged by moving equipment.

Protect components from harsh environment conditions.

Protect equipment with safety devices as specified by applicable safety regulations.

Before starting this equipment, check all safety interlocks, fire –detection systems, and protective devices such as panels and covers. Make sure all devices are fully functional. Do not operate the system if these devices are not working properly.

Never operate equipment with a known malfunction.

Do not attempt to operate or service electrical equipment if standing water is present.

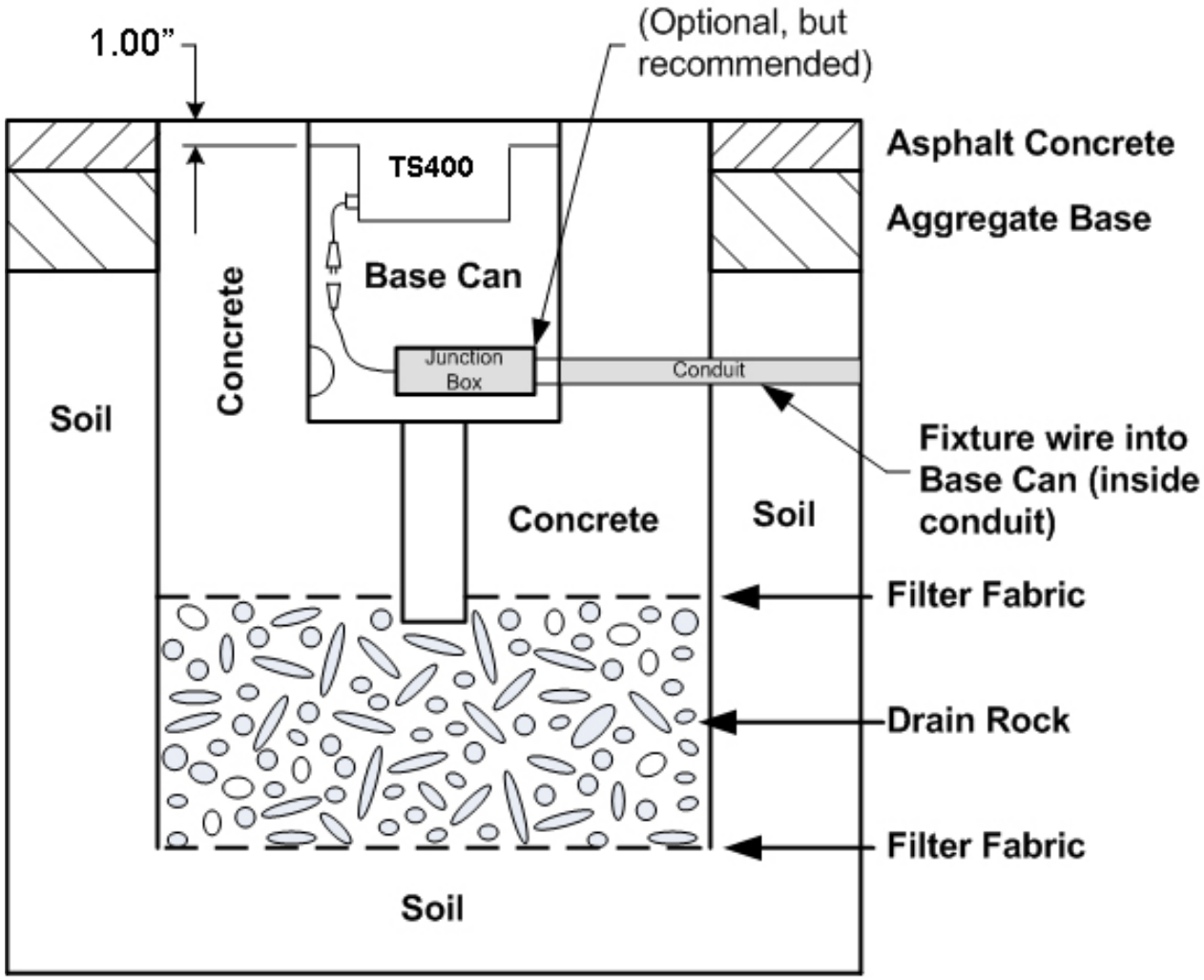
Do not touch exposed electrical connections on equipment while the power is ON!

Wiring and electrical design should be authorized by an electrical contractor.

Wiring connections and wire splices must be done in a waterproof junction box.

2. Base Can Installation

Proper drainage is essential for longevity of the fixture since water intrusion can destroy the electronics inside the fixture. The fixture is weatherproof and some water is expected to enter the base can, but provisions must be made to drain the water. The following diagram outlines the requirements for proper drainage:



Sectional View

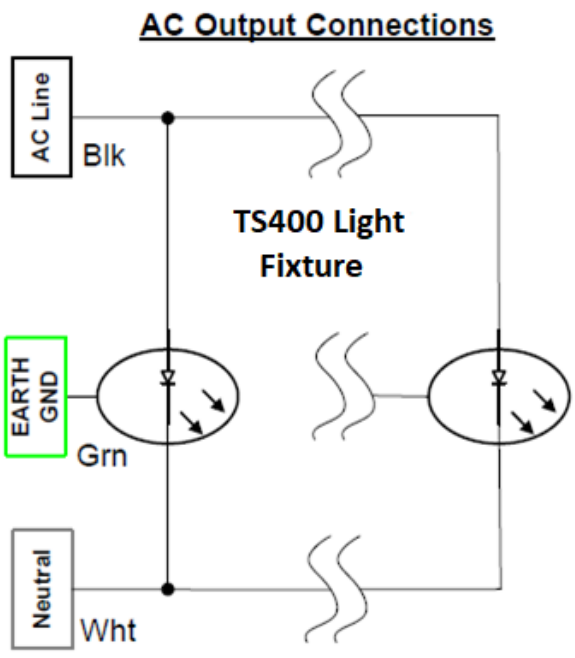
a. The Drain Rock should be encased in a filter fabric material to avoid soil infiltration into the drain rock.
b. The recommended depth of drain rock unit varies dependent upon the type of existing soils.
c. Where existing soils are granular and permeable the depth of the drain rock unit can be limited to 1 foot.
d. Where existing soils are fine graded and have low permeability the depth of the drain rock unit should be increased to 3 feet or greater to provide a reservoir for short term retention.

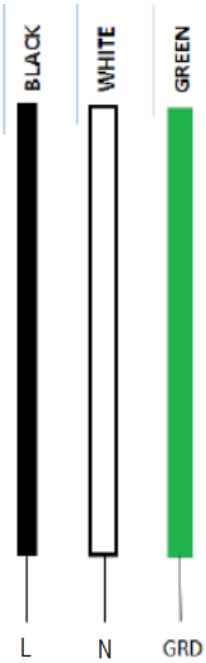
Installation requires a 7 ¼“ bolt circle base can to house the light fixture. Note the height of the fixture is 3/4” (see diagram above), when installing the base can be sure to make allowance for this.

3. Wiring

Ensure power is OFF before installing or servicing light fixtures! The fixtures are wired in parallel according to the following diagram:

3.1 AC Lights





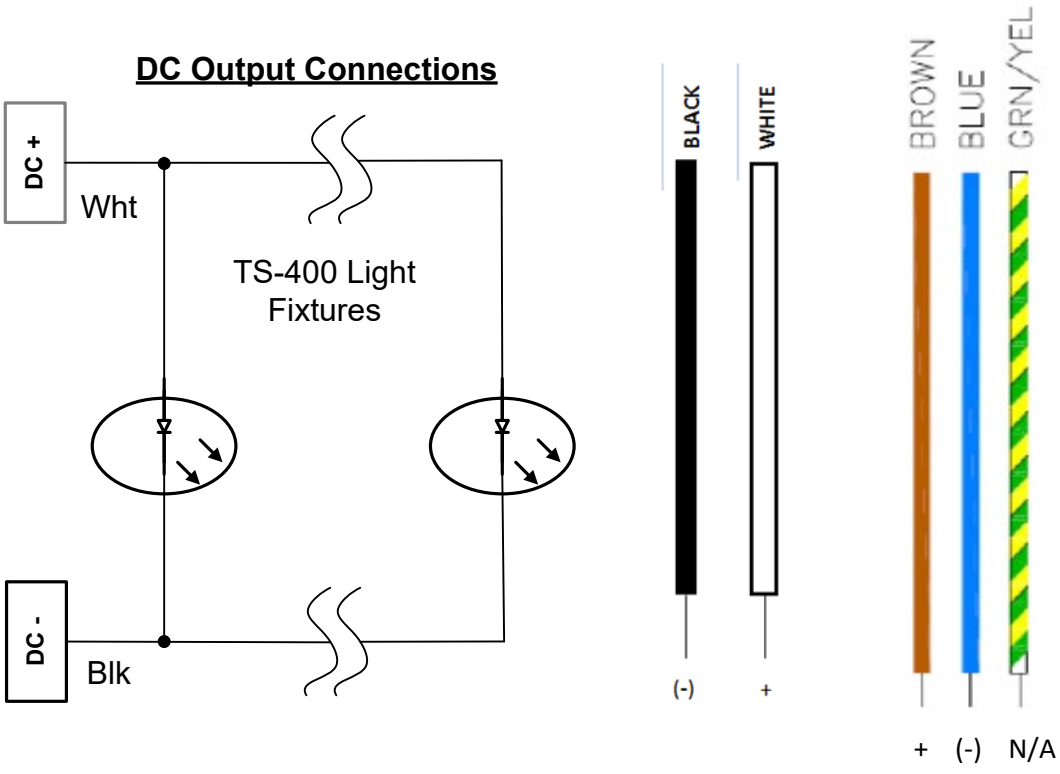
For AC connections, make a parallel circuit with 3M or similar waterproof splice kits. At each base can, using the provided fixture connector pig tail.

For AC fixtures with (Pig tail #1) connect the **Black** pigtail lead to the **Line (L)** input power wire, connect the **White** pigtail lead to the **Neutral (N)** input power wire and connect the **Green** pigtail lead to the **Ground (GND)** input power wire.

For AC fixtures with (Pig tail #2) connect the **Brown** pigtail lead to the **Line (L)** input power wire, connect the **Blue** pigtail lead to the **Neutral (N)** input power wire and connect the **Green/Yellow** pigtail lead to the **Ground (GND)** input power wire.

Check the integrity of the splices. At each base can, plug a fixture into the connector. Then bolt the fixture to the base can using the steel bolts provided.

3.2 DC Lights

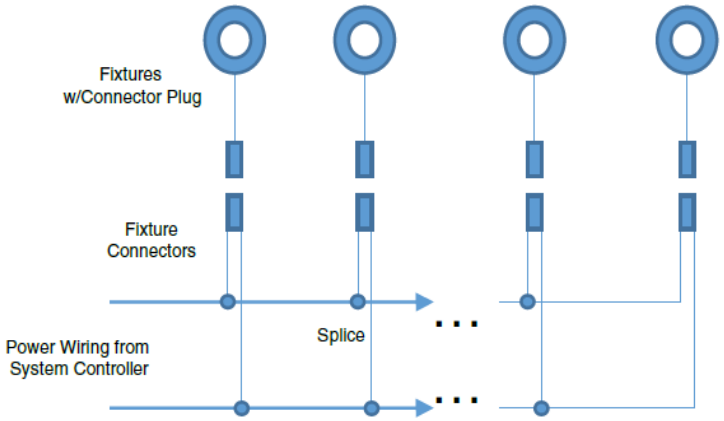


For DC connections, make a parallel circuit with 3M or similar waterproof splice kits. At each base can, using a fixture connector pig tail,

For DC fixtures with (Pig tail #1) connect the **Black** pigtail lead to the **negative** (-) input power wire and connect the **White** pigtail lead to the **positive** (+) input power wire.

For DC fixtures with (Pig tail #2) connect the **Blue** pigtail lead to the **negative** (-) input power wire and connect the **Brown** pigtail lead to the **positive** (+) input power wire.

Check the integrity of the splices. At each base can, plug a fixture into the connector. Then bolt the fixture to the base can using the steel bolts provided.



Parallel Connection at Each Base Can

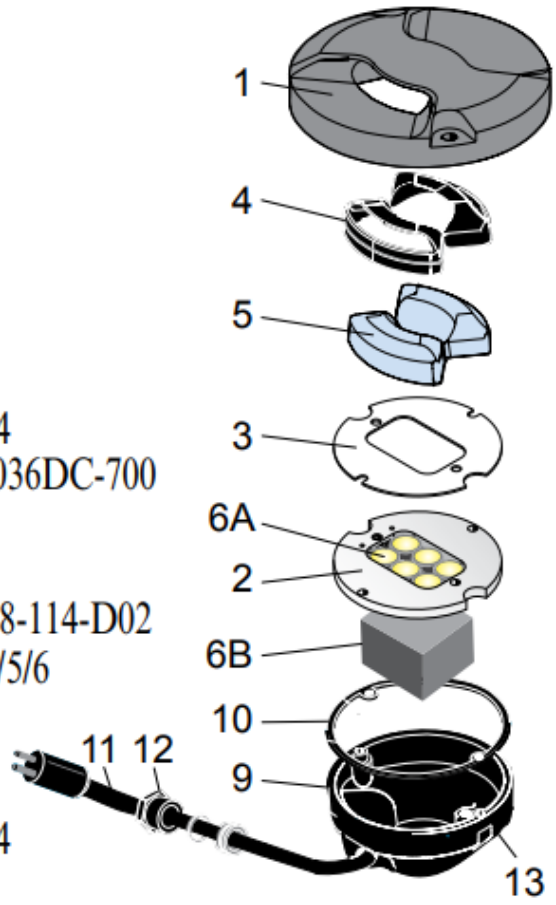
4. Maintenance and Troubleshooting

The following general maintenance procedures will help ensure maximum performance and long component life:

- Lenses should be cleaned periodically as an accumulation of dirt, can decrease light output.
- Line voltage should be checked at the fixture and compared with the power supply to be sure it is within the prescribed limits.
- Make certain polarity is correct for DC light fixtures
- Be sure the fixtures are properly grounded.

Replacement Parts

1.	Body casting	
2.	Prism clamp	80-021380
3.	Prism clamp gasket	80-021379
4.	Prism gasket (2)	80-033071
5.	Glass prism (1 or 2 Narrow), LED	80-016078
	Blanking prism (optional)	80-040102
	Color filters (not shown): yellow	80-019157
6A.	12V LED High Bright	LA-008114
6B.	LED Driver	27-TLM4036DC-700
9.	Bottom cover	80-040101
10.	Bottom cover gasket	80-033080
11.	Fixture lead, male	TRC-10518-114-D02
12.	Cable gland assembly	80-021114/5/6
13.	Schrader (bicycle) valve	80-021327



Legacy Halogen Parts (not shown)

50W 120V Halogen	LA-008084
Glass prism (1 or 2 Wide), Halogen	80-016072
Prism clamp gasket	80-033072
Lamp gasket	80-033064
Lamp retaining spring	80-032039

WARNING:

MOUNTING BASE CAN IS NOT A WATER-PROOF JUNCTION BOX.

WIRE SPLICING MUST BE DONE INSIDE A UL APPROVED WATER-PROOF JUNCTION BOX.

WARRANTY WILL BE VOID IF INSTALLATION IS NOT DONE PROPERLY.