

506439-01  
10/09  
Supersedes 506159-01

**LOW AMBIENT KIT**

**INSTALLATION INSTRUCTIONS FOR LOW AMBIENT KITS (44W17, 44W18, 44W19 AND 60W35) USED ON TSA/TPA COMMERCIAL SPLIT SYSTEMS**

**RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE**

**⚠ WARNING**

Improper installation, adjustment, alteration, service or maintenance can cause personal injury, loss of life, or damage to property.

Installation and service must be performed by a licensed professional installer (or equivalent) or a service agency.

**⚠ CAUTION**

Physical contact with metal edges and corners while applying excessive force or rapid motion can result in personal injury. Be aware of, and use caution when working near these areas during installation or while servicing this equipment.

**Shipping and Packing List**

Check parts for shipping damage; if any damage is found, immediately contact the last shipping carrier.

**44W17**

**Package 1 of 1 contains the following:**

- 1 — Pressure switch (S11)
- 1 — Wire harness
- 1 — Tee

**44W18 and 44W19**

**Package 1 of 1 contains the following:**

- 2 — Pressure switches (S11 and S84)
- 1 — Wire harness
- 2 — Tee

**60W35**

**Package 1 of 1 contains the following:**

- 1 — Pressure switch (S11)
- 1 — Relay (K58)
- 1 — Wire harness
- 1 — Tee

**Application**

See table 1 for usage.

The low ambient pressure switches cycle the outdoor fan while allowing compressor operation in the cooling cycle. This intermittent fan operation results in a high evaporating temperature which allows the system to operate without

icing the evaporator coil and losing capacity. This kit is designed for use in ambient temperatures no lower than 0°F (-17.8°C) unless otherwise noted in the Engineering Handbook.

Install a belly-band style crankcase heater on compressors which don't have one, or on compressors which do not have an internal heater.

*NOTE - Do not use this low ambient kit on units with capillary tube metering devices.*

**Table 1. Unit/Catalog Match up**

Box	Unit	Cat. #	LB #
Splits	TSA 072-120S	44W17	LB-107318BA
Splits	TSA 120D, 150	44W18	LB-107318BB
Splits	TSA 180, 240	44W19	LB-107318BC
Splits	TPA 090 - 120	60W35	LB-107318BF

**Pressure Switch Installation**

**⚠ WARNING**



Electric Shock Hazard. Can cause injury or death. Unit must be grounded in accordance with national and local codes.

Line voltage is present at all components when unit is not in operation on units with single-pole contactors. Disconnect all remote electric power supplies before opening access panel. Unit may have multiple power supplies.

1. Disconnect power to unit.
2. Refer to table 2 for figure number showing switch location. Open appropriate unit panel.
3. Install tees and pressure switches on appropriate liquid or suction line pressure taps.
4. Check system for leaks.
5. Wire pressure switches. Refer to table 3 for appropriate wiring diagram.
6. Install kit provided K58 relay (TPA units only).
7. Bundle wiring and secure away from unit components.

**Table 2. Switch Locations**

Unit	Switch Location
TSA 072 - 120S	Figure 1
TSA 120D, 150, 180, 240	
TPA 090 - 120	Figure 2



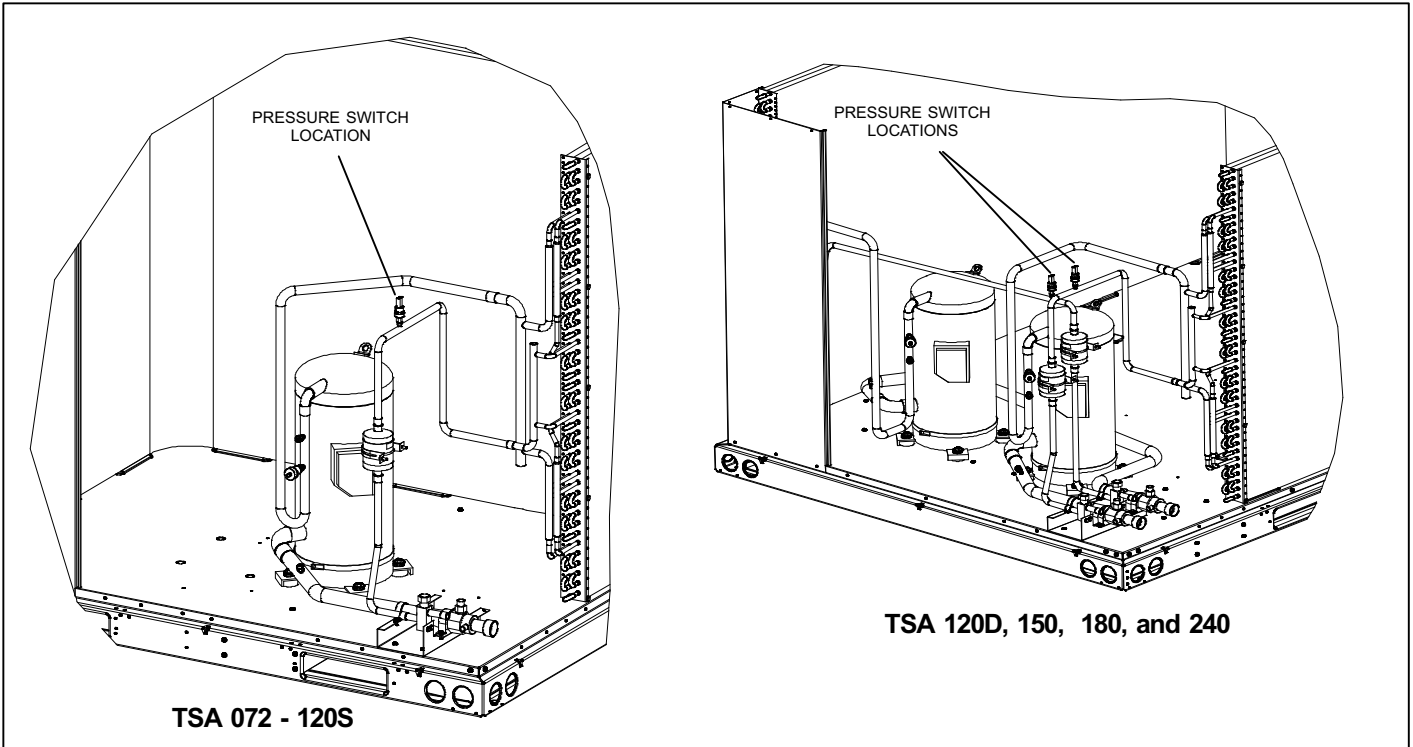
**Table 3. Wiring**

Unit	Wiring
TSA 072 - 120S	Figure 3
TSA 120D, 150	Figure 4
TSA 180, 240	Figure 5
TPA 090 - 120	Figure 7

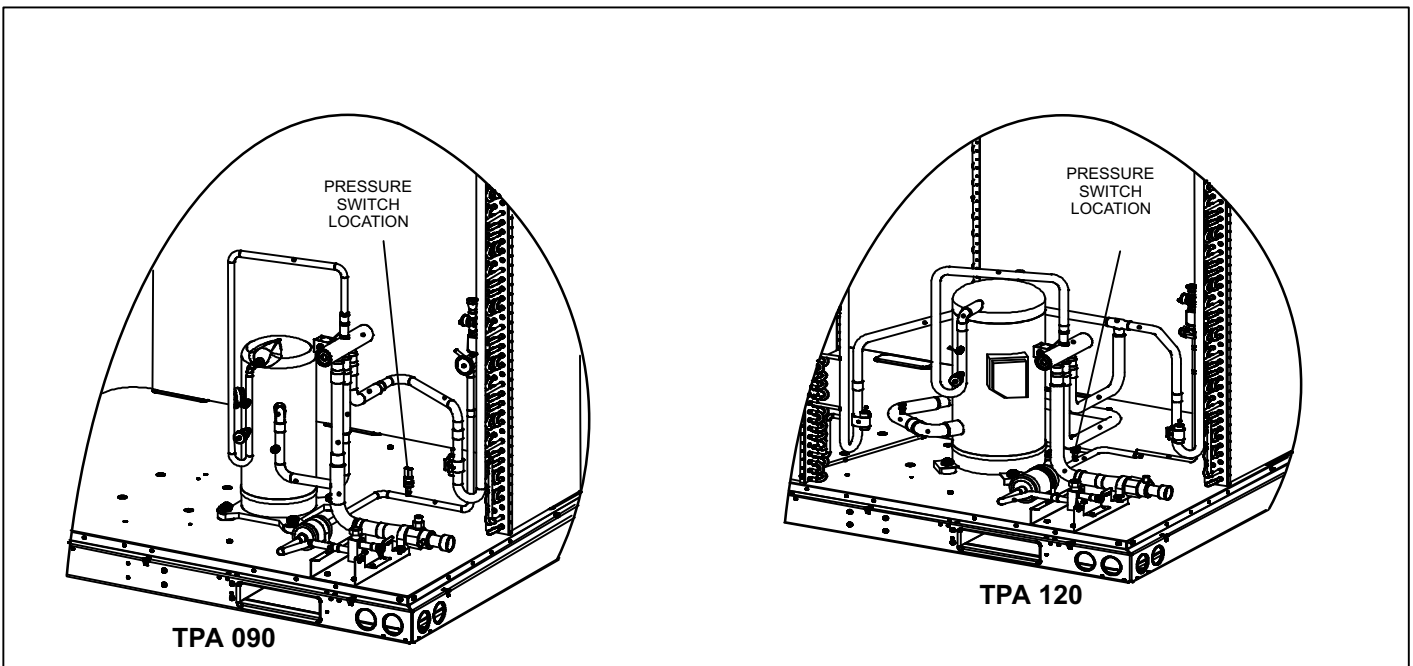
**Operation**

TSA and TPA unit outdoor fans will be energized when the liquid pressure rises to 450 psig (3102 kPa) and de-energize when liquid pressure drops to 240 psig (1655 kPa). Outdoor fans cycle together on units (both switches must be open).

When heat pump units operate in heating mode, K58 bypasses S11 and S84 pressure switches to keep fans operating regardless of liquid pressure.



**Figure 1. Low Ambient Pressure Switch Location (TSA)**



**Figure 2. Low Ambient Pressure Switch Location (TPA)**

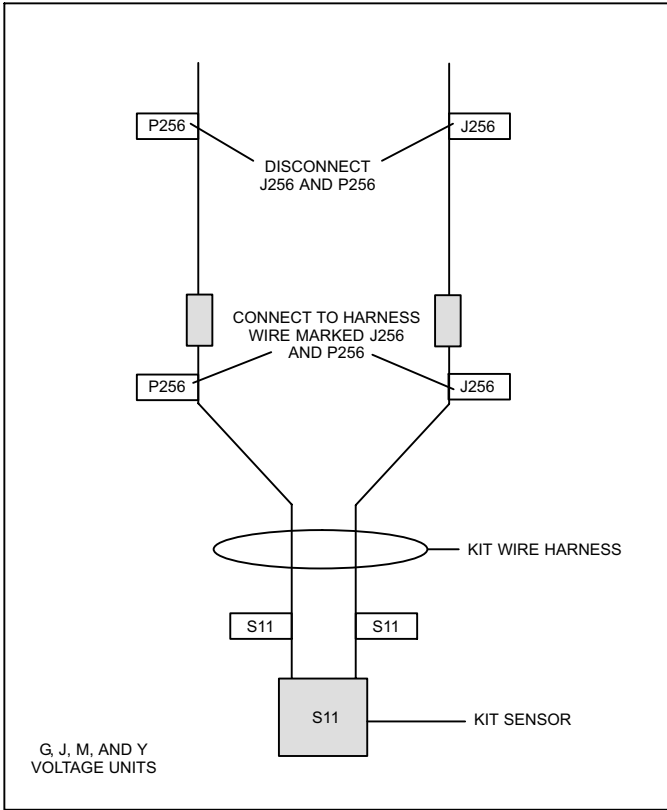


Figure 3. TSA 072 - 120S

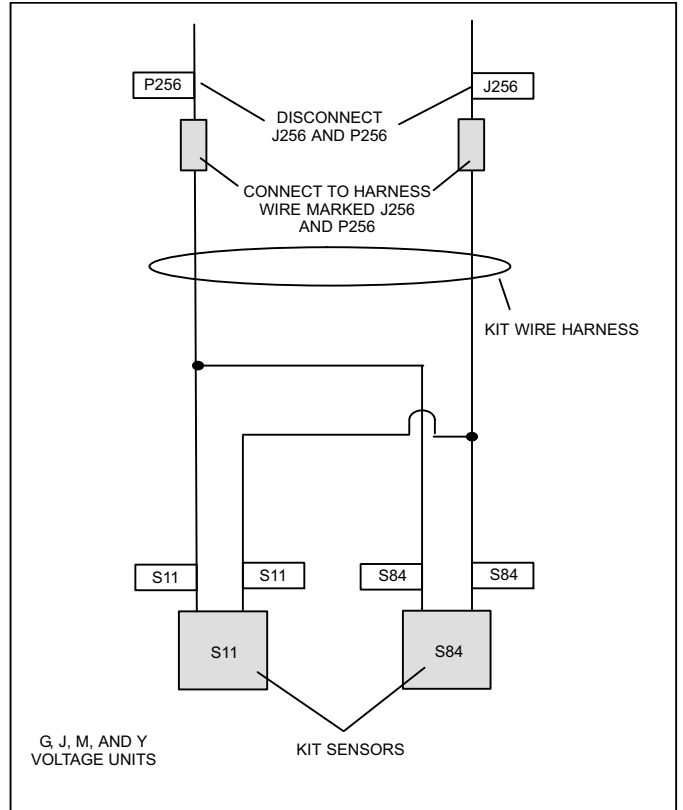


Figure 4. TSA 120D, 150 Wiring

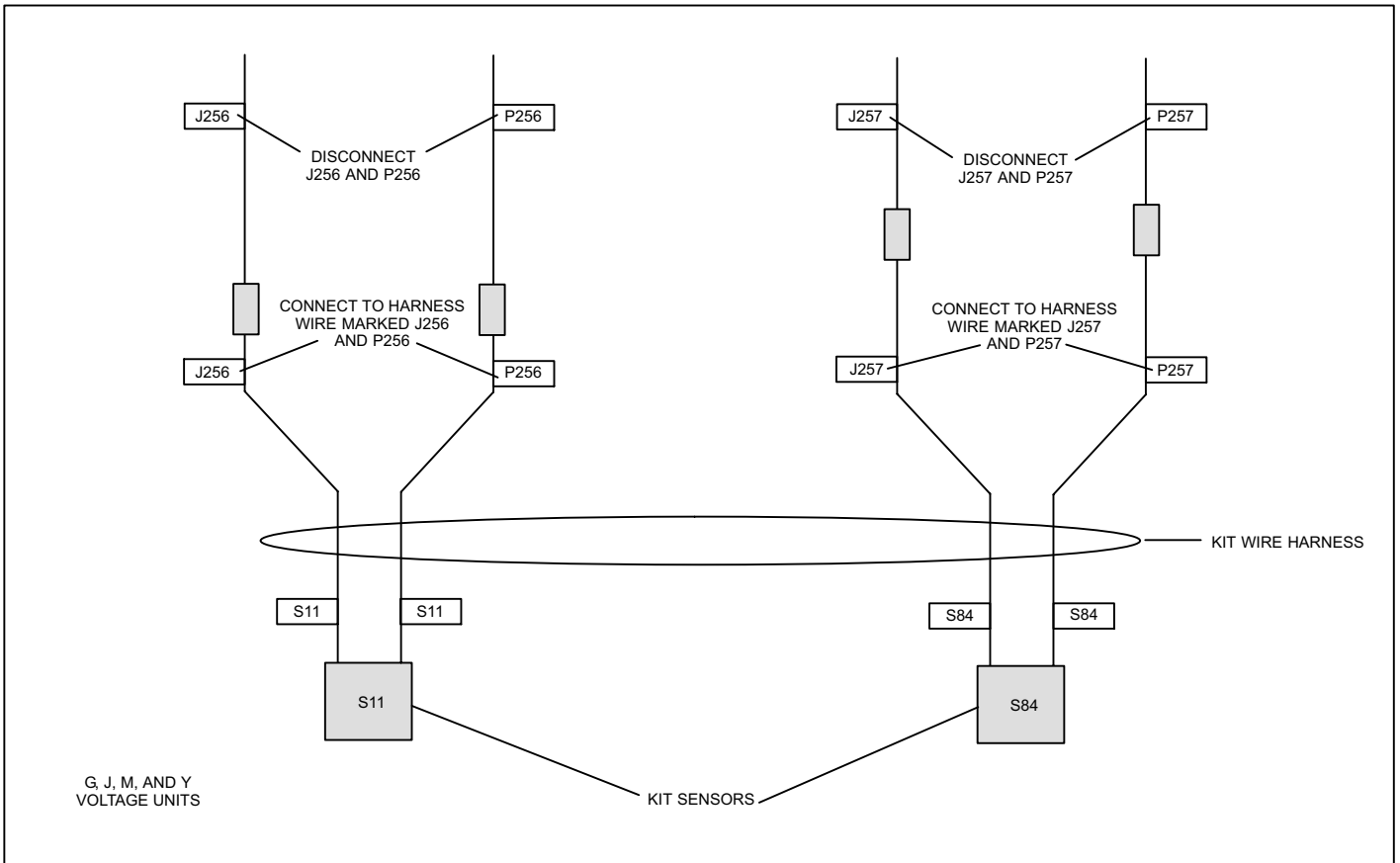


Figure 5. TSA 180, 240 Wiring

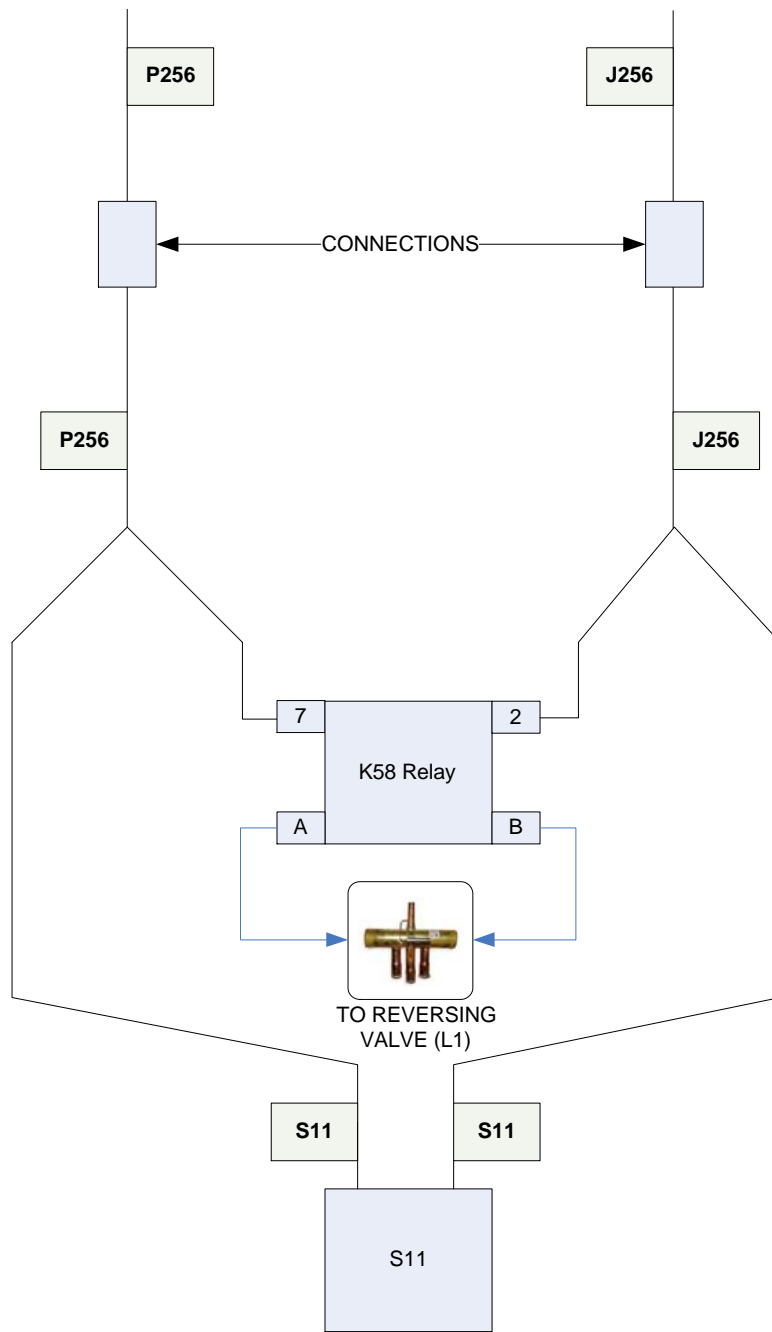


Figure 6. TPA 90 - 120 Wiring