



## AUXILIARY A/C CLUTCH SIGNAL MONITOR OR CONTROL GEN 4 Liquid Propane Auto Gas Fuel System

Revision History		
-AA	Initial Release	08/2017

# Installation Manual

## AUXILIARY A/C CLUTCH SIGNAL MONITOR

Vehicles equipped with engine driven auxiliary A/C compressors and the CleanTech LPG system require a clutch signal monitor or control circuit.

Review the steps for wire splice procedures A and B outlined on pages 3 and 4 of this instruction manual. For vehicles equipped with ACC installed air conditioning systems with APADs module go to page 5. For vehicles equipped with Pro Air or Trans Air auxiliary AC kits go to page 7. For all other auxiliary A/C systems ROUSH CleanTech recommends consulting with you're A/C system installer prior to performing modifications.

## AUXILIARY A/C CLUTCH SIGNAL MONITOR

The following steps outline the procedure required for monitoring auxiliary air-conditioning clutch operation for vehicles equipped with an auxiliary air-conditioning system.

### WIRE SPLICING PROCEDURE:

Follow this procedure when a wire can be spliced without cutting a signal wire in half.

Strip approx. two inches of insulation from the wire to be installed.

2"



Strip approx. one inch of insulation from vehicle wire.

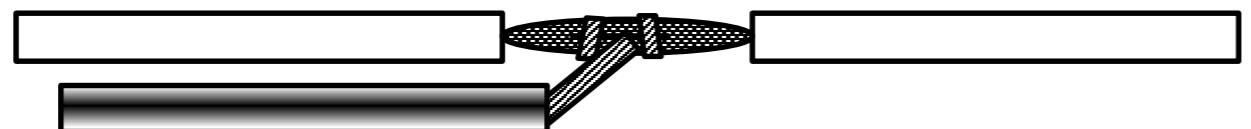
1"



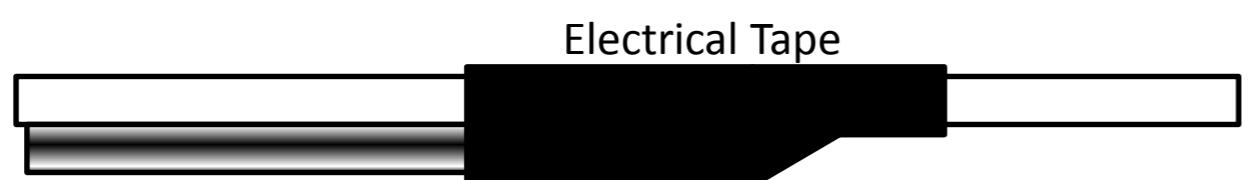
On the vehicle wire to be spliced into, evenly separate the strands to place the new wire between the parted strands.



Insert the new wire between the parted strands. Wrap the new wire around one side of the split strands, then wrap it around the other side. Solder the connection.



Wrap the connection with electrical tape so the tape covers the wires approximately two inches on both sides of the connection. Tape the wires as shown in the illustration.



## AUXILIARY A/C CLUTCH SIGNAL MONITOR (CONTINUED)

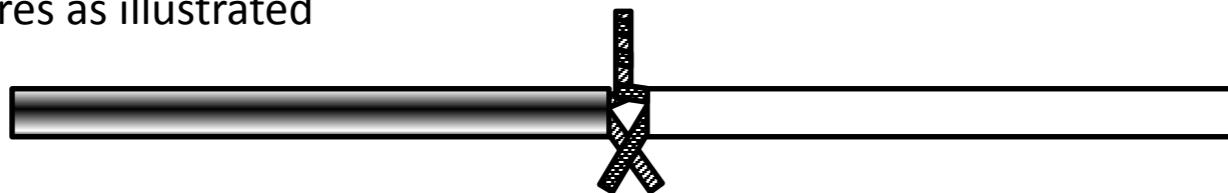
### WIRE SPLICING PROCEDURE B:

Follow this procedure when both ends of wire can be cut.

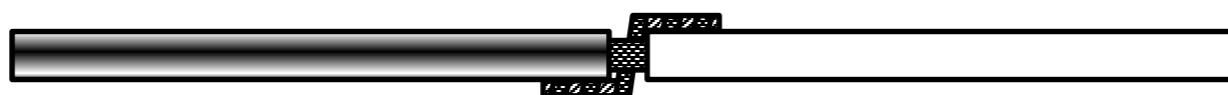
To make end to end connections strip one inch of insulation from each wire and part them into equal strands.



Twist the wires as illustrated



Solder the wires then lay the strands on each side of the union.



Wrap the connection with electrical tape to cover approx. two inches on each side of the connection.



## AUXILIARY A/C CLUTCH SIGNAL MONITOR FOR ACC SYSTEMS WITH APADs MODULE

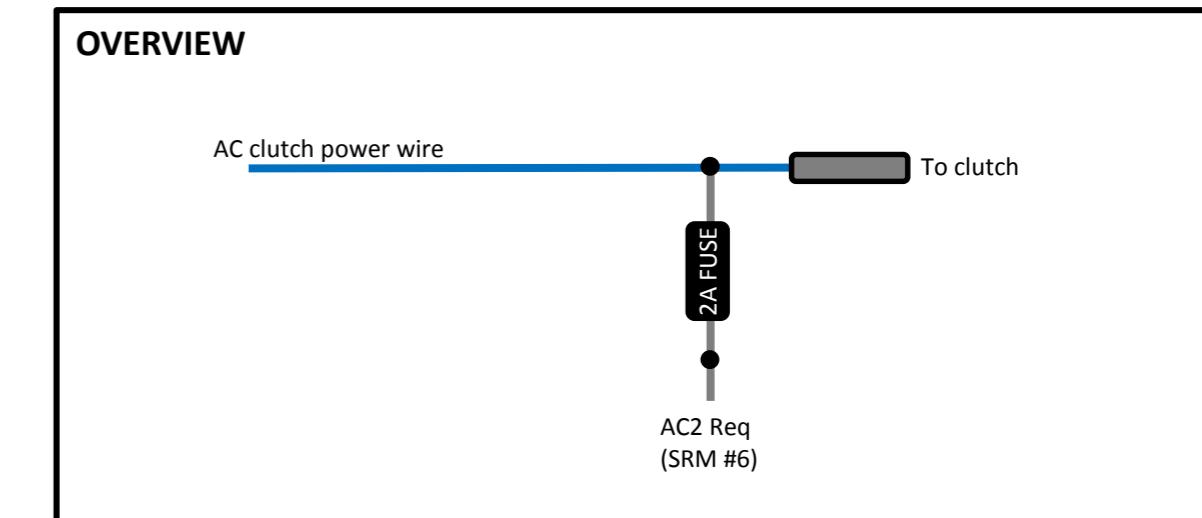
Parts necessary for the auxiliary A/C clutch signal monitor are not supplied in the ROUSH CleanTech LPG kit. It will be necessary for up fitters to find the appropriate hardware to be installed for controlling the auxiliary AC clutch.

### Part Recommendations:

- 2 Amp fuse and fuse holder
- 20 gauge wire (approximately 5 ft.)
- Nylon corrugated loom (approximately 5 ft.)
- Heat shrink (1/4" and 3/16")
- Zip-ties
- Electrical tape

## AUXILIARY A/C CLUTCH SIGNAL MONITOR FOR ACC SYSTEMS WITH APADs MODULE (CONTINUED)

1. Confirm the operation of the auxiliary A/C system before beginning this procedure.
2. Locate the auxiliary A/C compressor clutch power wire and disconnect the connector near the compressor. Pull about 12 inches of wire out of the loom to gain access.
3. Splice the fuse holder input into the A/C clutch power signal wire.
4. Splice a 20 gauge wire into the fuse holder output.
5. Locate the unterminated wire bundle near the RCT fuse box and remove the wires from the loom to find the AC2 request wire which is **grey with a black tracer**. The grey with black tracer wire is labeled **AC2 Req**.
6. Splice the 20 gauge wire from the fuse holder output to the AC2 request wire.
7. Reconnect the auxiliary A/C compressor clutch connector, then install the 2 amp fuse into the fuse holder.
8. Complete the installation by covering the wires with loom and retaining the wires away from sharp edges, hot surfaces, and moving objects.
9. Confirm the operation of the auxiliary A/C system.



## AUXILIARY A/C CLUTCH SIGNAL CONTROL FOR PRO AIR & TRANS AIR

Parts necessary for the auxiliary A/C clutch signal control are not supplied in the ROUSH CleanTech LPG kit. It will be necessary for up fitters to find the appropriate hardware to be installed for controlling the auxiliary AC clutch.

### Part Recommendations:

- Automotive relay (30/40A) with harness
- 2 Amp fuse and fuse holder
- 18 and 12 gauge wire
- Nylon corrugated loom
- Heat shrink (1/4" and 3/16")
- Zip-ties
- Ring terminals
- Electrical tape

## AUXILIARY A/C CLUTCH SIGNAL CONTROL FOR PRO AIR & TRANS AIR (CONTINUED)

1. Confirm the operation of the auxiliary A/C system before beginning this procedure.
2. With the vehicles engine off disconnect the battery and locate the auxiliary A/C compressor clutch power wire and disconnect the connector near the compressor.
3. Cut the wire to the AC compressor clutch connector 6 inches from the connector.
4. Connect the pigtail to the automotive relay circuit #30 as shown in the logic diagram.
5. Splice a fuse holder into the A/C clutch power wire with the automotive relay circuits #85 & #87 as shown in the logic diagram.
6. Locate the RCT blunt cut wires near the RCT fuse box and remove the wires from the loom to find the AC2 request wire labeled **AC2 Req**. Splice the fused circuit to the AC2 Req wire.
7. From the RCT blunt cut wire bundle locate the AC2 clutch control labeled **AC Clutch 2**. Splice an 18 gauge wire from the AC Clutch 2 circuit to the automotive relay circuit #86 as shown in the logic diagram.
8. Reconnect the auxiliary A/C compressor clutch connector, then install the 2 amp fuse.
9. Complete the installation by mounting the relay, covering the wires with loom and retaining the wires away from sharp edges, hot surfaces, and moving objects.
10. Confirm the operation of the auxiliary A/C system.

