

# 2015 RAM 2500/3500 SNOWPLOW INSTALLATION

## QUAD / BASE HOOK-UP INSTRUCTIONS

09/01/2014

### **ELECTRICAL CONSIDERATIONS**

#### HEADLAMPS (Quad / Base)

Each headlamp bulb is independently Pulse Width Modulated (PWM) controlled by an electronic control module. This module also monitors each bulb to detect failures (i.e. bulb burned out) on both the high beam and low beam filaments. When this failure occurs, the "LAMP OUT" telltale indicator in the instrument cluster will illuminate whenever the ignition is in the RUN position. The module also provides the DRL function when required and therefore there is no separate DRL controller.

Therefore, the any aftermarket wiring kits should use the following guidelines:

- Disconnection of the OEM headlamps will be interpreted by the electronic module as a burned out bulb therefore; it is recommended that the aftermarket lamps utilize the OEM headlamp circuits. NOTE – the aftermarket bulbs must draw no more current than the OEM bulbs (9007QL).
- Provide a means of allowing the customer to manually switch between the OEM headlamps and the aftermarket headlamps. Connection of both the OEM and aftermarket lamps at the same time will cause the control module to disable the circuit due to an overload condition and illuminate the "LAMP OUT" indicator in the instrument cluster.
- Also, assure that the OEM headlamps cannot be inadvertently disabled when the aftermarket lamps are disconnected (i.e. when the snowplow is not on the vehicle).
- Do NOT splice the right and left headlamp circuits together. Connection of both lamps to the same circuit will cause the control module to disable the circuit due to an overload condition and illuminate the "LAMP OUT" indicator in the instrument cluster.

#### TURN LAMPS (Quad / Base)

Each turn lamp - front driver, front passenger, rear driver, and rear passenger is independently controlled by an electronic control module. This module also monitors each bulb to detect failures (i.e. bulb burned out). When this failure occurs the "LAMP OUT" tell tale indicator in the instrument cluster will illuminate whenever the ignition is in the RUN position.

In order to successfully connect the plows turn signal lamps to the vehicle's wiring the following must be done:

- The front driver circuit is L61, 18 gauge WT/LG

- The front passenger circuit is L60, 18 gauge WT/TN
- Both L60 & L61 need to be spliced into in order to control a set of relays (please see attached drawing on page 5). These relays are necessary for proper function of the turn signals while the plow lamps are attached to the vehicle's electrical system. Failure to do so will cause the front turn signals to be inoperable or intermittent.

**NOTE:** The electronic module is only capable of detecting bulb failure in the vehicles lamps.

#### PARK LAMPS (Quad / Base)

The vehicle park/tail/license/marker/tailgate lamps are partitioned into three subsets – driver side, passenger side, and trailer tow connectors with the total vehicle load balanced between the driver and passenger side. Aftermarket wiring kits must have provisions that:

- Maintain separation between all three subsets. The preferred method for aftermarket park lamps is to use one of these circuits as a sense line to control a relay to activate aftermarket lamps. The relays power feed needs to be a fused battery feed provided by the kit
- If aftermarket park lamps need to be wired directly to the vehicle circuits. The load should be balanced between driver and passenger side, with neither side sourcing more than 2A of additional load current.
  - The driver side circuit is L61, 20 gauge WT/YL wire – see wiring schematics. The easiest place to find and splice into this circuit is in the harness bundle near the connection to the driver headlamp assembly
  - The passenger side circuit is L60, 20 gauge WT/GY wire – see wiring schematics. The easiest place to find and splice into this circuit is in the harness bundle near the connection to the passenger headlamp assembly

#### IGNITION RUN FEED

If required, the only location to obtain an ignition run feed is to splice into circuit F306. Circuit F306 18 gauge PK/YL is a dedicated Ignition Run feed to the Cigar Lighter.

The best location to splice into F306 is right at the connection into the back of the Cigar Lighter. This connection can be accessed by removing the center stack trim piece which the Cigar Lighter is mounted into. There will be two wires going into the connector. Circuit F306 is the 18

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gauge PK/YL wire. The other wire will be (Z736) BK/YL tracer.

The spliced in aftermarket wire should be a minimum 18 gauge high temperature rated wire due to the 20A fuse for the Cigar lighter. The load placed on the aftermarket circuit should not exceed 2A. Exceeding 2A will potentially blow the Cigar Lighter fuse when activating the Cigar lighter and the aftermarket load simultaneously.

**Note:** Circuit F306 is an Ignition Run and ACCESSORY feed, meaning it will be hot with the ignition key in the Run position and also the Accessory position.

**Note:** If more than a 2A ignition feed is required, then the aftermarket application will have to add an external relay, with appropriate battery fusing and use the recommended F306 circuit to turn the relay on and off.