DIY: How-To Enable Fog Lights

2007 – 08 Tundra

For $5 or Less

Design by Edddie
Documented by7 Daless2

Note: Eddie, on Tundra Solutions has designed an alternative means of using the Tundra fog lights.

Being I have the pictures of connectors and their locations I have elected to document Eddie's design.

Please read Basic Design Description below.

Overview of Factory Fog Lights

The Factory Fog Light Switch, mounted on the stalk, does not turn the Fog Lights "On".

Instead, when you turn this switch "On" it makes a "Request", (via a ground signal) to the Main Body ECU to turn the Fog Lights "On".

The Main Body ECU then decides, based on a set of rules, if it will supply a ground to the Fog Light Relay "coil", and/or if it will supply +12 volts to the other side of the Fog Light Relay "coil".

The Main Body ECU must supply both a "ground" and a "voltage" at the same time, for the fog lights to turn "On".

The "rules" which the MB-ECU applies when you "request" the Fog Lights to be turned "On" are as follows:

- Fog Lights cannot be turned on by themselves
- Headlights Lights must be "On" for Fog Lights to turn "On".
- High Beam Headlights "On" cause Fog Lights to "Turn Off"

Basic Design Description

Eddie's design segregates the Fog Light Relay Coil "Ground" as well as the Fog Light Stalk switch from the Main Body ECU. This segregation requires you to cut two wires and install a jumper wired between the two wires you cut.

Please Note: You must be willing to cut these two wires.
DO NOT under any circumstances think you can just "tap" into these wires. If you do you will put your Main Body ECU at unknown risk.

Again. If you want this function bad enough, step up to the plate, suck it in, be brave, and snip it!

Eddie's single wire solution will enable your *Fog Lights to be "On" any time the main light switch is "On"* in any position as follows.

- ❑ Turn Parking Lights "On", Turn Fog Switch "On", Fog Lights Turn "On" **(NEW Function!!!)**

- ❑ Turn Head lights "On", turn Fog Switch "On", Fog Lights Turn "On" **(Same as Factory Setting)**

- ❑ Parking and/or Headlights "Off", turn Fog Switch "On", Fog Lights "Off**"(Same as Factory Setting)**

  - ➢ **If the Main Light Switch is "Off", the Fog Light WILL NOT work in this design.**

- ❑ Turn High Beam Lights "On", Turn Fog Switch "On", Fog Lights Turn "On" **(NEW Function!!!)**

Once Again, Eddie's design requires that you have the Light Switch turned "On" to any one of three positions,

- ❑ Parking Lights ON

- ❑ Head Lights On

- ❑ High Beam Lights On

To enable the Fog Lights to be "On"

If this were the function you are looking for I would strongly recommend they adopted Eddie's single wire design.

It is clean and uncomplicated, and I am certain it would work. In fact I test installed it today to make sure it would work. I did put my system back, but Eddie's does indeed work.

Please Note: Eddie's single wire solution will work with the Auto On Light System **BUT only if the Auto Light System has turned the Lights ON**.

If the Auto Light System has the Lights Off (Daylight conditions), the Fog Lights will also be forced Off.

I test installed Eddie's solution on my Tundra (2007) and can verify it works as designed.

*If you are reading this as a part of a forum thread, please double click on the **"FogLightsEddieVx.pdf"** file located at the bottom of this post to view and download the most current version of the "How-To" instructions.*

Precautions:

Please be sure you take these precautions prior to performing this modification on your Tundra.

1.) Disconnect the Battery Negative Terminal. If you have Navigation, wait at least 90 seconds after turning the key off to allow Nav System to save its settings.
2.) Prior to cutting the single wire "UNPLUG" Connector J3 just to be safe.
3.) Read and understand this entire document "PRIOR" to starting.

Parts You Need

These are common automotive / electrical parts. Just about any auto store or Radio Shack will have them. Total cost can't be more then $5.00 total.

Fog Light Parts You Will Need
Eddie Design

1/4" FULLY INSULATED
MALE Crimp On (Qty 2)

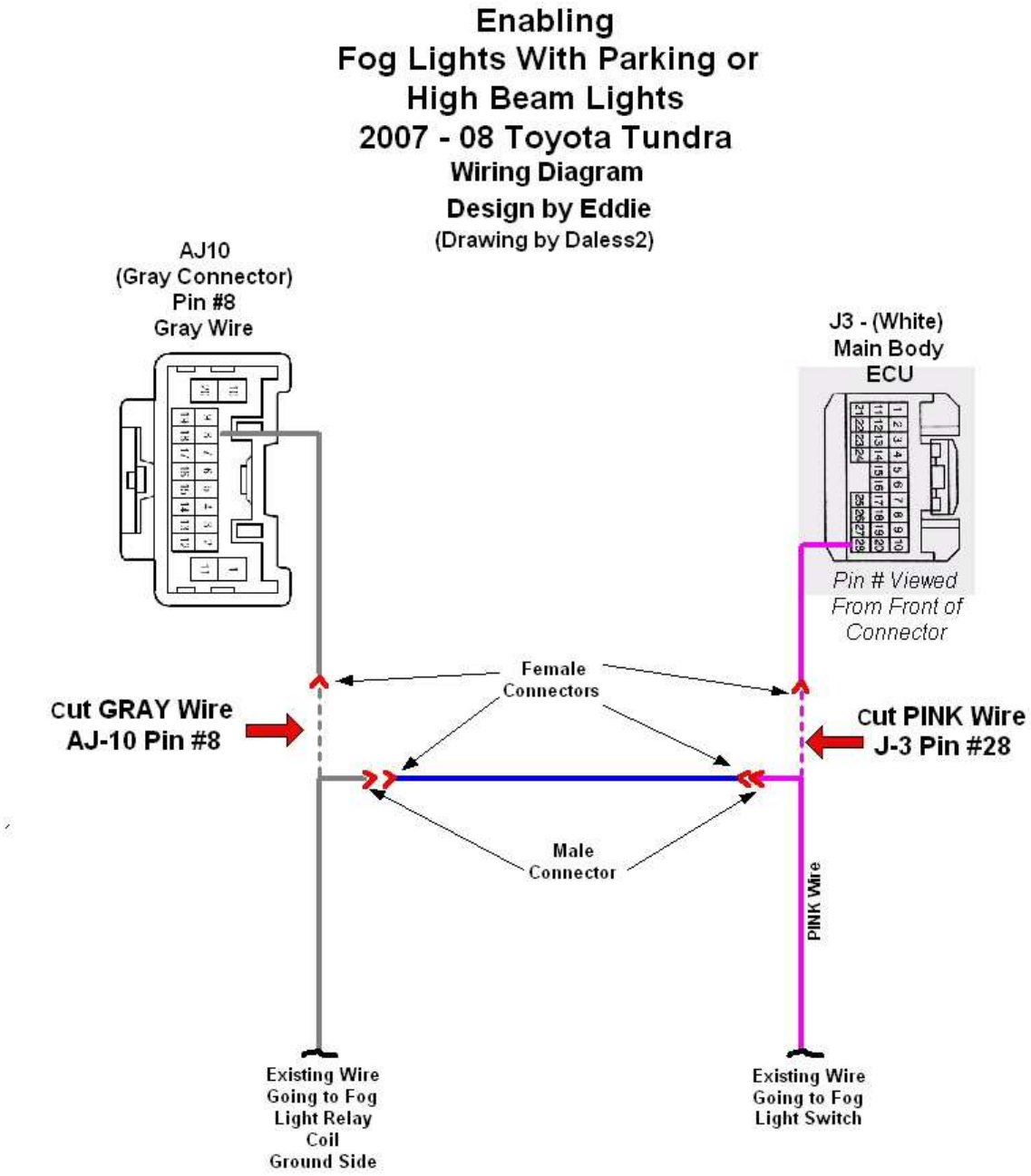
1/4" FULLY INSULATED
FEMALE Crimp On (Qty 4)

2 Feet - 22 Gauge Wire/
(Black is least Noticeable)

Plus Electrical
Tape

Electrical Wiring Diagram

Please study the drawing below. I will explain.



You will be cutting two existing Tundra wires, the Pink Wire in position #28 on connector J3, and the Gray Wire in position # 8 on connector AJ10.

Once cut you will install a single Jumper Wire, connecting the Pink and Gray wires.

If you use Crimp-n connectors in the way I describe, you can put this entire modification back to the factory wiring in about 5 minutes.

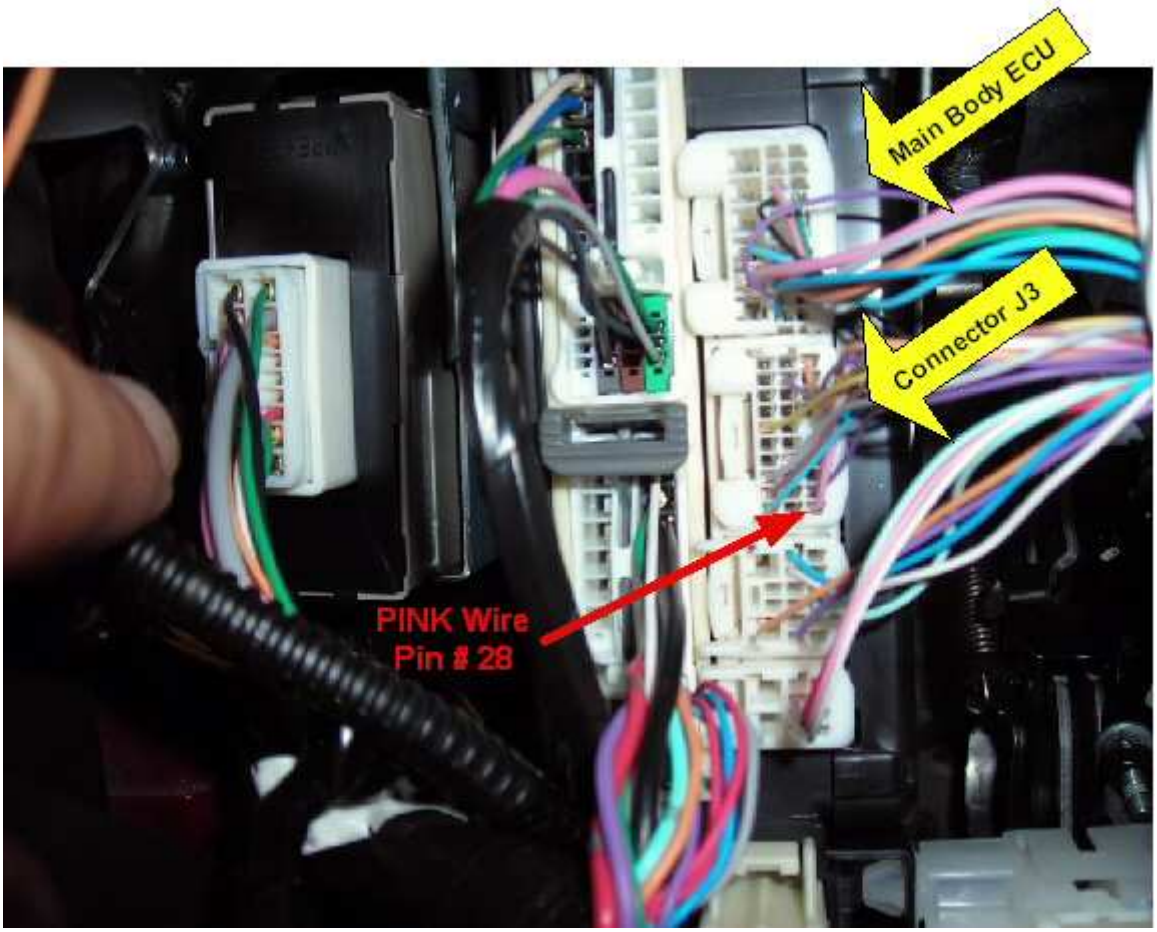
1.)

Locate Connector J3

Remove the driver side kick panel and the panel under the steering column.

You will find J3 connector plugged into the Main Body ECU.

Here is a picture.



2.)

Unplug Connector J3 from the Main Body ECU

Cut the PINK Wire in Position #28 of Connector J3 about 2 inches from the connector.

On the PINK wire still attached to the connector J3, crimp on a ¼-inch fully insulated FEMALE connector. Then cover this connector with electrical tape, just to be safe.

On the other end of the PINK wire, crimp on a ¼-inch fully insulated MALE connector.

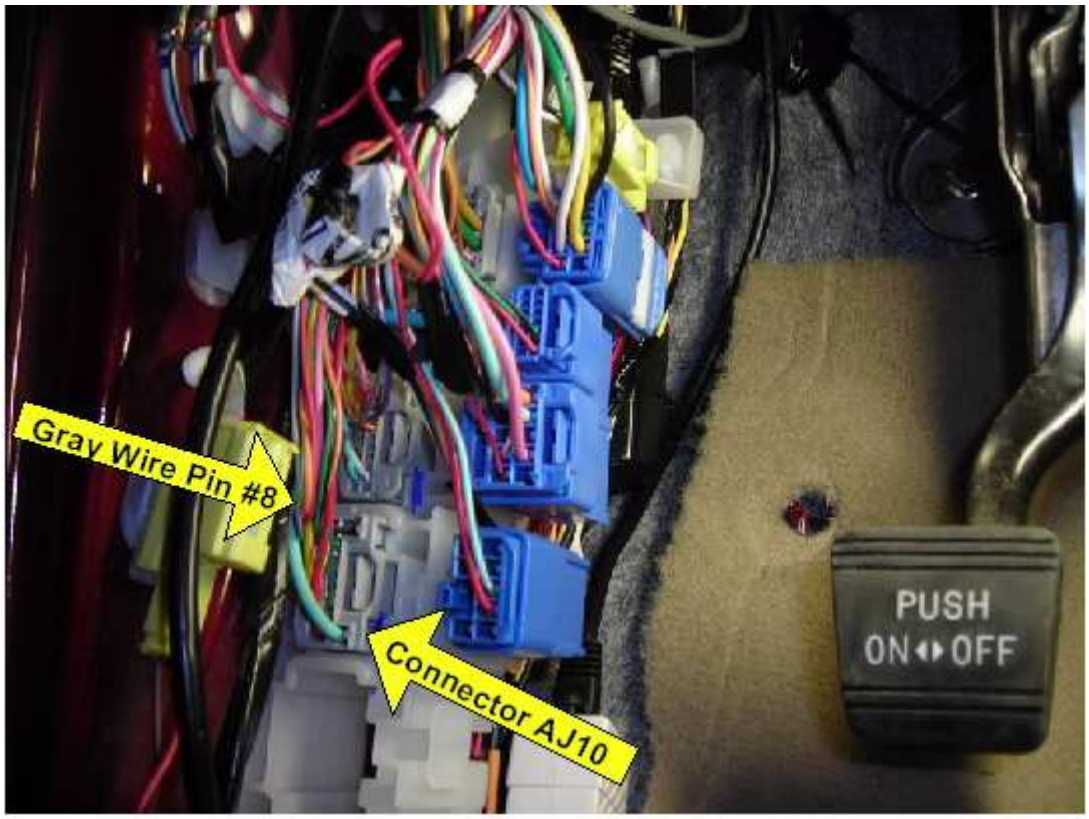
Plug Connector J3 back into the Main Body ECU.

3.)

Find Connector AJ10

AJ10 is located under the driver's side kick panel right next to the parking brake pedal.

Here is a picture.



4.)

Unplug this connector AJ10.

Find the GRAY wire in Position # 8, of Connector AJ10.

Cut this wire about two inches from the connector.

On the GRAY wire still attached to the connector J3, crimp on a ¼-inch fully insulated FEMALE connector. Then cover this connector with electrical tape, just to be safe.

On the other end of the GRAY wire, crimp on a ¼-inch fully insulated MALE connector.

Plug the AJ10 connector back into it's home.

5.)

Install the Jumper Wire

Cut a length of wire to reach between the end of the PINK wire and the GRAY wire. About a foot will do.

Crimp a FEMALE fully insulated connector on each end of the jumper wire (The blue wire in the drawing electrical diagram above.)

Plug one end of the jumper wire onto the PINK wire.

Plug the other end of the Jumper wire onto the GRAY wire.

You're basically done.

Test Your Fog Lights

Reconnect the Negative terminal of your Battery and test out your work.

- ✓ Turn Ignition “On”, Light Switch Completely “Off”; turn Fog Light Switch “On”, Flog Lights should remain “Off”.
- ✓ Turn Parking Lights “On”, turn Fog Light Switch “On”, Fog Lights should go “On”.
- ✓ Turn Headlights “On”, turn Fog Light Switch “On”, Fog Lights should go “On”.
- ✓ Turn High Beam Headlights “On”, turn Fog Light Switch “On”; Fog Lights should go “On”.
- ✓ Turn Light Switch to “Auto” in daylight. Turn Fog Light Switch “On”, Fog Lights should be “Off”
- ✓ Repeat above test, but cover light sensor with your hand, Fog Lights should be “On”.

Tidy up, replace the kick panel, you’re done!!!

Restore to Factory Function

If you want to put things back to the way the Fog Lights worked from the factory there is a three-step process.

- ❑ Remove your Jumper wire.
- ❑ Plug male / Female connectors on PINK wires together.
- ❑ Plug male/Female connectors on Gray Wire Together.