
Subject: New LED Landing, Taxi, and Runway Turnoff Lights (LTRTL) System

Introduction

Beginning with aircraft 3846, Boeing will introduce a production change that modifies the exterior lights. Specifically, this enhancement will remove the taxi light, landing lights, and runway turnoff lights and replace these fixtures with LED light arrays mounted in the wing roots.

The wheel well lights will also be upgraded to LED technology as part of this offering.

Runway Turnoff Lights Inboard LED Array Outboard LED Array



Benefits

The existing halogen Parabolic Aluminized Reflector (PAR) lamps that are used for takeoff and landing operations have a short lamp life (approximately 70 operational hours). The new LED LTRTL system will provide better photometric performance, while lasting significantly longer (approximately 10,000 hours).

In addition, there are several advantages for moving all light functions into the wing root area. Both the retractable landing light and nose gear light installations are susceptible to FOD damage and are exposed to the elements. The nose gear taxi light installation is also exposed to significant shock and vibration loads. Relocating these functions to the wing root area moves the lights to a higher area protected by an outer lens. The elimination of electromagnetic components associated with the retractable landing lights also provides higher reliability. This production change will result in a weight benefit of 16 lbs.

Operations Manual Volume 1

Delta's Exterior Lights Usage procedure is impacted by this production change.

Exterior Lights Usage

3601-3610, 3701-3773, 3801-3845

Flight crews are required to extinguish the RETRACTABLE landing lights when accelerating through 250 KIAS (10,000 feet). FIXED landing lights are extinguished in flight above 18,000 feet.

3846-3900

Flight crews are required to extinguish the LANDING lights in flight above 18,000 feet.

Operations Manual Volume 2

Aircraft General - Exterior Lighting

LED - Landing, Taxi, and Runway Turnoff Lights



Landing Lights

3846-3900

When selected on, 100% power is provided to both inboard and outboard LED landing light arrays. Lateral lighting coverage at a 50-foot approach height is significantly enhanced.

Note: The RETRACTABLE landing light switches have been removed from the Overhead P-5 Panel. The remaining (FIXED) landing light switches have been relabeled “LANDING” lights.

LANDING Light Switch

OFF- LED landing lights are extinguished

ON- LED landing lights are illuminated

RUNWAY TURNOFF Light Switch

OFF- Runway turnoff LEDs are extinguished

ON- Runway turnoff LEDs are illuminated

TAXI Light

When selected on, the taxi lights will have equivalent or better light than the current halogen taxi light. Taxi light lateral coverage will be enhanced. Taxi light power is 10% of the landing light power. Both inboard and outboard arrays are used.

TAXI Light Switch

OFF- LED wing root area taxi lights are extinguished

AUTO- LED wing root area taxi lights are illuminated when the nose landing gear is fully extended and are extinguished when the nose landing gear retracts

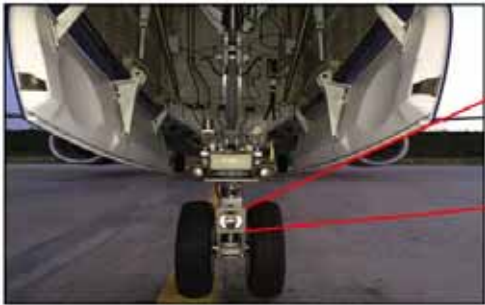
WHEEL WELL Light Switch

OFF- Wheel well LED lights are extinguished

ON- Wheel well LED lights are illuminated

LED - Exterior Lighting Locations

The taxi light on aircraft 3846-3900 has been removed and replaced with LED LTRTL arrays in the wing root areas.



Aircraft 3601-3610, 3701-3773, 3801-3845



Aircraft 3846-3900

Retractable Landing Lights

The retractable landing lights on aircraft 3846-3900 have been removed and replaced with LED LTRTL arrays in the wing root areas.



Aircraft 3601-3610, 3701-3773, 3801-3845



Aircraft 3846-3900

Retrofit

Due to significant structural and wiring changes, Boeing is not offering this package as a retrofit.

Feedback

Feedback regarding this production change should be submitted via FCR.

Conclusion

The new LTRTL system will provide Delta B737 crews with the latest in lighting technology to increase reliability, reduce operating and maintenance cost, provide a weight benefit, and enhance performance.

Volume I and II will be updated during a future revision cycle.

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