

# AIRWORTHINESS DIRECTIVES FINAL RULES: 74-14-03

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**AMENDMENT:** 39-1891

**AD NUMBER:** 74-14-03

**SUBJECT HEADING:** DETROIT DIESEL ALLISON Model 250-C20 Engines

**ACTION:**

**SUMMARY:**

**DATES:** Effective July 10, 1974.

**ADDRESSES:**

**FOR FURTHER INFORMATION CONTACT:**

**SUPPLEMENTARY INFORMATION:**

**REGULATORY TEXT:** 74-14-03 DETROIT DIESEL ALLISON: Amendment 39-1891. Applies to Detroit Diesel Allison Model 250-C20 Engines equipped with Chandler Evans Fuel Controls. Compliance required as indicated.

To prevent after fires resulting from incomplete fuel cut-off at engine shutdown, unless already accomplished:

A. Within the next 25 hours' flight time, and at each subsequent change of the fuel control or the associated linkage system inspect the fuel control rigging to assure that the fuel control quadrant reads minus 2 degrees with the throttle lever against the minimum stop when the twist grip is in the "Fuel Off" position. Minus 2 degrees is 1/32 inch to the left of the 0 degree mark. If the reading is not minus 2 degrees, readjust the minimum stop on the fuel control to obtain minus 2 degrees on the fuel control quadrant as follows:

1. Turn the minimum stop screw to obtain 0 degrees on the quadrant with the throttle against the stop.
2. Turn the minimum stop screw out (counterclockwise) one half turn.
3. Recheck to be sure the pointer is at minus 2 degrees when the twist grip is in the "Fuel off" position.

NOTE: If after accomplishing the above, limitations of the aircraft engine control system linkage prevent reaching minus 2 degrees, set the minimum stop at 0 degrees.

B. In addition to Part A, within the next 25 hours' flight time, accomplish the following on Model 250- C20 Engines equipped with Chandler Evans fuel controls, Part Numbers 6875653, 6876967, 6876797, 6877542, 6851386, and 6851506 only. This is a one time adjustment and test.

1. Adjust the cut-off lever link as follows:

- a. If the minimum stop is adjusted to minus 2 degrees, turn the nut closest to the throttle shaft four flats in the direction to shorten the effective length of the link.
- b. If the minimum stop is adjusted to 0 degrees, turn the nut closest to the throttle shaft eight flats in the direction to shorten the effective length of the link.
- c. Tighten the nut on the opposite side of the cut-off lever bushing to 8-12 in. lb. so that the lever bushing is tight between the locknuts.
- d. Paint the locknuts and thread area around the nuts with red Glyptol or equivalent to identify the control as having been adjusted.

2. Start the engine and make a short ground run; then check the rigging for repeatability of the setting (0 degrees

or -2 degrees) with the twist grip at "Fuel Off".

3. Check the fuel control cut-off valve for leakage as follows:

- a. Disconnect the fuel hose from the fuel nozzle and place the free end in an open container.
- b. Turn on the aircraft switches required to provide fuel boost pump pressure to the engine and pull the ignition circuit breaker or remove the primary wire to the ignition exciter to deactivate the ignition system. (Insulate the terminal of the primary wire.)
- c. Motor the engine to 10% N(1) RPM using the starter.
- d. If fuel flows from the open line in excess of 20 drops per minute with the twist grip at "Fuel Off", replace the fuel control and repeat the check before accepting the control.
- e. Reconnect the fuel hose and tighten the coupling to 80-120 in. lb.

Detroit Diesel Allison Commercial Service Letter 250-C20-CSL-1023 pertains to this subject.

This amendment is effective July 10, 1974.

**FOOTER:**