

Environmental Protection Agency

§87.21

nozzle manifolds after engines are shut down and does not apply to normal fuel seepage from shaft seals, joints, and fittings.

(b) Conformity with the standard set forth in paragraph (a) of this section shall be determined by inspection of the method designed to eliminate these emissions.

Subpart C—Exhaust Emissions (New Aircraft Gas Turbine Engines)

§87.20 Applicability.

The provisions of this subpart are applicable to all aircraft gas turbine engines of the classes specified beginning on the dates specified.

§87.21 Standards for exhaust emissions.

(a) Exhaust emissions of smoke from each new aircraft gas turbine engine of class T8 manufactured on or after February 1, 1974, shall not exceed: Smoke number of 30.

(b) Exhaust emissions of smoke from each new aircraft gas turbine engine of class TF and of rated output of 129 kilonewtons thrust or greater, manufactured on or after January 1, 1976, shall not exceed:

$SN=83.6(rO)^{-0.274}$ (rO is in kilonewtons).

(c) Exhaust emission of smoke from each new aircraft gas turbine engine of class T3 manufactured on or after January 1, 1978, shall not exceed: Smoke number of 25.

(d) Gaseous exhaust emissions from each new commercial aircraft gas turbine engine shall not exceed:

(1) Classes TF, T3, T8 engines greater than 26.7 kilonewtons rated output:

(i) Engines manufactured on or after January 1, 1984:

Hydrocarbons: 19.6 grams/kilonewton rO.

(ii) Engines manufactured on or after July 7, 1997.

Carbon Monoxide: 118 grams/kilonewton rO.

(iii) Engines of a type or model of which the date of manufacture of the first individual production model was on or before December 31, 1995 and for

which the date of manufacture of the individual engine was on or before December 31, 1999.

Oxides of Nitrogen: $(40 + 2(rPR))$ grams/kilonewtons rO.

(iv) Engines of a type or model of which the date of manufacture of the first individual production model was after December 31, 1995 or for which the date of manufacture of the individual engine was after December 31, 1999:

Oxides of Nitrogen: $(32 + 1.6(rPR))$ grams/kilonewtons rO.

(v) The emission standards prescribed in paragraphs (d)(1) (iii) and (iv) of this section apply as prescribed beginning July 7, 1997.

(vi) Engines of a type or model of which the date of manufacture of the first individual production model was after December 31, 2003:

(A) Engines with a rated pressure ratio of 30 or less:

(1) Engines with a maximum rated output greater than 89 kilonewtons:

Oxides of Nitrogen: $(19 + 1.6(rPR))$ grams/kilonewtons rO.

(2) Engines with a maximum rated output greater than 26.7 kilonewtons but not greater than 89 kilonewtons:

Oxides of Nitrogen: $(37.572 + 1.6(rPR) - 0.2087(rO))$ grams/kilonewtons rO.

(B) Engines with a rated pressure ratio greater than 30 but less than 62.5:

(1) Engines with a maximum rated output greater than 89 kilonewtons:

Oxides of Nitrogen: $(7 + 2(rPR))$ grams/kilonewtons rO.

(2) Engines with a maximum rated output greater than 26.7 kilonewtons but not greater than 89 kilonewtons:

Oxides of Nitrogen: $(42.71 + 1.4286(rPR) - 0.4013(rO) + 0.00642(rPR \times rO))$ grams/kilonewtons rO.

(C) Engines with a rated pressure ratio of 62.5 or more:

Oxides of Nitrogen: $(32 + 1.6(rPR))$ grams/kilonewtons rO.

(vii) The emission standards prescribed in paragraph (d)(1)(vi) of this section shall apply as prescribed beginning December 19, 2005.

(2) Class TSS: Engines manufactured on or after January 1, 1984:

Hydrocarbons= $140(0.92)^{rPR}$ grams/kilonewtons rO.