

Environmental Protection Agency

§ 1039.645

§ 1039.630 What are the economic hardship provisions for equipment manufacturers?

If you qualify for the economic hardship provisions specified in 40 CFR 1068.255, we may approve your hardship application subject to the following additional conditions:

(a) You must show that you have used up the allowances to produce equipment with exempted engines under § 1039.625.

(b) You may produce equipment under this section for up to 12 months total (or 24 months total for small-volume manufacturers).

§ 1039.635 What are the hardship provisions for engine manufacturers?

If you qualify for the hardship provisions specified in 40 CFR 1068.245, we may approve a period of delayed compliance for up to one model year total (or two model years total for small-volume manufacturers). If you qualify for the hardship provisions specified in 40 CFR 1068.250 for small-volume manufacturers, we may approve a period of delayed compliance for up to two model years total.

§ 1039.640 What special provisions apply to branded engines?

The following provisions apply if you identify the name and trademark of another company instead of your own on your emission control information label, as provided by § 1039.135(c)(2):

(a) You must have a contractual agreement with the other company that obligates that company to take the following steps:

(1) Meet the emission warranty requirements that apply under § 1039.120. This may involve a separate agreement

involving reimbursement of warranty-related expenses.

(2) Report all warranty-related information to the certificate holder.

(b) In your application for certification, identify the company whose trademark you will use and describe the arrangements you have made to meet your requirements under this section.

(c) You remain responsible for meeting all the requirements of this chapter, including warranty and defect-reporting provisions.

§ 1039.645 What special provisions apply to engines used for transportation refrigeration units?

Manufacturers may choose to use the provisions of this section for engines used in transportation refrigeration units (TRUs). The operating restrictions and characteristics in paragraph (f) of this section define engines that are not used in TRUs. All provisions of this part apply for TRU engines, except as specified in this section.

(a) You may certify engines under this section with the following special provisions:

(1) The engines are not subject to the transient emission standards of subpart B of this part.

(2) The steady-state emission standards in subpart B of this part apply for emissions measured over the steady-state test cycle described in paragraph (b) of this section instead of the otherwise applicable duty cycle described in § 1039.505.

(b) Measure steady-state emissions using the procedures specified in § 1039.505, except for the duty cycles, as follows:

(1) The following duty cycle applies for discrete-mode testing:

TABLE 1 OF § 1039.645—DISCRETE-MODE CYCLE FOR TRU ENGINES

Mode number	Engine speed ¹	Observed torque ²	Weighting factors
1	Maximum test speed	75	0.25
2	Maximum test speed	50	0.25
3	Intermediate test speed	75	0.25
4	Intermediate test speed	50	0.25

¹Speed terms are defined in 40 CFR part 1065.

²The percent torque is relative to the maximum torque at the given engine speed.

(2) The following duty cycle applies for ramped-modal testing:

TABLE 2 OF § 1039.645—RAMPED-MODAL CYCLE FOR TRU ENGINES

RMC mode	Time in mode (seconds)	Engine speed ¹	Torque (percent) ^{2,3}
1a Steady-state	290	Intermediate Speed	75.
1b Transition	20	Intermediate Speed	Linear Transition.
2a Steady-state	280	Intermediate Speed	50.
2b Transition	20	Linear Transition	Linear Transition.
3a Steady-state	280	Maximum Test Speed	75.
3b Transition	20	Maximum Test Speed	Linear Transition.
4 Steady-state	290	Maximum Test Speed	50

¹ Speed terms are defined in 40 CFR part 1065.

² The percent torque is relative to the maximum torque at the commanded engine speed.

³ Advance from one mode to the next within a 20-second transition phase. During the transition phase, command a linear progression from the torque setting of the current mode to the torque setting of the next mode, and simultaneously command a similar linear progression for engine speed if there is a change in speed setting.

(c) Engines certified under this section must be certified in a separate engine family that contains only TRU engines.

(d) You must do the following for each engine certified under this section:

(1) State on the emission control information label: "THIS ENGINE IS CERTIFIED TO OPERATE ONLY IN TRANSPORTATION REFRIGERATION UNITS. INSTALLING OR USING THIS ENGINE IN ANY OTHER APPLICATION MAY BE A VIOLATION OF FEDERAL LAW SUBJECT TO CIVIL PENALTY."

(2) State in the emission-related installation instructions all steps necessary to ensure that the engine will operate only in the modes covered by the test cycle described in this section.

(3) Keep records to document the destinations and quantities of engines produced under this section.

(e) All engines certified under this section must comply with NTE standards, as described in §1039.101 or §1039.102 for the applicable model year, except that the NTE standards are not limited with respect to operating speeds and loads. In your application for certification, certify that all the engines in the engine family comply with the not-to-exceed emission standards for all normal operation and use. The deficiency provisions of §1039.104(d) do not apply to these engines. This paragraph (e) applies whether or not the engine would otherwise be subject to NTE standards.

(f) An engine is not considered to be used in a TRU if any of the following is true:

(1) The engine is installed in any equipment other than refrigeration units for railcars, truck trailers, or other freight vehicles.

(2) The engine operates in any mode not covered by the test cycle described in this section, except as follows:

(i) The engine may operate briefly at idle. Note, however, that TRU engines must meet NTE emission standards under any type of operation, including idle, as described in paragraph (e) of this section.

(ii) The engine may have a minimal amount of transitional operation between two allowable modes. As an example, a thirty-second transition period would clearly not be considered minimal.

(iii) The engine as installed may experience up to a 2-percent decrease in load at a given setpoint over any 10-minute period, and up to a 15-percent decrease in load at a given setpoint over any 60-minute period.

(3) The engine is sold in a configuration that allows the engine to operate in any mode not covered by the test cycle described in this section. For example, this section does not apply to an engine sold without a governor limiting operation only to those modes covered by the test cycle described in this section.

(4) The engine is subject to Tier 3 or earlier standards, or phase-out Tier 4 standards.