Elements of the proposed A/C simulation for certification testing include, a 95 °F ± 5 °F test cell ambient temperature, A/C set to ''maximum A/C'' with interior air recirculation, high interior fan setting, coldest setting on the temperature slide, driver's window down, and front-end supplemental fan cooling. Although certification testing would occur at 95°, the compliance requirement would apply at less demanding temperatures as well. Thus, EPA confirmatory testing could take place at any point across the range 68 °F to 95 °F. The compliance requirement would would The Agency proposes these conditions as a cost-effective surrogate for testing in a fully controlled environmental chamber set to simulate ozone-exceedance conditions of ambient temperature, humidity, solar load, and pavement temperature, although the use of a fully controlled environmental chamber would be permitted.

The required elements for the SC01 include the preconditioning, soak period, and compliance cycle requirements. Prior to the soak period, the vehicle is to be preconditioned to allow engine and catalyst temperatures to stabilize at typical warmed-up operating temperatures. The Agency believes that running the vehicle over EPA's Urban Dynamometer Driving Schedule (LA4) is adequate to achieve engine and catalyst stabilization regardless of the time period for which the vehicle was not operational prior to preconditioning. However, in the event the vehicle was shut off for less than two hours prior to preconditioning, the Agency believes that a 505 cycle is adequate for preconditioning the vehicle, although the 866 or the SC01 is also acceptable.

Immediately following the preconditioning cycle, the vehicle will enter the soak period. Manufacturer testing of engine families required to comply with the intermediate soak requirements for certification or SEA testing must soak the vehicle for at least 60 minutes. EPA will have the option of testing any soak duration between 10 and 60 minutes for certification, SEA, and in-use testing. If the engine family is not required to meet the intermediate soak requirements, a 10-minute soak period is proposed. During this period, cooling fans directed at the vehicle are to be shut off. The vehicle may be removed from the dynamometer, provided the vehicle is not subjected to unrepresentative cooling of the engine or catalyst. Following the soak period, the vehicle will be run over the SC01 cycle using the proposed A/C simulation for proper representation of engine and catalyst warm-up and start driving.

The US06 driving cycle is designed to be run in hot stabilized condition. High-volume exhaust flow for larger-displacement vehicles run on US06 dictates use of a larger-capacity constant volume sampler (CVS) than is needed for current FTP testing. The proposed A/C simulation is not required for this test cycle.

The Agency proposes that manufacturers determine the appropriate shift points for their manual transmission applications and submit the shift schedules for EPA approval. In general, EPA will allow manufacturers to specify upshift points, but downshifting will not be permitted unless the vehicle is unable to stay within the driving tolerance on the speed trace in the existing gear.

Hot stabilized condition is achieved by including several preconditioning options as part of the formal procedure immediately prior to the US06 Cycle. If the vehicle has undergone a soak of 2 hours or less, the preconditioning may be a 505 Cycle, the 866 Cycle, US06, or the SC01. Following longer soaks, the proposed preconditioning cycle is an LA4. For manufacturers who have concerns about fuel effects on adaptive memory systems, the proposal allows manufacturers, and upon manufacturer request, requires EPA to run the vehicle over the US06 Cycle on the certification test fuel before entering the formal test procedure.

The Agency proposes adjustments to the aggressive driving test cycle for all heavy light-duty trucks (HLDTs),[6] and also, for some low- and high-performance LDVs and LDTs. The proposal calls for US06 Cycle testing of HLDTs with the truck ballasted to curb weight plus 300 lbs and the dynamometer inertia weight determined from this same basis, while FTP testing remains at Adjusted Loaded Vehicle Weight. The proposed US06 Cycle adjustments based on performance level are summarized in Table 1. For low performance vehicles, the inertia weight is adjusted by multiplying the original inertia weight by the adjustment factor which is equal to the ratio of the applicable performance cutoff and the W/P of the test vehicle. Where an adjustment factor is called for, it is applied dynamically by the dynamometer only during those portions of the US06 Cycle that are the most aggressive.[7] No adjustment factors are proposed for mid-performance (''normal'') vehicles. For high performance vehicles, the manufacturer must demonstrate stoichiometric control for wide-open throttle events of two seconds or less in order to ensure that these vehicles have aggressive driving emission control over similar vehicle operation as the rest of the fleet.

TABLE 1.—PERFORMANCE-BASED ADJUSTMENTS

Transmission type	Performance (W/P range)	Adjustment
manual	low W/P>34	dynamic dynamometer inertia weight reduction.
	normal 18 W/P 34	none.
	high W/P<18	2 second stoich control.
automatic	low W/P>31	dynamic dynamometer inertia weight reduction.
	normal 18 W/P 31	none.
	high (W/P<18)	2 second stoich control.

Determining compliance with standards—With the exception of changes prompted by use of new dynamometers and an additional driver speed variation tolerance, no changes are proposed for the driving cycle of the conventional FTP. Similarly, EPA proposes to retain unchanged the method of calculating compliance with the existing FTP. However, an additional ''composite'' compliance calculation is proposed that brings together elements of the conventional FTP with results from the SFTP. In the composite calculation, emissions from the range of in-use driving are appropriately weighted, summed, and compared to the proposed emission performance standards. For total hydrocarbon (THC), non-methane hydrocarbons (NMHC), organic material hydrocarbon equivalents (OMHCE), organic material non-methane hydrocarbon equivalents (OMNMHCE), and CO, the proposed standards are the same as the standards applicable under the conventional FTP; for NO_X, an adjustment factor of 1.15 is applied to that standard to account for the emission response of vehicles to the new A/C test conditions. See the

[6] Light-duty trucks are divided into two weight categories known as light light-duty trucks (rated up through 6000-pounds Gross Vehicle Weight Rating (GVWR)) and heavy light-duty trucks (rated greater than 6000-pounds GVWR).

[7] Refer to the Final Technical Report on Aggressive Driving Behavior for the Revised Federal Test Procedure Notice of Proposed Rulemaking for a detailed discussion of the points in the cycle where the proposed adjustments would be made.