

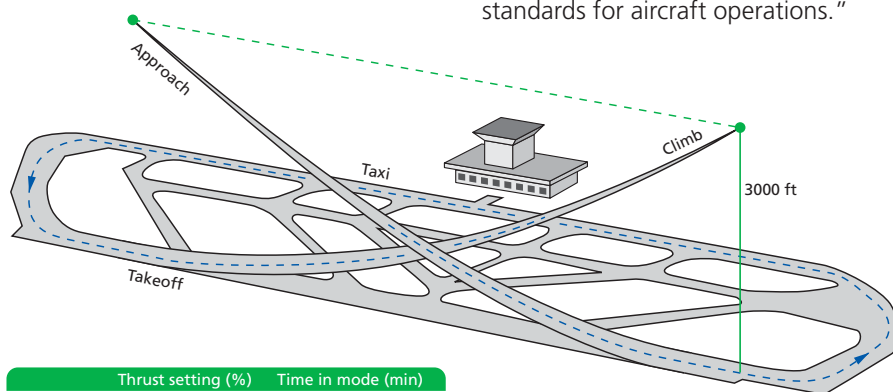
Air pollution generated by ANA Group operations consists mainly of aircraft and automobile exhaust. While already in compliance with international standards and Japanese regulations, the ANA Group is actively promoting the deployment of lower-emission aircraft and automobiles.

Aircraft Emission Standards

In its Annex 16, the International Civil Aviation Organization (ICAO) lists the emission standards for NOx (nitrogen oxide), HC (hydrocarbon), CO (carbon monoxide) and SN (smoke number,

or density) of aircraft exhaust emitted during the LTO cycle that simulates aircraft landing and takeoff. Appendix III of the Enforcement Regulation of Japan's Civil Aviation Law also contains the same standards, entitled "emission standards for aircraft operations."

ICAO Landing / Take-off Cycle



	Thrust setting (%)	Time in mode (min)
Takeoff	100	0.7
Climb	85	2.2
Approach	30	4.0
Taxi/Idle	7	26.0

Emission levels are measured during the LTO cycle, which is defined as a descent from 3,000 ft to the ground and an ascent to 3,000 ft after takeoff. Engine tests are subject to the operating modes and times on the left chart.

Low-Emission Aircraft

The ANA Group's most effective measure to reduce hazardous exhaust from aircraft has been to deploy the latest, most advanced aircraft. Emissions of aircraft currently in use at the ANA Group are all within ICAO emission standards.

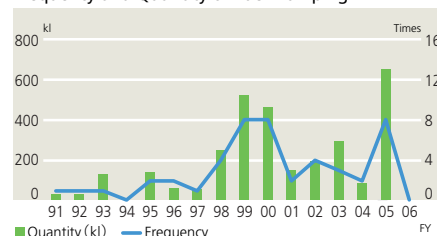
Engine Exhaust Levels (FY2006)	1,000 tons	
	ANA Group	ANA
NOx (nitrogen oxide)	6.5	5.6
HC (hydrocarbon)	1.1	1.0
CO (carbon monoxide)	6.0	5.1

Fuel Dumping for Unscheduled Landings

Mechanical malfunctions or passengers requiring immediate medical care often necessitate unscheduled landings. In such circumstances, the aircraft inevitably needs to dump fuel to reduce its weight and ensure a safe landing. Different airports designate specific dumping locations and altitudes, such as over oceans, to avoid dumping fuel over urban areas. When dumped at high altitude, fuel turns into a diffuse mist

that has minimal impact on the ground. No fuel was dumped in FY2006.

Frequency and Quantity of Fuel Dumping





■ Protective Measures for the Ozone Layer

Ozone depleting substances include fluorocarbons, hydro fluorocarbons, methyl chloroform, trichloroethane and carbon tetrachloride. The ANA Group has promoted the use of alternatives to ozone-depleting substances and improvements in the way such substances are handled. As a result, the ANA Group does not use any designated fluorocarbons in its aircraft equipment or buildings.

Halon recovery equipment

Halon fire extinguishers installed in engine rooms, cargo holds and passenger cabins are inspected and maintained regularly by companies contracted for this purpose. By introducing halon recovery equipment, the ANA Group has eradicated halon release into the atmosphere during inspection and maintenance procedures.

Aircraft cleaning agents

Designated fluorocarbons and trichloroethane, which were previously used in aircraft maintenance, were eliminated in 1994 and replaced by alternative cleaning agents.

Replacement of GSE* cars

In line with ANA's attempt to update its automobile fleet, GSE cars utilizing fluorocarbons for air conditioning have been replaced with alternatives. Furthermore, all vehicle maintenance companies at the ANA Group are licensed to handle fluorocarbon recovery.

* Ground Service Equipment

Halon fire extinguishers in ANA buildings

Halon fire extinguishers are installed in the transformer rooms and computer rooms of ANA buildings. In developing new buildings or refurbishing existing ones, ANA uses halon-free extinguishers. Also, the handling of fire extinguishers is fully managed so as to avoid inadvertent emission other than during emergencies.

Countermeasures Against Vehicle Pollution (NOx, SPM*)

At the end of FY2006, the ANA Group was using 3,072 vehicles of various types throughout Japan including general automobiles as well as tow trucks, power unit vehicles, maintenance vehi-

cles, forklifts, and so on at domestic airports.

The ANA Group has made efforts to renew its automobile fleet with lower-pollution vehicles. In all, 459 low-pollution vehicles are in use, some 15% of the total. This met the target stipulated in our Ecology Plan 2003–2007 (14.5%; twice the figure from the end of FY2002). The breakdown of low-pollution vehicles is as follows: 17.5% are electric cars, natural gas cars and hybrid cars, while 82.5% are low-emissions cars (certified for low fuel consumption and low emission). During FY2007, 13 conventional forklifts at Hakodate, Niigata, Hiroshima, Oita and Kansai airports were replaced with electric (battery-powered) ones.

* Suspended Particle Matter

Switching to Electric Forklifts —New Kansai International Airport Service

As part of its environmental measures, New Kansai International Airport Service is switching from diesel-powered forklifts to electric ones for cargo handling at Kansai International Airport.

In FY2006, four diesel-powered forklifts were replaced with electric ones, which now account for 14 of the 48 forklifts in use. By introducing these and other environment-friendly vehicles, such as electric towing tractors, the company reduced its CO₂ emissions by 2.4 tons over FY2005.



Electric forklifts