4. CAUSES

While the aircraft was making an ILS approach to Runway 34 of Nagoya Airport, under manual control by the F/O, the F/O inadvertently activated the GO lever, which changed the FD (Flight Director) to GO AROUND mode and caused a thrust increase. This made the aircraft deviate above its normal glide path.

The APs were subsequently engaged, with GO AROUND mode still engaged. Under these conditions the F/O continued pushing the control wheel in accordance with the CAP's instructions. As a result of this, the THS (Horizontal Stabilizer) moved to its full nose-up position and caused an abnormal out-of-trim situation.

The crew continued approach, unaware of the abnormal situation. The AOA increased , the Alpha Floor function was activated and the pitch angle increased.

It is considered that, at this time, the CAP (who had now taken the controls), judged that landing would be difficult and opted for go-around. The aircraft began to climb steeply with a high pitch angle attitude. The CAP and the F/O did not carry out an effective recovery operation, and the aircraft stalled and crashed.

The AAIC determined that the following factors, as a chain or a combination thereof, caused the accident:

1. The F/O inadvertently triggered the Go lever
   It is considered that the design of the GO lever contributed to it: normal operation of the thrust lever allows the possibility of an inadvertent triggering of the GO lever.

2. The crew engaged the APs while GO AROUND mode was still engaged, and continued approach.

3. The F/O continued pushing the control wheel in accordance with the CAP's instructions, despite its strong resistive force, in order to continue the approach.

4. The movement of the THS conflicted with that of the elevators, causing an abnormal out-of-trim situation.

5. There was no warning and recognition function to alert the crew directly and actively to the onset of the abnormal out-of-trim condition.

6. The CAP and F/O did not sufficiently understand the FD mode change and the AP override function.
   It is considered that unclear descriptions of the AFS (Automatic Flight System) in the FCOM (Flight Crew Operating Manual) prepared by the aircraft manufacturer contributed to this.

7. The CAP's judgment of the flight situation while continuing approach was inadequate, control take-over was delayed, and appropriate actions were not taken.

8. The Alpha-Floor function was activated; this was incompatible with the abnormal out-of-trim situation, and generated a large pitch-up moment. This narrowed the range of selection for recovery operations and reduced the time allowance for such operations.

9. The CAP's and F/O's awareness of the flight conditions, after the PIC took over the controls and during their recovery operation, was inadequate respectively.

10. Crew coordination between the CAP and the F/O was inadequate.

11. The modification prescribed in Service Bulletin SB A300-22-6021 had not been incorporated into the aircraft.

12. The aircraft manufacturer did not categorise the SB A300-22-6021 as "Mandatory", which would have given it the highest priority. The airworthiness authority of the nation of design and manufacture did not issue promptly an airworthiness directive pertaining to implementation of the above SB.