

# ALERT BULLETIN

AB 2024:16/3-10

6/20/2024

2118493, 2118365, 2103863

TO: Boeing Commercial Airplane Company

INFO: FAA (AVP-1, AVP-200, AFS-200, AFS-900, AFS-260, AFS-100, AIR-720, AIR-780, AIR-360, SEA-AEG), A4A, ALPA, AMFA, ASAP, ATSG, CAPA, IAM, IBT, ICAO, ICASS, IFALPA, IPA, NTSB, PAMA, RAA, SWAPA, TWU

FROM: Becky L. Hooey, Director  
NASA Aviation Safety Reporting System

SUBJ: B737-800 Landing Gear Retraction Issue

We recently received ASRS reports describing a safety concern that may involve your area of operational responsibility. We do not have sufficient details to assess either the factual accuracy or possible gravity of the report. It is our policy to relay the reported information to the appropriate authority for evaluation and any necessary follow-up. We feel you should be aware of the following:

ASRS has received several reports from a B737 flight crews describing abnormal gear retraction incidents shortly after takeoff.

(ACN 2118493) B737-800 flight crew reported unable to retract gear after takeoff. Flight crew cycled manual extension door and were able to retract gear.

(ACN 2118365) B737 flight crew reported being unable to retract the landing gear after takeoff. Flight crew ran checklist and resolved problem.

(ACN 2103863) B737 flight crew reported a gear disagree indication during gear retraction and found the alternate gear extension door was open. The Captain cleaned the dirt that had accumulated around the door and then reseated and locked it into place. Flight continued to destination.

To properly assess the usefulness of our alert message service, we would appreciate it if you would take the time to give us your feedback on the value of the information that we have provided. Please contact Dr. Becky Hooey at (408) 541-2854 or email at [becky.l.hooey@nasa.gov](mailto:becky.l.hooey@nasa.gov).



Aviation Safety Reporting System  
P.O. Box 189 | Moffett Field, CA | 94035-0189



**ACN 2118493****DATE / TIME**

Date of Occurrence	202405
Local Time Of Day	1201 to 1800

**PLACE**

Locale	ZZZ.Airport
State	US

**AIRCRAFT / EQUIPMENT X**

ATC / Advisory - Tower	ZZZ
ATC / Advisory - TRACON	ZZZ
Make Model Name	B737-800
Operating Under FAR Part	121

**COMPONENT 1**

Aircraft Component	Emergency Extension System
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**PERSON 1**

Function - Flight Crew	Captain
Function - Flight Crew	Pilot Flying
ASRS Report Number	2118493

**PERSON 2**

Function - Flight Crew	First Officer
Function - Flight Crew	Pilot Not Flying
ASRS Report Number	2119253

**EVENTS**

Anomaly	Aircraft Equipment Problem - Critical
Anomaly	Deviation / Discrepancy - Procedural - Published
	Material / Policy
Detector - Person	Flight Crew
Result - Flight Crew	Landed As Precaution
Result - Flight Crew	Overcame Equipment Problem
Result - Flight Crew	Returned To Departure Airport

**NARRATIVE 1**

On takeoff when the gear handle was selected to the up position, the landing gear did not retract and we received a gear disagree indication. We requested vectors from ATC while we troubleshooted the issue. The FO (First Officer) ensured the manual gear extension access door was closed, and neither of us recall the access door light being illuminated. We also both recalled feeling an abnormal vibration on takeoff from the nose wheel, although looking back it may have simply been from accelerating beyond a normal gear retraction speed and noticing something was different than usual. Nevertheless, out of caution we advised ATC to use my authority to plan a return to ZZZ airport. We decided that since we had both noticed what we considered abnormal vibration that we wanted to perform a low pass so that the Tower could visually see that our nose wheel was straight prior to making an attempt to land so that we knew what we were dealing with prior to attempting to land. The Tower informed us that all gear appeared to be down and the nose wheel appeared to be straight. As we climbed back out the FO recalled that the halon bottle behind his seat had fallen from its bracket and struck the manual gear extension access door. We both thought it could be possible that a contact with the switch could have been loose or intermittent so the FO again opened the door and forcibly slammed it closed multiple times. After doing this we were able to successfully retract the landing gear. Since the

aircraft was stable, safely flying, and we were in no danger, we opted to enter a hold in an effort to burn fuel to get the aircraft below max landing weight as there was no reason to make an overweight landing and create an additional and unnecessary issue that could be avoided. Once we entered the hold, I called the Dispatcher to update them on our intentions and decision to return to ZZZ airport. We advised ZZZ approach that we no longer required ARFF (Airport Rescue and Firefighting) and made a normal landing in ZZZ below max landing weight and taxied to the gate without issue.

Suggestions: Malfunctions like this sometimes happen and cannot necessarily be prevented. The problem was taken care of by using CRM, checklists, the QRH, and SOPs to ensure we got the aircraft safely on the ground, and in the future I will continue to utilize the tools available to me as we did in this situation.

## **NARRATIVE 2**

Just after takeoff when the captain, PF, (Pilot Flying) called for gear up, I moved the landing gear lever to the up position and noticed that the landing gear was not retracting. I advised the captain that our gear wasn't retracting and we made the decision to advise ATC that we needed delay vectors to run some checklists. We ran the QRH for a gear disagree and did not see the access door indicator light being illuminated and I verified the manual extension door was closed. After completing the QRH we attempted to cycle the gear once more with no results. After troubleshooting some more we both stated we felt a shuddering from the nose gear right after rotation which was different than the usual spin down of the tires. After previously running the QRH checklist and agreeing that we both felt the abnormal shuddering from the nose gear, we made the decision to request priority handling and requested a low approach in hopes that the Tower could visually inspect to see that our gear appeared to be down and that our front nose gear tires appeared to be straight and not turned to one side or another. While receiving delay vectors to prepare for the low approach we began running the QRH to prepare for an overweight landing. After our low approach to runway XX at ZZZ, the tower stated that it appeared our gear was down and locked and that the nose wheel appeared to be straight. As we began the climbout, I recalled the fire extinguisher located behind my seat (First Officer's Seat) had fallen from its cradle around pushback, and that maybe it could have hit the door and possibly damaged the sensor or some type of switch on the manual gear extension door. I opened the door and slammed it shut with force a couple times and afterwards when we attempted to retract the gear, it retracted successfully and without issue. After discussing as a crew how we had fixed the issue with our gear, our aircraft was flying safely, and we were in no immediate danger, we made the decision to cancel the [priority handling] as we no longer needed the services. We no longer had enough fuel to make it to our destination and decided that rather than attempt an overweight landing and potentially risk damage to the aircraft, we would request a hold to burn off fuel to put us below our max landing weight. During the hold, the Captain gave me control of the aircraft and radios as he updated Dispatch, the flight attendants, and the passengers. During this time I updated ZZZ approach of our intentions to return to the field for a normal landing. Once we had burnt off enough fuel to put us under our max landing weight, we made an uneventful approach and landing and taxied to the gate as normal.

This appears to be a random mechanical anomaly that occurred. It may have possibly been caused by the fire extinguisher falling from its holder or it could have been caused by dirt in the compartment, or just by freak chance. It's really hard to tell for sure. Either way, there is no doubt that the reason our gear wouldn't retract is due to the sensor on the access door not reading that it was closed.

My best suggestion is finding a way to make this an emphasis item in training either online or maybe even a message just explaining how even though the door appears closed and the light is off, that if you ever experience a situation where the gear won't retract, to forcefully close the door in order to ensure the sensors are reading correctly.

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## **SYNOPSIS**

B737-800 flight crew reported being unable to retract the gear after takeoff. Flight crew cycled the manual extension door and were able to retract the gear, but decided a return to the departure airport was the safest option.

**ACN 2118365****DATE / TIME**

Date of Occurrence	202405
Local Time Of Day	0001 to 0600

**PLACE**

Locale	ZZZ.TRACON
State	US
Altitude - MSL	2643

**ENVIRONMENT**

Flight Conditions	VMC
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**AIRCRAFT / EQUIPMENT X**

ATC / Advisory - TRACON	ZZZ
Make Model Name	B737 Undifferentiated or Other Model
Operating Under FAR Part	121

**COMPONENT 1**

Aircraft Component	Emergency Extension System
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**PERSON 1**

Function - Flight Crew	Captain
Function - Flight Crew	Pilot Not Flying
ASRS Report Number	2118365

**EVENTS**

Anomaly	Aircraft Equipment Problem - Critical
Anomaly	Deviation / Discrepancy - Procedural - Published
	Material / Policy
Detector - Person	Flight Crew
Result - Flight Crew	Overcame Equipment Problem

**NARRATIVE 1**

As we climbed away from the runway at takeoff, and achieved a positive rate of climb, I retracted the landing gear. We soon realized, by landing gear light indications, and the ambient outside noise, that the landing gear did not retract. I notified ATC that we had a problem with the landing gear. I then requested priority handling, and told ATC we needed to climb to a safe altitude, and get delay vectors, while we ran the appropriate non normal checklists from the QRH. I chose to request priority handling to get the attention of ATC of our situation. Also, if we could not resolve the problem back to normal, we would have to return to ZZZ Airport to land, regardless of the outcome from then on. Once at a safe altitude, First Officer transferred the controls to me, and I continued to operate communications with ATC. This was because the landing gear handle and emergency gear extension door were at a closer proximity to him. First Officer ran the "landing gear fails to retract" and "gear disagree" checklists from the QRH. After he performed step 5 from the "gear disagree" checklist (open and close the manual gear extension access door. Verify door is fully closed), the gear was able to be retracted, and all indications were now normal. At this point, I transferred the flight controls back to First Officer. I then told ATC that we were back to normal operations, and were no longer in need of priority handling. I also informed them that we could continue to our destination of ZZZ1 airport. (Note: all communication with ATC from the beginning of our non normal event, until our return to normal operations, was with ZZZ departure control). I informed dispatch via ACARS message of the situation, and sent an ACARS

ELB (Electronic Log Book) report to Maintenance Control. I also called our flight attendants, and informed the purser of our situation, and informed her that we were continuing to ZZZ1 airport.

## **SYNOPSIS**

B737 flight crew reported being unable to retract the landing gear after takeoff. Flight crew ran checklist and resolved problem.

**ACN 2103863****DATE / TIME**

Date of Occurrence	202404
Local Time Of Day	1801 to 2400

**PLACE**

Locale	ZZZ.Airport
State	US
Altitude - MSL	500

**ENVIRONMENT**

Flight Conditions	VMC
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**AIRCRAFT / EQUIPMENT X**

ATC / Advisory - Tower	ZZZ
Make Model Name	B737 Undifferentiated or Other Model
Operating Under FAR Part	121

**COMPONENT 1**

Aircraft Component	Landing Gear
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**PERSON 1**

Function - Flight Crew	First Officer
Function - Flight Crew	Pilot Flying
ASRS Report Number	2103863

**PERSON 2**

Function - Flight Crew	Captain
Function - Flight Crew	Pilot Not Flying
ASRS Report Number	2104129

**EVENTS**

Anomaly	Aircraft Equipment Problem - Less Severe
Anomaly	Flight Deck / Cabin / Aircraft Event - Other / Unknown
Anomaly	Deviation / Discrepancy - Procedural - Published
	Material / Policy

**NARRATIVE 1**

After a normal takeoff from ZZZ I called for the gear to be retracted. I noticed about 30 seconds later that it sounded louder than normal and as I was calling for the flaps to be retracted, I saw 3 green and 3 red lights on the gear indicator with the handle in the up position. I pointed to the gear while the Captain was contacting departure on the radio. We continued to retract flaps and both confirmed the gear failed to retract. The Captain requested to level off at 14,000 ft. MSL with departure. I suggested the alternate gear door may have come open, he looked and confirmed my suspicion. I continued flying the airplane and took the radios while he referenced the checklist which mentions to check the door. He couldn't get it to re-seat, so he got up and had to clean the dirt and grime that had accumulated in the alternate gear extension door. The dirt had prevented the door from locking completely and he was able to clean it enough with a sanitizing wipe to get it to reseat. He got back into his seat and completed the checklist which instructed us to slow and recycle the gear, which was successful. We continued the climb and landed uneventfully in ZZZ1. After arriving at the gate, we noticed the alternate gear extension door was open again, and a maintenance write-up was sent.

## **NARRATIVE 2**

Gear disagree on takeoff. Determined it was the emergency extension gear door was slightly open. I instructed the FO to take the radios and I unstrapped and attempted to shut the door. The door would not latch due to all the dirt built up around the seal. The FO asked to level off at 14,000 and slowed to 230 kts. I cleaned the dirt from the seal and was able to get the door to latch. I returned to my seat and went to the gear disagree checklist. I cycled the gear and the gear raised normally. We continued to our destination, ZZZ1.

## **SYNOPSIS**

B737 flight crew reported a gear disagree indication during gear retraction and found the alternate gear extension door was open. The Captain cleaned the dirt that had accumulated around the door and then reseated and locked it into place. Flight continued to destination.