CALLBACK
From NASA's Aviation Safety Reporting System
ASRS
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Adjusting to Speed Adjustments

Airspeed adjustments during arrivals are common at high-density airports in order for ATC to maintain desired landing rates and comply with separation requirements. On the other hand, aircraft energy management is the responsibility of the Pilot-In-Command (PIC) who must take into consideration the aircraft's inertia, flight characteristics and limitations. When ATC instructions conflict with the PIC's responsibilities and cannot be complied with, this must be communicated to ATC.

The following ASRS reports emphasize the fact that good communication along with mutual appreciation of Pilot and Controller requirements are necessary for safe and efficient speed adjustments during arrivals.

"I Feel the Need... the Need for (Reducing) Speed"

Having been assigned what they considered to be an unrealistic speed to intercept the localizer, this CRJ200 Flight Crew initiated a speed reduction. According to the Aeronautical Information Manual (AIM) Sect. 5-5-9, Speed Adjustments: "Pilots should comply with speed adjustments from ATC unless the minimum or maximum safe airspeed for any particular operation is greater or less than the requested airspeed. In such cases advise ATC." Maverick and Goose of Top Gun would agree.

■ *We were assigned 250 knots or better. We maintained 290 knots until descending below 10,000 feet at which time we maintained 250 knots. ATC turned us to a heading of 090 which was going to set us up for about a 15 NM final on the ILS. While on the base leg of the approach, we began slowing to 180 knots in order to begin configuring for landing. ATC questioned what speed we were flying. I reported 180 knots and the Controller informed us that we should not have slowed without telling him. I questioned if we had an assigned speed, to which he responded that we were expected to maintain 250 knots until told to slow.*

Being turned on base for a 15 NM final, it is necessary to begin slowing down in order to configure the airplane and be stable by 1,000 feet. I did not even consider that the Approach Controller would still want us at 250 knots as we approached the turn onto the localizer in IMC. Technically, ATC was correct. However, expecting a CRJ200 to be at 250 knots while intercepting a localizer in IMC on a 15 NM final is not a realistic expectation and would have likely resulted in a go around.

Too Many Expectations

Expecting that they would be making a short approach, this Flight Crew slowed before the Controller expected them to. More communication and less expectation on everyone's part would have helped to clarify the situation.

■ *On downwind for Runway 27L, Approach instructed us to slow from assigned 310 knots to 250 knots, descend from 14,000 feet to 7,000 feet, and advised, "Expect a short approach." The Pilot Flying slowed to 250 knots and asked for Flaps 5 to expedite the descent. Shortly thereafter, we were given further descent to 3,000 feet and once again advised "Expect a short approach." Since we were still high, the Pilot Flying slowed to 200 knots and asked for Flaps 10 to help get down quicker, thinking Approach was going to turn us on a base soon.*

Approach asked our speed and I told him 200 knots. Approach gave us a 20-degree vector to the right to increase spacing. We continued receiving vectors to Runway 27L where we landed uneventfully. As we were exiting the runway, Tower notified us of a possible pilot deviation.

The Controller's comments about making a short approach several times led us to believe he wanted us to descend and slow for the approach rather than fly fast away from the airport.

It's OK to Slow, but Let ATC Know

This Flight Crew was given a speed restriction to maintain until the Final Approach Fix THEN cleared for the approach. Their subsequent speed reduction prior to reaching the fix should have been cleared with ATC.

■ *On the Arrival, we were told to maintain 250 knots and then it was reduced to 230 knots. This resulted in our being slightly high on the arrival and approach.... I acknowledged another speed assignment of "Maintain 180 knots until [Final Approach Fix] then cleared for the approach." Two miles from [FAF], the Pilot Flying slowed to 145 knots to prevent being high and fast. He chose to slow then descend fully configured to correct to the glidepath.*

We did not inform the Tower of the speed deviation. Tower called out traffic just prior to [FAF] and then asked our speed. Due to the traffic call just ahead, we had thought he was going to say we needed to slow, but when I told him we were at 145 he told us we were in non-compliance with

the speed restriction. We had slowed to comply with our stabilized approach criteria, but we did not coordinate that with the Tower.

Holding Up Traffic

On the ATC side of the speed adjustment issue, a Controller's report confirms how important it is to communicate any need to deviate from an assigned speed, especially when other aircraft are following.

■ *The B737 checked on frequency descending to FL250. Since he was going to be first in line, I cleared him direct to [FIX] as soon as I was able. A few minutes later I noticed that the second aircraft in line was catching him even though he was assigned a slower speed of 300 knots. I asked the lead B737 what his airspeed was and he said 290 knots. I told him that he was supposed to be doing "310+ knots" and to speed up. I had to slow the second aircraft to 280 knots to keep separation. I also had to slow another air carrier that was behind the second aircraft earlier than planned because of the speed reduction given to the second aircraft. I listened to the recordings and found that the previous sector had given the lead aircraft the clearance to transition to "310+ knots" 11 minutes prior to me questioning him about his speed.*

The B737 created a dangerous situation by not flying the speed assigned by ATC and also by not alerting us to that fact. He had 11 minutes to reach the speed and failed to do so. I would like the pilots to take ATC speed clearances seriously and communicate if there is a problem with flying the assigned speed.

"Cleared for the Approach"

According to the "Air Traffic Control Handbook" (JO 7110.65V) Sect. 7, Speed Adjustment: … "At the time approach clearance is issued, previously issued speed adjustments must be restated if required. Approach clearances cancel any previously assigned speed adjustment. Pilots are expected to make their own speed adjustments to complete the approach unless the adjustments are restated."

This Flight Crew, having been cleared for a visual approach, was correct in believing they had the authority to slow without advising ATC.

■ *Inbound on the RNAV Arrival, we were slowed to an assigned speed of 210 knots. Turning downwind, we were told to descend and maintain 7,000 feet. Approach told us we were number one for the airport. We switched to a different Approach Control frequency and we were given an additional descent to maintain 3,000 feet. We were told to expect an eight-mile final. Approximately nine miles southeast of the airport, we were asked if we had the airfield in sight. Upon answering yes, we were given a vector of 360 degrees.*

Shortly after that vector, we were given a new heading of 330 and we were cleared for a visual approach…. Having been cleared for a visual approach, with no additional airspeed instructions, I began slowing the aircraft. Almost immediately, Approach asked us what airspeed we were flying. The PM responded 190 knots. Approach told us that in the future we were to maintain last assigned airspeed until further instructed.

I made the assumption that upon clearance for a visual approach, with no further assigned airspeed restrictions, it was my discretion to maneuver and slow the aircraft as necessary to ensure a stable approach.

Pushing the Limits

The number of "speed deviation" reports submitted to ASRS by Flight Crews that were vectored off of a STAR indicates that there is some confusion about the requirement to adhere to a speed previously assigned by ATC or published on the arrival. In such circumstances, ATC should reiterate any speed restrictions that are to remain in effect while off of the arrival routing.

■ *Center issued "Maintain 250 knots during the descent" while on the arrival. We were subsequently vectored off the arrival then handed off to Approach. At 28 NM from [the airport], I (Pilot Flying) started slowing down to 210 knots while the Pilot Monitoring (PM) was off the radio receiving new ATIS…. When the PM came back into the loop we were approximately 20 NM from [the airport] and Approach queried our speed…then he sped us up to 230 knots presumably to maintain arrival spacing.*

My interpretation of the speed clearance was that we were to maintain it "during descent" on the STAR. When we were being vectored for the approach, I was beginning to configure the aircraft for the approach as per our standard practices within 30 NM and 10,000 feet…. In retrospect, we clearly believed that we were no longer in the descent but rather on the approach. It would have been more prudent to ask ATC what speed they wanted us to maintain during vectors for the approach….

It seems that controllers don't get to see things from our perspective anymore and thus don't understand many operational requirements we have, such as energy management and our need to "slow down to go down" or to slow for the approach. It seems we have been increasingly told to push such limits simply out of lack of understanding of our operational requirements, and we pilots have most likely encouraged this by blindly complying.

ASRS Alerts Issued in April 2015	
Subject of Alert	**No. of Alerts**
Aircraft or Aircraft Equipment	3
Airport Facility or Procedure	8
ATC Equipment or Procedure	6
Other	1
TOTAL	**18**

425

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April 2015 Report Intake	
Air Carrier/Air Taxi Pilots	4,776
General Aviation Pilots	1,062
Controllers	558
Flight Attendants	478
Military/Other	197
Dispatchers	195
Mechanics	189
TOTAL	**7,455**