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### Anik F3 Blog

## Current Campaign Blog: Anik F3



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### Proton Successfully Launches Anik F3 Satellite

The team in Baikonur has confirmed the fifth engine burn sequence and shutdown and nominal separation of the spacecraft in to orbit. Spacecraft separation occurred 33100.4 seconds after liftoff. Predicted time was 33100 seconds after liftoff.

Target orbit has been successfully achieved and all parameters are nominal. **Predicted:**  
5500 km x 35786 km x 11.0 deg.

**Actual:** 5495.5 km x 35792.5 km x 11.006 deg.

Congratulations to all the teams for their dedication and hard work and to ILS and Telesat on their successful launch. For the official press release, [click here](#).

**Posted 10 April 2007**

[2 comments](#)

**Posted By: ILS Communications Team at 04:12, EDT**

### Confirmation of Third and Fourth Burns

We have received confirmation of successful SC acquisition at Gnangara ground station.

Third Breeze M ignition and subsequent shutdown took place within seconds of the predicted timeframes, followed by the APT jettison.

We have confirmation of the fourth Breeze M ignition and shutdown as well. The next flight event will take place at approximately eight hours and 52 minutes after liftoff, with the ignition of the fifth and final burn.

**Posted 09 April 2006**

[0 comments](#)

**Posted By: ILS Communications Team at 23:02, EDT**

## Second Burn Complete

We have regained telemetry on the Breeze M and received confirmation that the second burn ignition and shutdown have occurred as scheduled. The next event is the third burn and shutdown, which will take place just over one hour from now.

To view highlights of the launch broadcast, click [here](#).

**Posted 09 April 2007**

[0 comments](#)

**Posted By: ILS Communications Team at 20:46, EDT**

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## Successful Liftoff of Proton Breeze M



The ILS Anik F3 launch team is proud to announce another successful liftoff. The Proton Breeze M carrying Anik F3 lifted on schedule at 04:54 Baikonur local time (10 April).

We have confirmation of nominal flight events, up to and including the payload fairing jettison and Stage III/Breeze M separation. The Breeze M first ignition and subsequent shutdown has also occurred successfully.

The next event will take place at approximately 1:08:25.0 into the flight, with the Breeze M second ignition.

*Photo: Anik F3 launch. Visit the [Photo Gallery](#) for more pictures.*

**Posted 09 April 2006**

[1 comments](#)

**Posted By: ILS Communications Team at 18:54, EDT**

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## T Minus 45 Minutes and Counting...

At T-minus 45 minutes to launch, the team in Baikonur has reported that LV final countdown activities have commenced. The countdown display has been synchronized to the master clock and the LV's GNC is generating the propellant system "go" signal. MST rollback is complete.

Join us in a few minutes online or by satellite feed for the live broadcast from Baikonur!

**Posted 09 April 2007**

[0 comments](#)

**Posted By: ILS Communications Team at 18:06, Baikonur**

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## Latest from the Launch Pad



The Anik F3 team in Baikonur has been keeping us apprised of the latest happenings at the launch pad. The launch vehicle propellant loading operations have finished. All systems are nominal and we are on mark for our scheduled launch. The weather today is a bit rainy and overcast but projected to be clear in time for the launch.

Be sure to join us for the launch broadcast live on the web and via satellite, which starts in just a few hours. Go Proton!

*Photo: Proton Breeze M stands with Anik F3 on Launch Pad 39. Visit the [Photo Gallery](#) for more pictures.*

**Posted 09 April 2007**

**[0 comments](#)**

**Posted By: ILS Communications Team at 15:37, EDT**

## On Pad, Ready to Go

We have received word from our launch team that the integrated launch vehicle (ILV) completed its traditional 6:30 a.m. roll out to Launch Pad 39 this morning. The vehicle has been raised to its vertical launch position and connected to the mobile service tower (MST) to begin charging and testing operations. All systems are nominal and the SC status is excellent.

At the State Commission meeting, weather reports indicated the possibility of some precipitation on launch day. Winds are forecasted to be mild and the temperature at liftoff should be just below 50 degrees Fahrenheit (10 degrees Celsius), which is good for the batteries.

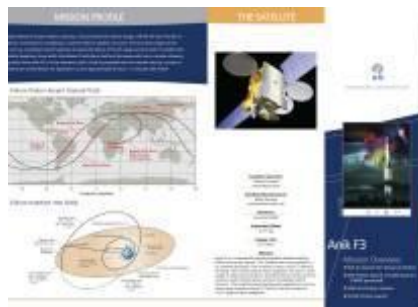
We are eagerly awaiting photos of the rollout and verticalization operations and will post them to the gallery as soon as they come from Baikonur.

**Posted 06 April 2007**

**[0 comments](#)**

**Posted By: ILS Communications Team at 15:16, EDT**

## Anik F3 Mission Overview



The Anik F3 Mission Overview is available. [Click here](#) to view the details online or to download a PDF version.

**Posted 05 April 2007**

**[0 comments](#)**

**Posted By: ILS Communications Team at 09:23, EDT**

## ILS Proton to Launch Anik F3

ILS releases its Media Advisory on the upcoming launch. Click [here](#) to read the details.

The countdown clock on the ILS homepage has officially started. Be sure to bookmark the webcast and join us next Monday, 9 April, at 22:54 GMT for the broadcast.

**Posted 03 April 2007**

**0 comments**

**Posted By: ILS Communications Team at 15:22, EDT**

## Vehicle Integration



*Information contributed by the Khrunichev team.*

In one of the first major events of April, after the joint EADS Astrium and Khrunichev team successfully assembled the Proton ascent unit, Khrunichev began the full integration of the Proton M/Breeze M launch vehicle.

The ascent unit was transported into Area 111 of the vehicle assembly and testing Building 92A-50, where Russian technical personnel will integrate it to the Proton rocket. The team will also prepare the fully integrated launch vehicle

(ILV) for routine electrical checks that precede the subsequent fueling of the Breeze M booster with propellant components. For its upper stage fueling, the ILV will be moved to the fueling station at Baikonur Cosmodrome.

The full integration of the Proton M/Breeze M rocket will be completed within the next couple of days. After this stage is completed, the Russian State Commission will verify the readiness of the Proton M/Breeze M ILV carrying Anik F3 for rolling out to the launch pad.

Telesat's Anik F3 is scheduled to be launched aboard Proton M/Breeze M on April 10, Baikonur. All pre-launch activities are well under way and running according to schedule.

*Photo: The ascent unit in Building 92A-50, waiting for integration. Visit the [Photo Gallery](#) for more pictures.*

**Posted 02 April 2007**

**0 comments**

**Posted By: Khrunichev Team at 14:06, Moscow**

## PLF Signing

After the horizontal processing position is achieved, the Khrunichev team moves the lower half of the 15 meter-long payload fairing (PLF) by rail car using a handcrank. Due to the large mechanical advantage, it only takes the operator one hand to move this huge structure along the rails. Once it is in place below the SC and Breeze M, the bottom half of the PLF is connected to the aft interface ring. The upper half of the PLF is then moved via overhead crane in to position, lowered to the stack and secured to the aft ring. The structure is now composed of the SC, PLA, Breeze M and the PLF and is known as the Ascent Unit or AU. Extra fact: after the PLF is ejected in flight, the unit is known as the "orbital block."



Following extensive checkouts of the AU, the structure is almost ready for its date with the Proton launch vehicle. At this time the logos for Telesat and ILS are pasted on the surface of the PLF. For all launches, there is a ceremonial signing of the PLF by the campaign teams. In the past this has taken place on the tower after the erection of the ILV at the pad. More recently, in order to give more people a chance to sign it, we have taken advantage of the ease of access in the horizontal position. In the picture you can see members of each team placing personal messages of good wishes or family greetings. The

PLF signing is always a popular event with the teams, as they prepare messages for friends, family and others to send in to space.

*Photo: ILS Anik F3 Program Director, signing the PLF. Visit the [Photo Gallery](#) for more pictures.*

**Posted 01 April 2007**

**[0 comments](#)**

**Posted By: Anik F3 Team at 13:23, Baikonur**

## Tiltover Operations



Back on 28 March, we started combined operations, a major milestone in the program. Up to this point, the SC and LV teams had been doing their work in "stand-alone" mode, getting the LV components ready, checking on the health of the SC and finally fueling the SC. Finally, the SC was moved to the mating area, attached to the payload adapter (PLA) and secured via the installation of a separation system ring. This SC/PLA assembly was raised in the tilter stand to and joined with the upper stage of

the launch vehicle.

The next day, the entire stack was lowered to a horizontal position for the uniquely-Russian style of horizontal processing. Tiltover is always exciting (at least to non-engineers) because it seems to be a dangerous operation (won't the SC fall off?). In reality the SC are all designed to a lateral G-level significantly greater than the 1G field they experience in the horizontal position. The mechanism in the Russian tilter is very precise and controls the rotation to be very smooth and slow.

*Photo: Horizontal processing. Visit the [Photo Gallery](#) for more pictures.*

**Posted 30 March 2007**

**[0 comments](#)**

**Posted By: Anik F3 Team at 17:03, Baikonur**

## Mating Begins

*Information contributed by the Khrunichev team.*

Operations began today to assemble the Proton Ascent Unit, also called the Space Head Unit, which consists of the Anik F3 spacecraft, payload adapter and separation system, Breeze M upper stage and payload fairing. Today's activity includes mechanical and electrical mating of the spacecraft with the spacecraft adapter and the Breeze M, with the work performed jointly by specialists from EADS Astrium and Khrunichev.

After the stack is completed, it will be rotated from vertical into horizontal position for encapsulation within payload fairing. This will be followed by subsequent electrical checks and final operations with the Ascent Unit. The AU integration operations are expected to be completed within the next couple of days.



*Photo: Mating operations underway. Visit the [Photo Gallery](#) for more pictures.*

**Posted 28 March 2007**

**[0 comments](#)**

**Posted By: Khrunichev Team at 13:31, Baikonur**

## Kazakh Folk Group



There is a troupe of talented young musicians and dancers in Baikonur town who were selected by local authorities for studies at a locally renowned music school. These young people are a joy to watch and we invited them to perform for us at the Cosmodrome. Most of them are Kazakh but there are also Russians, Ukrainians and residents of other nearby Republics.

The show took place at the Proton Club amphitheater, which holds several hundred people and has a good stage and sound system. The youngsters went through a lengthy program

of singing, dancing and playing music with native stringed instruments that are unique to the region, like the Korkyt violin. There was so much energy, enthusiasm and talent that everyone watching was completely caught up in the show. After several weeks here, those of us who are parents really begin to miss our kids, even the teenagers!

At the end of the show, the Khrunichev and ILS program directors were invited on stage to give thanks for the performance. The students presented them with Kazakh cloaks and caps as "presents from the representative of the President of Kazakhstan."

*Photo: Folk dance performance in the Proton Club amphitheater. Visit the [Photo Gallery](#) for more pictures.*

**Posted 25 March 2007**

**[0 comments](#)**

**Posted By: ILS Anik F3 Team at 18:23, Baikonur**

## Shrine of Korkyt-Ata

During the Anik F1R launch campaign in 2005, one of the Russian leaders promised the Telesat customer a trip into Kazakhstan proper to visit a beautiful local site, the Korkyt-Ata Memorial Complex. The customer didn't forget, and the promise was fulfilled.

Many of the launch team members showed interest in the tour and the bus was quite full. We departed after lunch and headed as usual toward Baikonur town, but turned east and followed the river Syr Darya for about 70 km. The countryside looked like an early spring expanse of eastern Wyoming or Montana in the United States -- very empty except for occasional village and camel herd.



The unique open-sky architectural site is dedicated to Korkyt-Ata, a 9th century philosopher and thinker of the Kazakh people, and the founder of Kazakh stringed and bow music. The site has a large white monument to identify the entrance but the complex itself is very simple. It includes a small museum and a few outdoor displays. There was also a "wishing room" which all the tour participants used asking for Good Luck with the launch. There is a theater-like circular structure with concentric circles for seating which descend to a small pool in the center. Our Kazakh guide said that in September 2006 musicians from around the world gathered at the site for a musical festival.

It was a long bus ride and a short visit but everyone enjoyed the trip and a chance to experience some Kazakh culture.

*Photo: An outdoor view at the memorial. Visit the [Photo Gallery](#) for more pictures.*

Posted 22 March 2007

[0 comments](#)

Posted By: ILS Anik F3 Team at 20:56, Baikonur

## Baikonur Museum



The Baikonur museum is a “must-see” on most of the VIP tours that have come through for the launch. We make it a point on every campaign to try to get as many new people to the museum as we can.

The history of the Cosmodrome is one in which the Russians should take great pride. Sputnik, the first satellite launched into space, was lifted on a Soviet launcher from Baikonur in 1957. They are celebrating its 50th anniversary this year! The launch of the first man into space, Yuri Gagarin, took place at Baikonur in 1961. The museum has

several mementos from those days as well as achievements from the major Soviet designers over the last 50 years.

Over the last year and a half, the museum has undergone extensive renovations and additions. Outside, the most dramatic addition is a Buran space shuttle, which is being refurbished as a permanent exhibit. They expanded the interior of the building, nearly doubling the exhibit areas. This improvement allows the displays to be more individually featured and provides a more cohesive overall picture of the history of the space program. Some of the displays from earlier programs include pictures and even an autograph from an engineer who is now the ILS Anik F3 program director. Pretty impressive!

*Photo: Launch team tour group in front of the Buran space vehicle, outside the Baikonur museum. Visit the [Photo Gallery](#) for more pictures.*

Posted 21 March 2007

[0 comments](#)

Posted By: Anik F3 Team at 15:32, Baikonur

## Club Baikonur

It is the start of a new week, and things are getting busier here at Club Baikonur. With everything on schedule, and stand-alone operations complete, the propulsion team is preparing for a week of propellant loading operations. Daily planning meetings have moved to the Proton Club as the 92A-50 processing facility is cleared for the upcoming hazardous operations. Khrunichev continues preparing the launch facility and refurbishing the pad after the last launch campaign. The rest of the teams work long, hard hours from the hotel offices in preparation for the upcoming joint operations. Even with the full schedules, some team members did find time to celebrate St. Patrick’s Day over the weekend by taking a bus ride to Baikonur City for dinner.

Posted 19 March 2007

[0 comments](#)

Posted By: Anik F3 Launch Team at 17:23, Baikonur

## Proton M Prepares for Its April Debut



*A blog update from our partners at Khrunichev!*

At Baikonur Cosmodrome, Kazakhstan, everything is on track for the first launch in this year of Proton M space rocket with Telesat Canada's Anik F3 telecommunications satellite.

The Anik F3 mission on Proton M vehicle entered a new phase, after Breeze M upper stage - which will be used on Proton M space rocket for the launch of the Anik F3 satellite - arrived early this morning (9:30 Moscow Time) in Jubileyniy airport, at its launch site at Baikonur Cosmodrome, Kazakhstan.

The load was delivered from a Moscow – based Khrunichev Space Center, manufacturer of Breeze M upper stage and Proton rocket itself, onboard a heavy transport airplane Antonov 124-100 "Ruslan" owned by the prime Russian carrier Polet.

The Breeze M will be also installed in Assembly and Testing Building 92A-50 where Khrunichev technicians, aided by other Russian Space Agency's personnel, have already started launch preparations of the core Proton M rocket. The EADS Astrium engineers are conducting autonomous testing operations of their spacecraft in the same building. Thus, by now, all the key components of the integrated space rocket Proton M/Breeze M with Anik F3 spacecraft are undergoing routine pre-launch preparations in Baikonur launch site.

The launch is scheduled for April and will be performed under auspices of International Launch Services (ILS).

ILS is a joint US–Russian venture between Space Transport Inc. and its Russian partners - Khrunichev State Research and Production Space Center and RSC Energia. Formed in 1995, ILS provides a full range of launch services on Russia's premier launch vehicle Proton for customers worldwide. ILS has already performed 39 Proton missions and worked with all global satellite operators.

*Photo: The teams carefully unpack and check the SC in Building 92A-50. Visit the [Photo Gallery](#) for more pictures.*

**Posted 19 March 2007**

**[0 comments](#)**

**Posted By: Khrunichev Team at 11:04, Moscow**

## First Round Complete!

As everyone expected, the scheduled events of the week have been completed, standalone operations are finished, and all systems are nominal. To celebrate, our Astrium customers graciously hosted a dinner for all the teams, which was held at the Proton Club. The roasted duck, a French favorite, was enjoyed by all. It was quite an enjoyable evening, giving everyone a chance to visit in a non-work environment. In keeping with Russian customs, we celebrated the work we have all accomplished and we celebrated the working relationships with the different countries. Everyone present made sure to avoid toasts to upcoming events, –as it is considered bad luck in the Russian culture to celebrate the future.



*Photo: Team members gather around for a celebratory feast, hosted by Astrium. Visit the [Photo Gallery](#) for more pictures.*

**Posted 16 March 2007**

**[0 comments](#)**

**Posted By: Anik F3 Launch Team at 23:56, Baikonur**

## Standalone Ops Commence



Introductions and greetings are complete, SC hardware is all here, and it is time to get down to some serious space work. The Astrium team from France is quite busy performing its standalone tests on the SC, which began yesterday morning. The British propellant team is also performing its own standalone testing as it prepares for the upcoming fuel loading operations. Our Khrunichev partners work their own operations on the first three stages of the Proton rocket, and while all these activities continue, everyone is eagerly awaiting delivery of the upper stage and

the payload adapter from Khrunichev headquarters in Moscow. Earlier, we had a few unexpected visitors near the processing facilities as a herd of camels strolled by, bringing a bit of excitement to the day.

*Photo: Bactrian and hybrid (a cross between Dromedary and Bactrian) camels outside the launch complex. Visit the [Photo Gallery](#) for more pictures.*

**Posted 13 March 2007**

**[0 comments](#)**

**Posted By: Anik F3 Launch Team at 18:34, Baikonur**

## Unloading the SC

After a great night of getting acquainted, it was time to prepare for the arrival of the spacecraft (SC) in Baikonur. Although spirits were high, the first order of business was checking the weather forecast. It didn't take long to realize that it was a good thing we all brought our warm gear, as the forecast called for sunny skies, with a high temperature of 2 degrees Celsius (35 degrees Fahrenheit).

At the airfield, we awaited the arrival of the Antonov carrying the SC and associated support equipment. As soon as we could sight the aircraft, the weather became the furthest thing from our minds. The massive plane touched down, taxied, and stopped, and it was time to offload. It was obvious from watching the activities that this, too, has been done on many occasions prior to the arrival of the Anik F3 SC. The teams worked well together, and the offloading operations went off without a hitch. We started early and ended late, but at the end of the day, the SC arrived safely to its temporary home at the 92A-50 complex. Now the fun begins!



*Photo: Unloading the SC from the AN-124. Visit the [Photo Gallery](#) for more pictures.*

**Posted 10 March 2007**

**[0 comments](#)**

**Posted By: Anik F3 Team at 23:45, Baikonur**

## Main Team Arrival



Hail, hail, the gang's all here! With the successful arrival today of the main team, it would seem that all the players are in place. ILS, Astrium and Telesat personnel arrived safe and sound to Club Baikonur. There is truly an international flavor now as the Canadians, French, British, Russians, and Americans are all here and all equally excited to get the campaign rolling. Throw in an Estonian interpreter and a propellant loading engineer from Trinidad and Tobago, and you really have an international launch campaign.

*Photo: The international teams enjoy some free time in the evening to relax and bond. Visit the [Photo Gallery](#) for more pictures.*

**Posted 9 March 2007**

**[1 comments](#)**

**Posted By: Anik F3 Team at 18:34, Baikonur**

## Early Team Arrival to Baikonur

We woke up early in Moscow to load the bus for our trip back to the airport. All the teams made it to the bus on time and when we arrived at the airport, our Clintondale charter was waiting to take us to Baikonur. We loaded the plane with people from Pinkerton and ILS, interpreters, and some of our Russian partners, including the Khrunichev program director for the Anik F3 launch campaign.

Again, the flight was uneventful – but when you're flying, that is the only word you want to use afterwards. We had a chance to get to know each other a little better during the three hours to Baikonur. The most incredible thing about the flight was looking out the windows. As far as the eye could see, there was nothing but a perfectly blue sky over perfectly white ground.

We arrived around midday and took a charter bus the rest of the way to the complex at Baikonur. The Fili Hotel, where the ILS folks are staying, was warm and welcoming. It's a new home for some of us, and a home away from home for the rest. The Pinkerton folks, the SC manufacturer (Astrium) and the customer (Telesat) were dispersed to the two other hotels, the Kometa and the Polyot. The rooms are comfortable, the food is plentiful, and the Russian and Kazakh hospitality is top-notch.

After breakfast this morning, it was off to the 92A-50 processing facility, where we will spend the next few days preparing for the upcoming launch activities and the arrival of the rest of the team.

*Photo: Hotel Fili - ILS' home away from home. Visit the [Photo Gallery](#) for more pictures.*

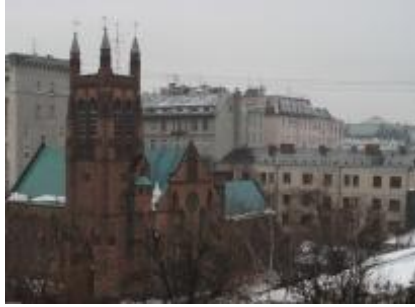
**Posted 6 March 2007**

**[0 comments](#)**

**Posted By: Anik F3 Team at 10:24, Baikonur**

## McLean to Moscow





The early team headed off to Baikonur today to begin the Anik F3 launch campaign. After an uneventful 12 hours of flying, with a stop in Frankfurt, we arrived in Moscow's Sheremetyevo Airport. It was typical Moscow at this time of the year: a light snowfall and very cold. It was nice to be met at the hotel by some familiar faces – a couple of other early team members were already there waiting on us – and a few others came in shortly thereafter on other flights.

We ran into the Pinkerton early team crew at the hotel restaurant and enjoyed a nice dinner during our brief stay in Moscow. It was just like home for one of our team members: they actually offered a Philly cheesesteak on the menu! We have some new members on the team for this campaign, so it was a good chance for them to get to know the Pinkerton folks while the rest of the crew reminisced about previous campaign experiences. Then we headed off to bed to catch some sleep before heading off to Baikonur.

*Photo: View of Moscow from the hotel window. Visit the [Photo Gallery](#) for more pictures.*

**Posted 4 March, 2007**

**[1 comments](#)**

**Posted By: Anik F3 Team at 22:54, Moscow**

## Welcome to the Anik F3 Blog!

Welcome to the first launch campaign blog of 2007! We're excited to kick off a busy year with a launch for a long-time customer, Telesat.

Check back frequently for updates & special features that we'll be adding along the way. Whether it's your first time following along with us or you're a blog regular, we hope you enjoy another exciting ILS mission!

**Posted 2 March 2007**

**[0 comments](#)**

**Posted By: ILS Communications Team at 4:53, EST**