

Twin Galileo Satellites Ready For Launch



The twin Galileo satellites are fully fuelled and mated together atop the upper stage that will haul them most of the way up into their final orbit. The launch is now planned for the evening of 12 October 2012 from the European Space Agency's French Guyana launch site.

Technicians donned protective suits to fill the two satellites' tanks with hydrazine fuel, used to maintain the satellites' attitude and orbital position during their planned 12-year lifetime. Rather than carry a significant amount of extra fuel to insert themselves into their planned orbits – like typical telecommunications satellites or Galileo's US GPS equivalents – the Galileo satellites are transported to medium orbit by the Fregat fourth stage of their Soyuz ST-B launcher.

Doing without this extra fuel and orbital thrusters means that Galileo satellites are small enough to be launched in pairs aboard the Soyuz or in fours by the new Ariane 5 variant currently being prepared.

The Galileo satellites are attached to a special dispenser that holds them securely in position during launch, before pyrotechnic mechanisms release them sideways in opposite directions once their set 23,222km altitude is reached.

The aluminium plates on each side of the satellites are temporary additions to protect their delicate solar panels; these will be removed later. The combined satellites, dispenser and Fregat upper stage will now be carefully checked ahead of the next major milestone, the fitting of the protective launch fairing on Thursday 4 October 2012.

The mission's satellite launch readiness review will begin at the start of the following week. If that goes well, the combined 'Upper Composite' will be moved from the Fregat Integration Building to the launch pad, where it will be attached to the Soyuz launcher.

Image: Fit check for the Galileo FM3 satellite and its dispenser for the satellite. Image courtesy: ESA.