

First, even before the “Project Phoenix” that led to the Titan III, there was the idea/thought running around at Martin Corporation for a way to get the X-20 Dynasoar into space using improvements to the Titan II. The program quickly changed its scope to a SRM powered Titan II and, later, a Titan II first stage combined with a new larger diameter Hydrolox 2<sup>nd</sup> stage.

The Soltan offered significant thrust improvement over the base Titan II, but had a lot of engineering to go through to make it flight-ready. The name picked for this launch vehicle was Titan SOLTAN Orbital. SOLTAN being a conjunction of SOLID + TITAN. In all actuality, had Aerojet figured out their engineering difficulties with thrust vectoring of the SOLTAN solid, we would probably know it as a different name; AJ-100. While Aerojet’s 100” SRM was supposedly producing a fantastic thrust to weight ratio, UTC came in with a completed and tested UA-1205 that had more thrust than the SOLTAN... Even if it was not quite as efficient.

Titan SOLTAN Orbital is fully buildable in BDB currently with the addition of Well’s X-20 Moroz mod:

Build a Titan II stack except change the 2<sup>nd</sup> stage to the Titan III length. Use the LR87-AJ-5 (and LR91-AJ-5) engines. Add X-20 from IronCretin/Well’s X-20 Moroz mod. Slap on two SOLTAN boosters with the appropriate decoupler and nosecone. Ed Kyle credits this launch stack with the AJ-9 engines, but given the time frame, it is doubtful the Soltan Orbital would have such engines.

Sadly Titan C (the Hydrolox upper stage for X-20 launching) is not buildable at this time. The Titan C’s 2<sup>nd</sup> stage would have been 2.5m diameter in the KSP scale and result in many single-use parts. It is unknowable what the 2<sup>nd</sup> stage engine was, but we could guess that it was at least a single bell LR87-LH2 Vacuum optimized, if not a dual bell one. It is probably easier to kitbash this stage with a combination of parts from Stock, BDB, and re-stock. Please note that the Titan C will need relatively large control surfaces on the 1<sup>st</sup> stage. Launch and early flight would be near vertical as the 1<sup>st</sup> stage has to get above the lower atmosphere before burnout.

Titan 3X. The Titan 3X name was used for two proposals based around 2 and 3 segment SRMs in conjunction with the modified SLV Titan II. In the early phase of the Titan III development in Project Phoenix, the UTC UA-1202 and UA-1203 were considered to enhance the performance of the soon to become the Titan III rocket. These options for the Titan 3X are fully buildable in BDB.... This proposal was to carry the initially proposed “Small” KH-9 Satellite. While the rocket is buildable, a small KH-9 is not possible with BDB parts.

This brings us to rockets that were proposed or suggested as part of the actual Titan III program.

The original Titan Centaur was known as the Titan 3BAS2. I assume the designation read out as Titan 3B with Atlas-Centaur upper stage and 2 Solid boost motors. The core of this rocket was a standard Titan 23 core with the AJ-11 engines. The Solids in question were two Algol 2

SRMs (or Minuteman M55/TX-55/TU-122 SRMs as they are comparable.) The 3<sup>rd</sup> stage would be a Centaur D.1T, and it would be carried exposed, like on the Atlas-Centaur. A small, Centaur diameter fairing covered the payload. This rocket used a Burner II as its kick stage. Fully Buildable (with Algol) in BDB.

Titan 3C7, Titan 3D7, Titan 3F: All are essentially the same rocket. It is an all-up Titan 3M with the upper stage being a Centaur D.1T in an enclosed fairing (identical to the production 3E.) The main benefits are using the UA1207 for a much higher throw weight and the longer Titan IIIM tankage. This combination would have replaced the Titan 3E for its launches and or supplanted it, including a launch for Haley's comet in the early 1980s (for a 1980s rendezvous). Build the Titan IIIM but instead of MOL put a Titan 3E fairing and the Centaur D.1T on it. Fully buildable with BDB! Likely military designation would have been Titan 34F.

Titan SRM, Titan CORE-2: These are the same rocket under two different proposals. The goal was to reduce costs vs Titan 33B launches. The Titan SRM would be a direct replacement for the Titan 33B. It would replace the first Stage of the Titan Rocket with either a UA1205 (baseline) or a UA1207 (Upgraded) SRM as the only engine for the first stage. A 2<sup>nd</sup> injection tank would be added as the SRM would be doing more vectoring than previously. Both tanks would increase in diameter and length. The increased tank size would make them almost the same size as the 1<sup>st</sup> Generation UA1205's unpressurized TVC tanks. In the inline launch, these tanks would be large and pressurized. It was these tanks that would be considered the most likely point of failure of the change. Titan SRM would fly with an all-up Titan 3 second stage and the correct fairing for an Ascent Agena. Titan CORE-2 is the same rocket, just changing the 3<sup>rd</sup> stage from Agena to Centaur D.1T in an exposed mounting as on Atlas. While the parts to make Ascent Agena are not in BDB, a reasonable facsimile can be made... All the pieces are in-game for everything else.

Titan Interceptor: Several documents from prior to the cancellation of the KH-10/MOL program mention a Titan 23C derived launcher for Blue Gemini. This would allow a heavily loaded Blue Gemini that was capable of docking with an orbiting KH-10 to launch from Vandenberg, rendezvous with the KH-10 and dock. In all ways it is just an early Titan 23C with the "generation 2" UA1205s (with all the man-rating stuff on board. Currently in BDB, any Titan 23C could easily be built as a "Interceptor" just by changing the payload. TBC I never found a specific designation for the combination of Blue Gemini (aka Gemini II) a MOL docking module and the Titan 23C so the name "Titan Interceptor" is of my own creation.

Even with all the various what-if rockets. The Titan III in BDB is the most complete rocket thus far covered in these documents. Literally, EVERY version of the core Rocket can be built. And with a little jury-rigging, every upper stage can be built.