Mil mi-28N Havoc

Designed By
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Mil mi-28N Havoc

From Wikipedia, the free encyclopedia

The Mil Mi-28 (NATO reporting name 'Havoc') is a Russian all-weather, day-night, military tandem, two-seat anti-armor attack helicopter. It is a dedicated attack helicopter with no intended secondary transport capability, better optimized than the Mil Mi-24 for the role. It carries a single gun in an undernose barbette, plus external loads carried on pylons beneath stub wings.

ORIGINS

In 1972, following completion of the Mil Mi-24, development began on a unique attack helicopter with transport capability. The new design had a reduced transport capability (3 troops instead of 8) and omitted the cabin, to provide better overall performance and higher top speed. Improved performance was important for its intended role fighting against tanks and enemy helicopters and covering helicopter landing operations. Initially, many different designs were considered, including an unconventional project with two main rotors, placed with engines on tips of wings (in perpendicular layout), and with an additional pusher propeller on the tail. In 1977, a preliminary design was chosen, in a classic single-rotor layout. It lost its similarity to the Mi-24, and even the canopies were smaller, with flat surfaces.

Design work on the Mi-28 began under Marat Tishchenko in 1980. In 1981, a design and a mock-up were accepted. The prototype (no. 012) was first flown on 10 November 1982. The second prototype (no. 022) was completed in 1983. In 1984, the Mi-28 completed the first stage of state trials, but in October 1984 the Soviet Air Force chose the more advanced Kamov Ka-50 as the new anti-tank helicopter. The Mi-28 development was continued, but given lower priority. In December 1987 Mi-28 production in Rosvertol in Rostov on Don was approved.

In January 1988 the first Mi-28A prototype (no. 032) flew. It was fitted with more powerful engines and an "X" type tail rotor instead of the three-blade version. The Mi-28A debuted at the Paris Air Show in June 1989. In 1991 the second Mi-28A (no. 042) was completed. The Mi-28A program was cancelled in 1993 because it was deemed uncompetitive with the Ka-50, and in particular, it was not all-weather capable.

The Mi-28N was unveiled in 1995, the N designation meaning "night". The prototype (no. 014) first flew on 14 November 1996. The most significant feature is a radar in a round cover above the main rotor, similar to that of the American AH-64D Apache Longbow. Mi-28N also has improved Tor vision and an aiming device under the nose, including a TV camera and FLIR. Due to funding problems, development was interrupted. A second prototype with an improved rotor design was unveiled in March 2004 at Rosvertol.

Changes in the military situation after the Cold War made specialized anti-tank helicopters less useful. The advantages of the Mi-28N, like all-weather action ability, lower cost, and similarity to the Mi-24, have become important. In 2003, the head of Russian Air Forces stated that the Mi-28N and Ka-50 attack helicopters will become the standard Russian attack helicopter.

The first serial Mi-28N was delivered to the Army in 2006. By 2015, 67 Mi-28Ns are planned to be purchased, when the Mi-24 is to be completely replaced.

Mil also developed an export variant of the Mi-28N, designated Mi-28NE, and a simpler day helicopter variant, the Mi-28D, based on the Mi-28N design, but without radar and FLIR.

DESIGN

The Mi-28 has two heavily armored cockpits, a windshield able to withstand hits from 12.7–14.5 mm caliber bullets, a nose equipped with electronics, and a narrow-X tail rotor (55 deg) with reduced noise characteristics. It is powered by two 2,200 hp Isotov TV-3-117VM (t/n 014) turboshaft engines.

While the Mi-28 is not intended for use as a transport, it does have a small passenger compartment capable of carrying three people. The planned purpose of this is to enable the rescue of downed helicopter crews.

The Mi-28N features a helmet mounted display for the pilot. The pilot would designate targets for the Navigator/Weapons Officer, who proceeds to fire the weapons required to fulfill that particular task.

ARMAMENTS

The Mi-28 is equipped with a chin-mounted 30 mm Shipunov 2A42 autocannon. The cannon is select fire, and has a dual-feed, which allows for a cyclic rate of fire between 200 rounds per minute to 550 rounds per minute. Its effective range varies from 1500 meters for ground vehicles to 2,500 meters for air targets. Rounds from High Explosive Incendiary (HEI) to Armour-Piercing Discarding Sabot (APDS) can be used. Stated penetration for the 3UBR8 is 25 mm of RHA at 1,500 meters.

One common Mi-28 armament are a pair of 8 Ataka missile racks along with 2 B-13L rocket pods, each able to carry 5 S-13 rockets. Other rocket options include two B-8 rocket pods, each able to carry up to 20 S-8 rockets.

There are four variants of the Ataka missile for different tasks. The 9M120 Tandem High Explosive Anti-Tank (HEAT) warhead variant is used against tanks fitted with Explosive Reactive Armor (ERA), its penetrative ability is stated at 800 mm Rolled Homogeneous Armour (RHA). The 9M120F Thermobaric variant is used against infantry, buildings, bunkers, and caves. The 9M120O expanding rod warhead variant is used against other helicopters. All the variants have a range of 6 km. The 9M120M improved version has a longer range (8 km) and better penetration (900 mm of RHA). All of the variants use SACLOS missile guidance.

The S-8 and S-13 rockets used by the Mi-28 are usually unguided. In the most common configuration, one can expect 40 S-8 rockets or 10 S-13 rockets. Both rockets have their variants, from HEAT warheads to a Thermobaric warhead. The S-8 has a shorter range and smaller warhead than the S-13, but compensates with numbers. Currently, the Russian Air Force are upgrading their S-8 and S-13 rockets to laser guided missiles with the proposed Ugroza ("Menace") system. Rockets upgraded under Ugroza would receive designations S-8Kor and S-13Kor, respectively.

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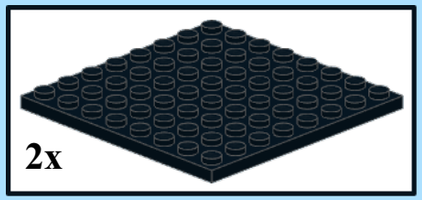

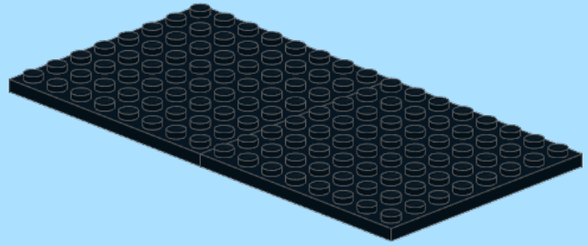

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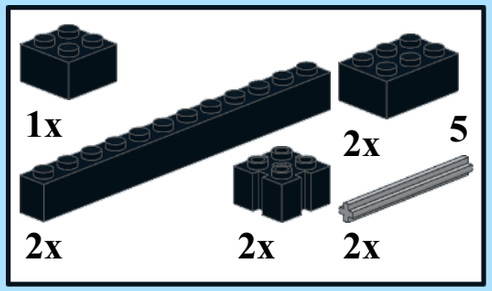

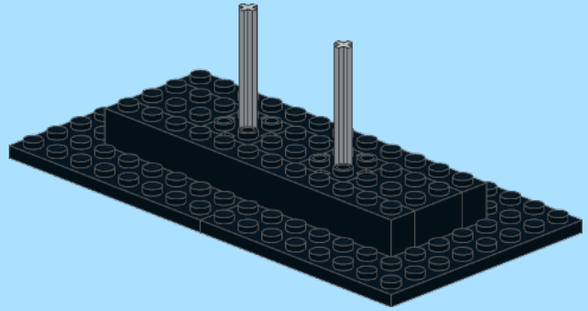

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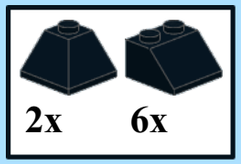

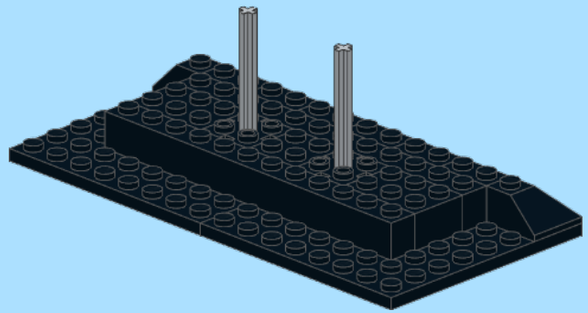

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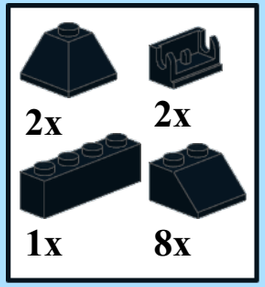

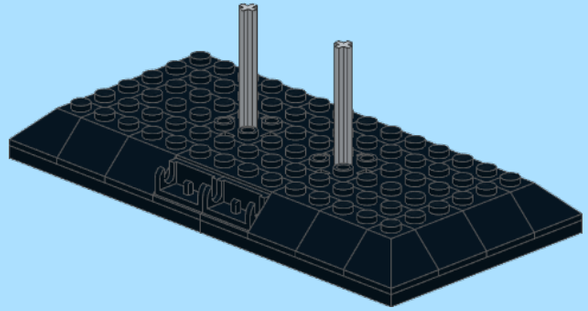

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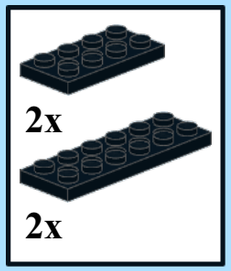

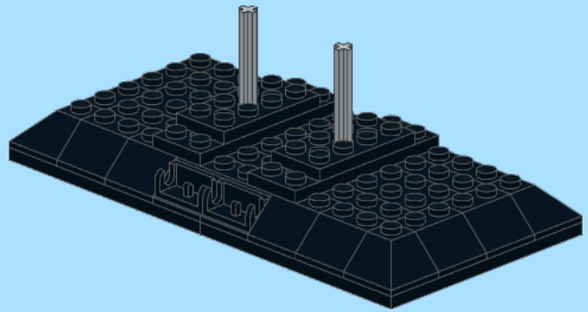

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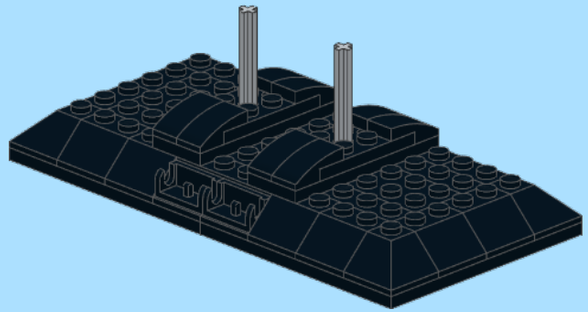

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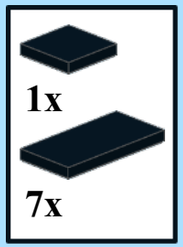

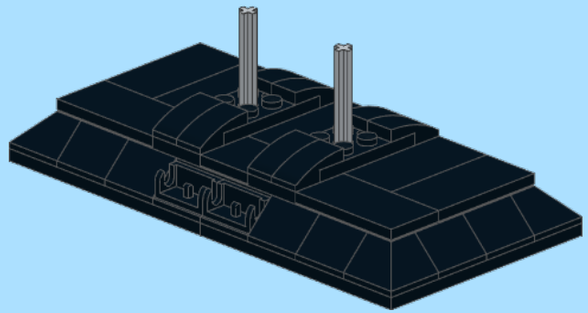

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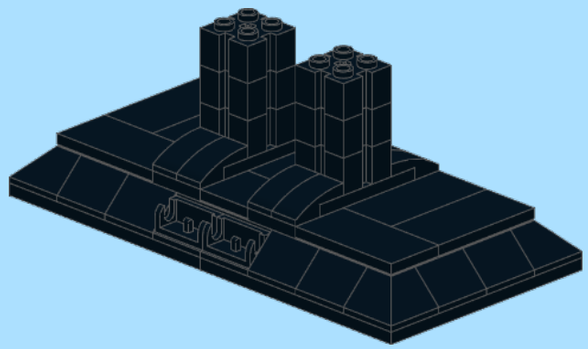

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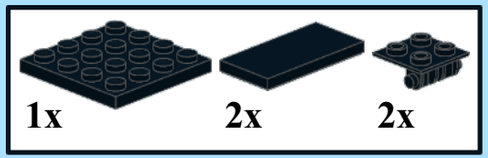

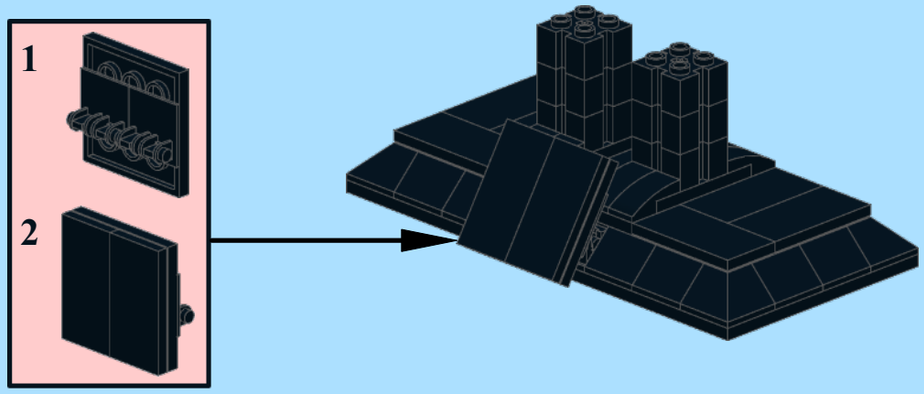

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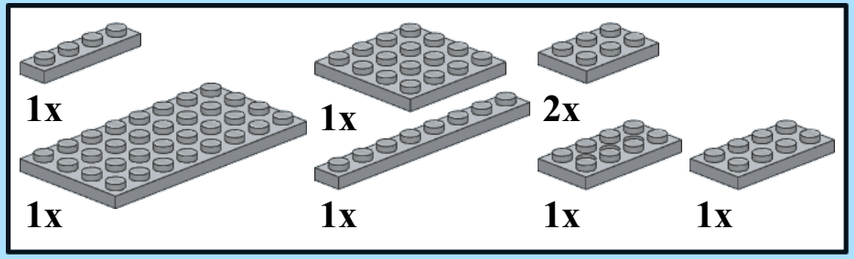

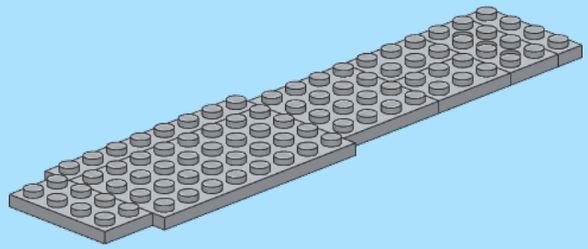

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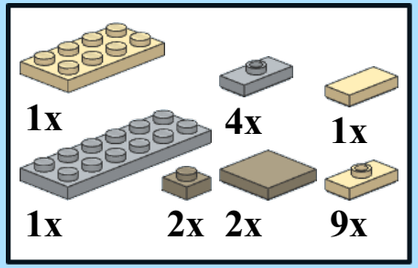

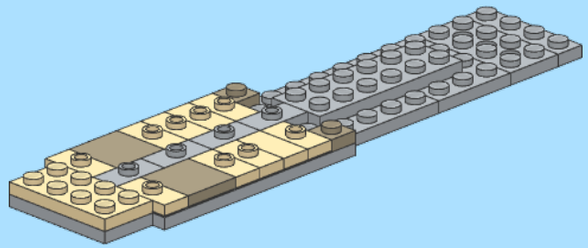

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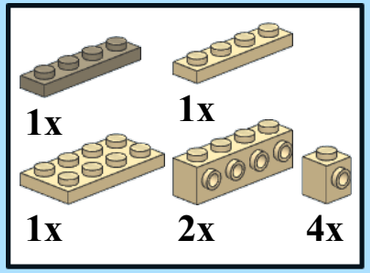

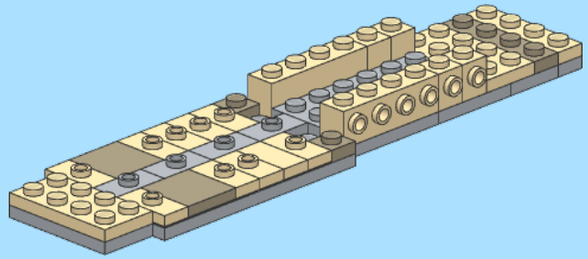

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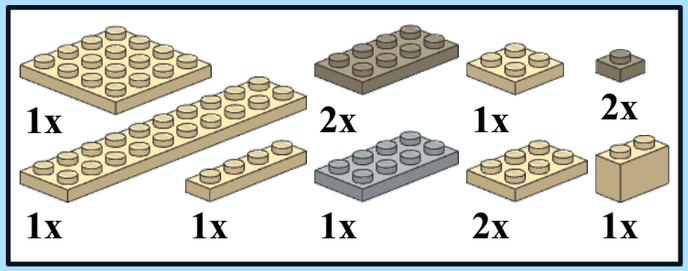

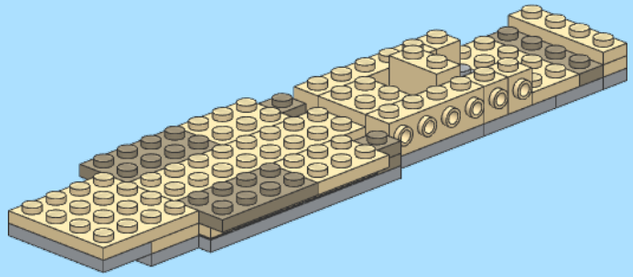

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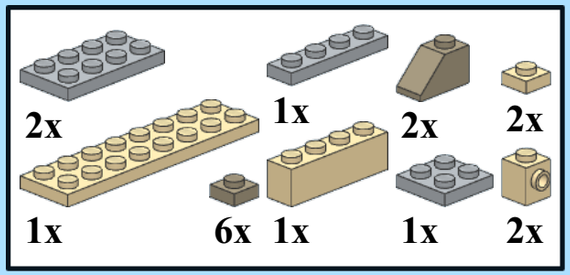

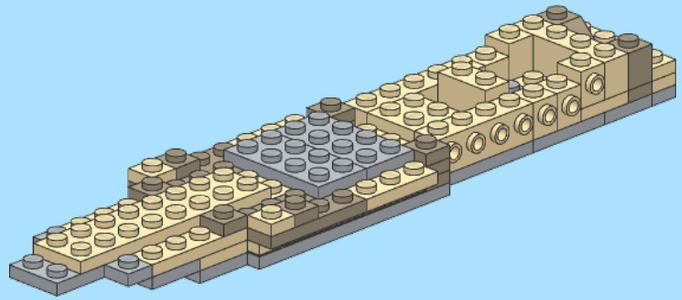

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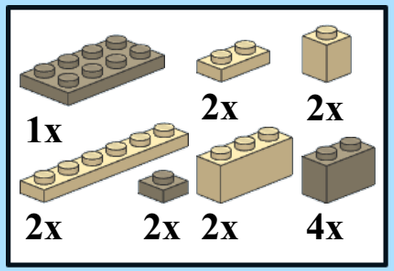

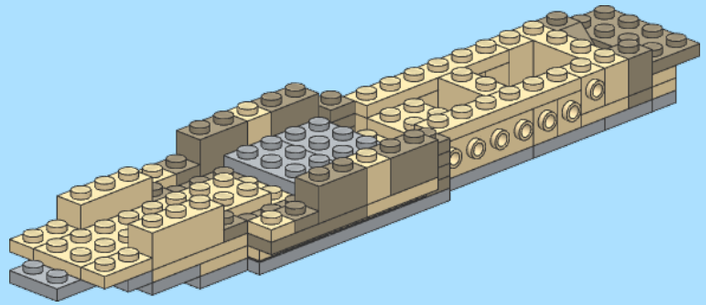

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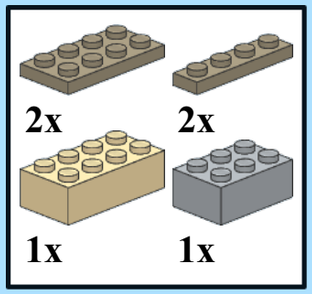

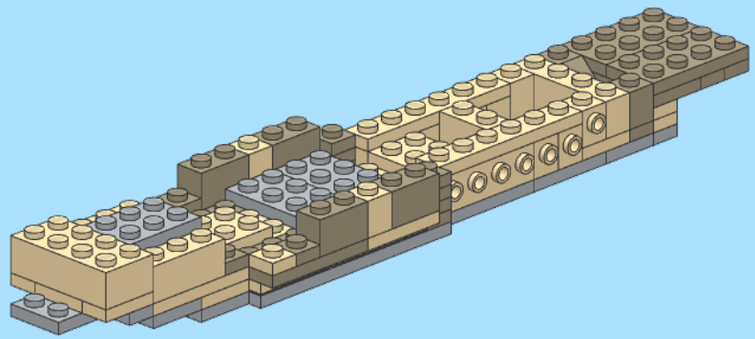

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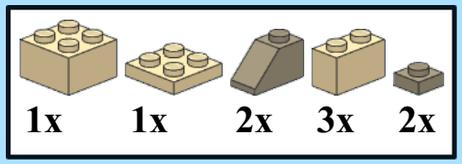

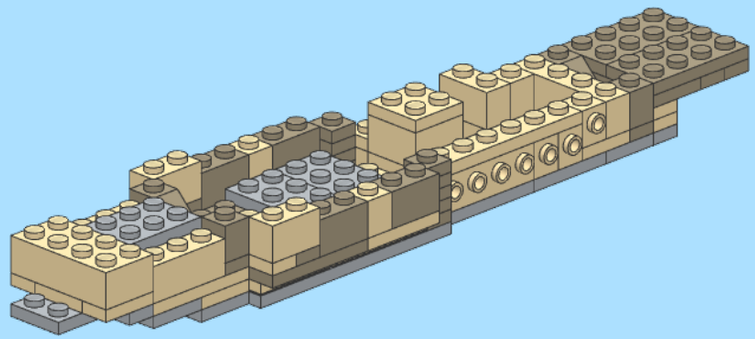

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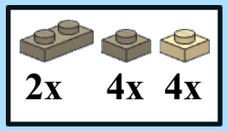

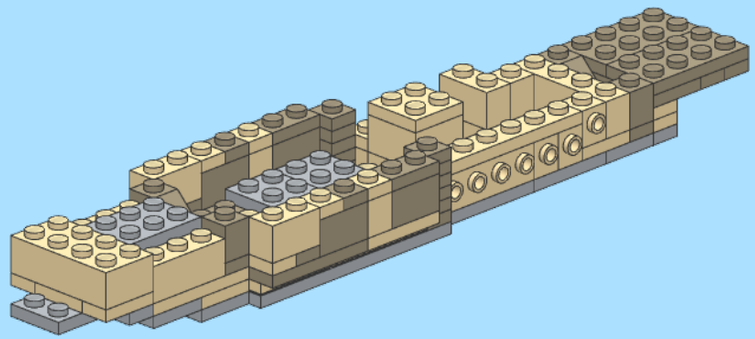

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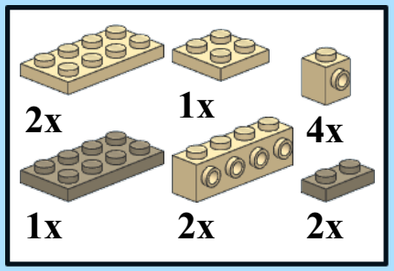

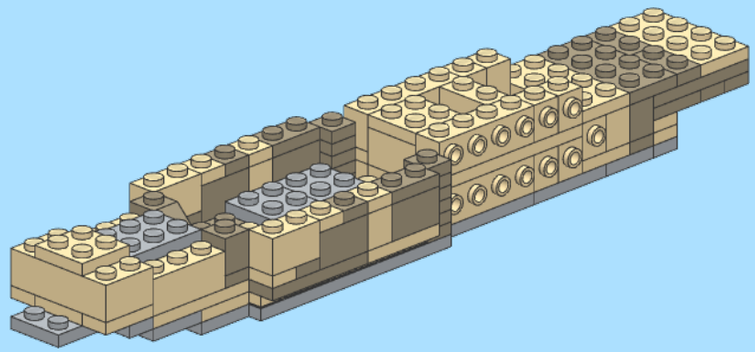

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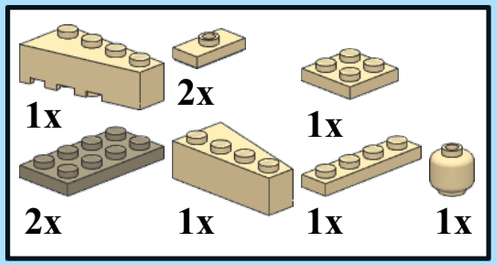

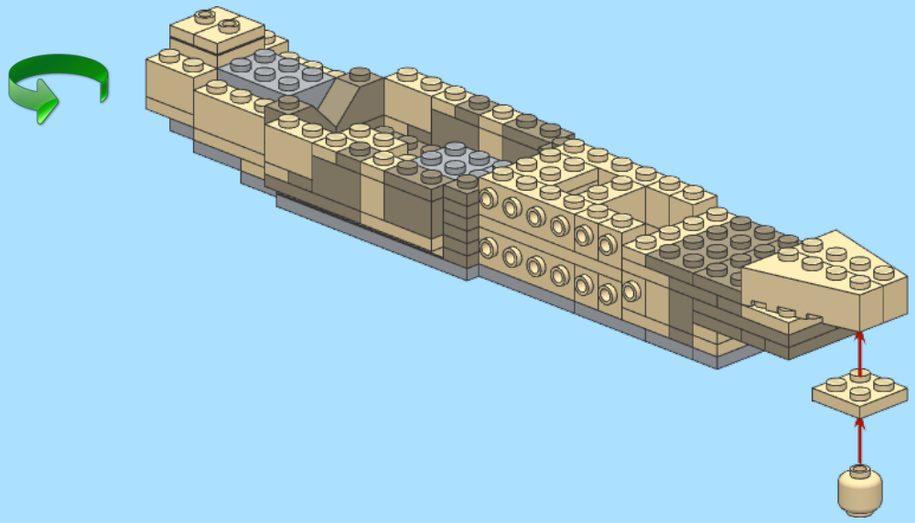

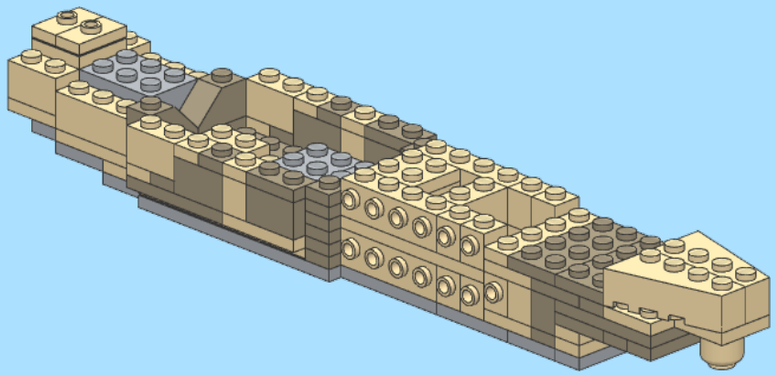

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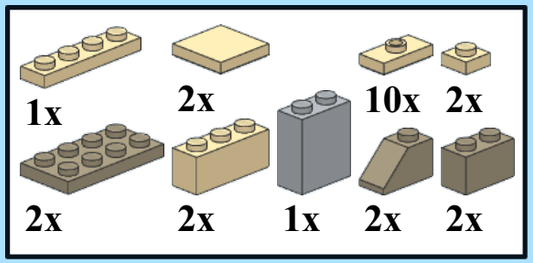

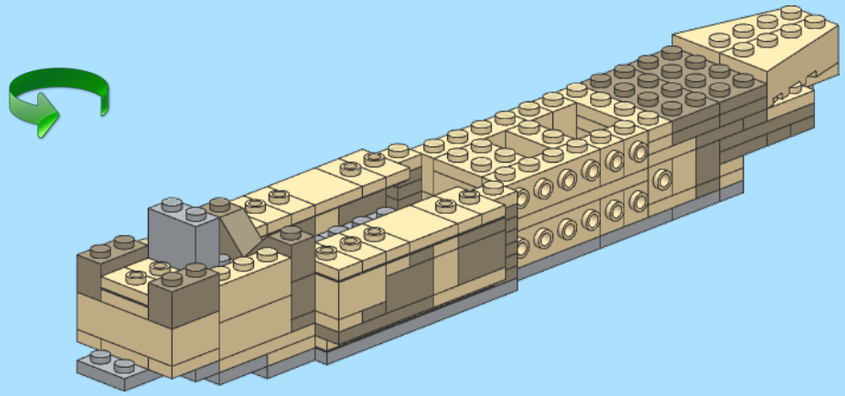

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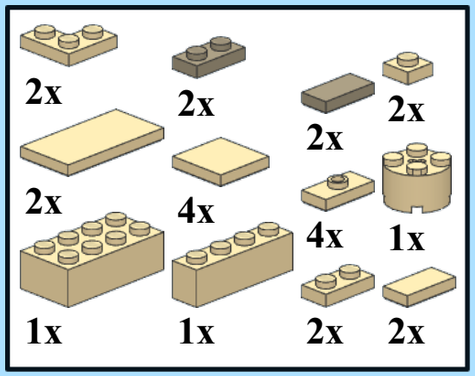

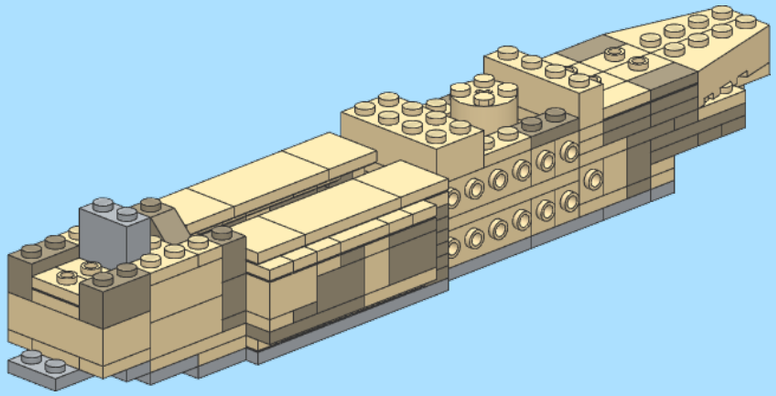

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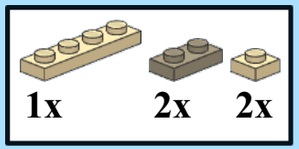

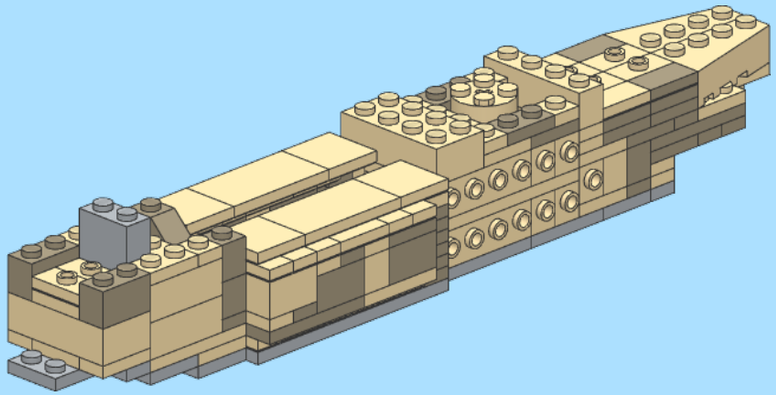

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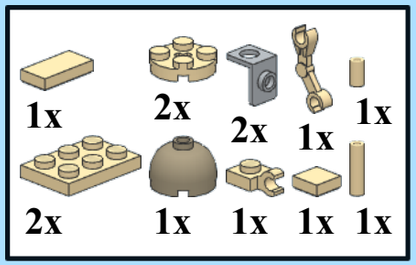

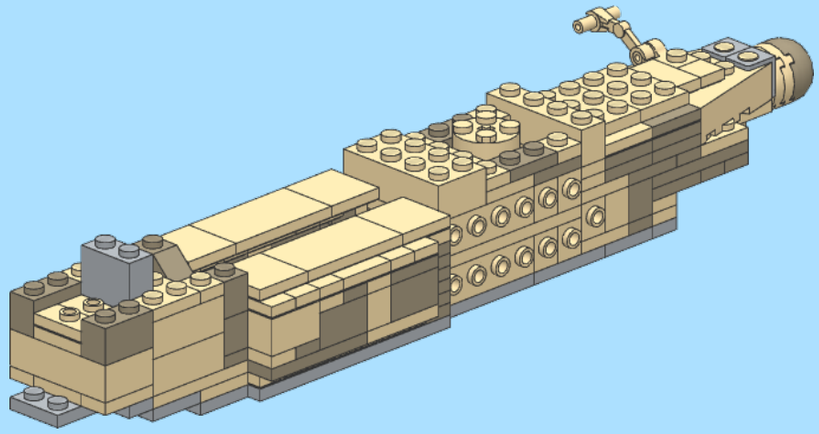

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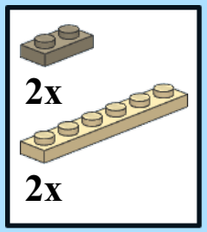

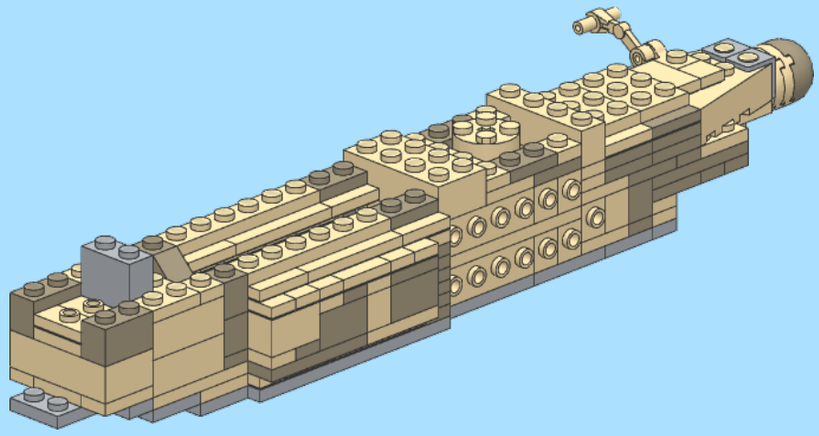

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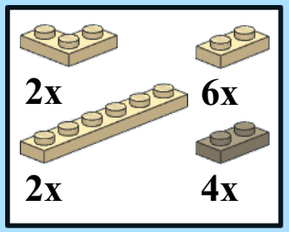

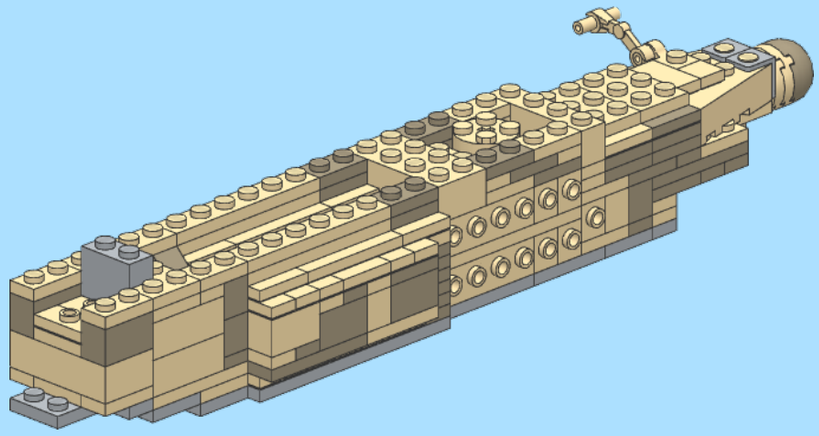

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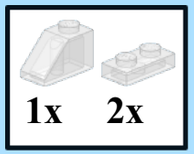

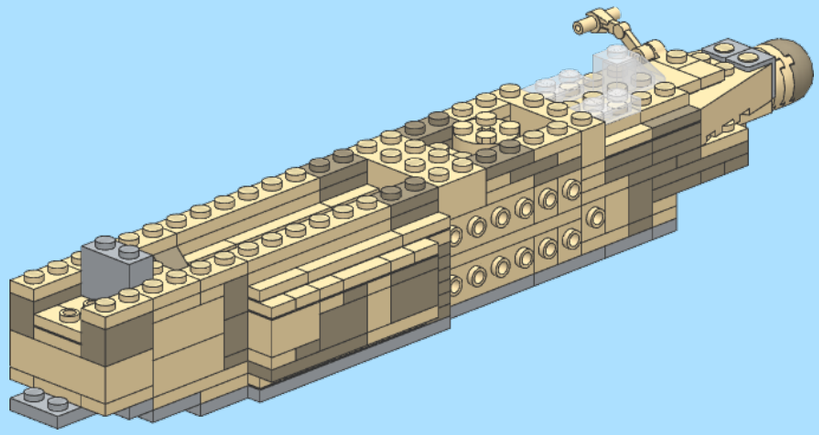

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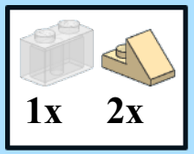

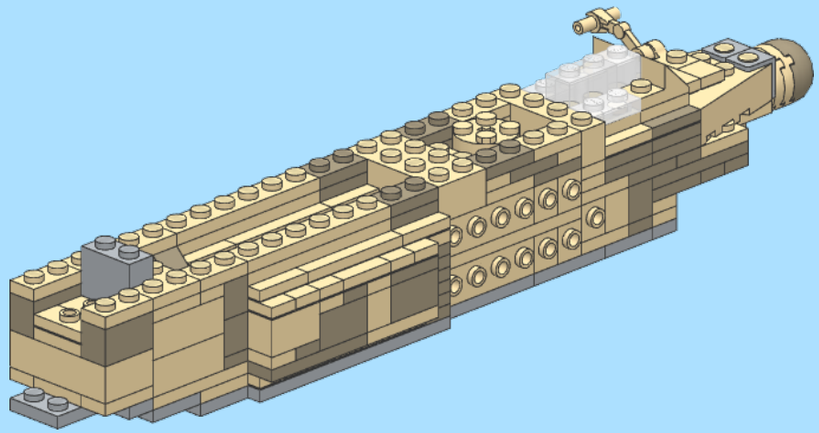

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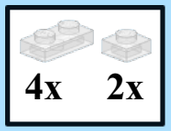

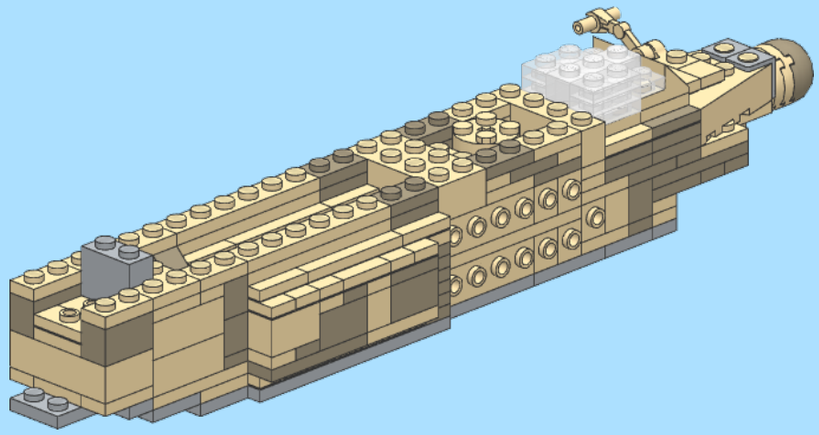

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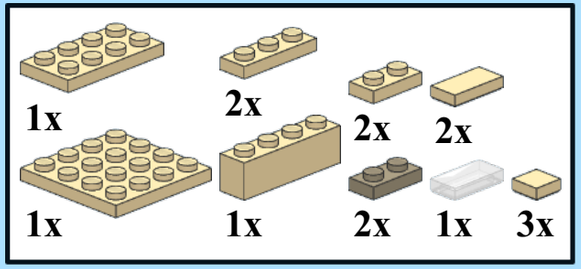

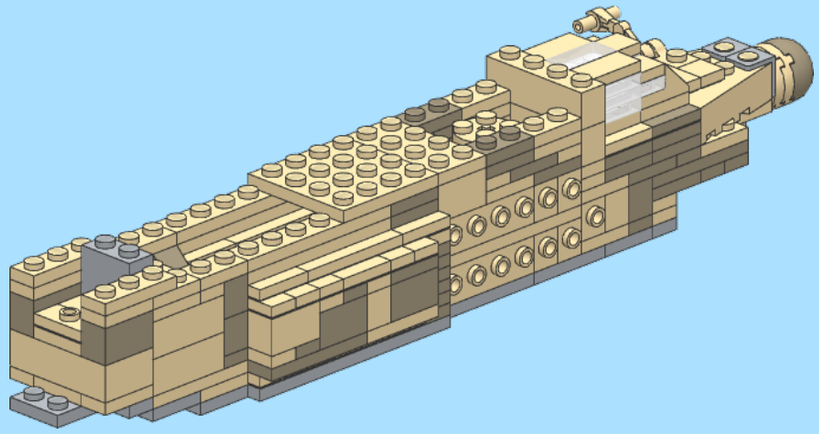

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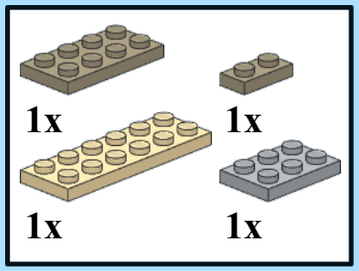

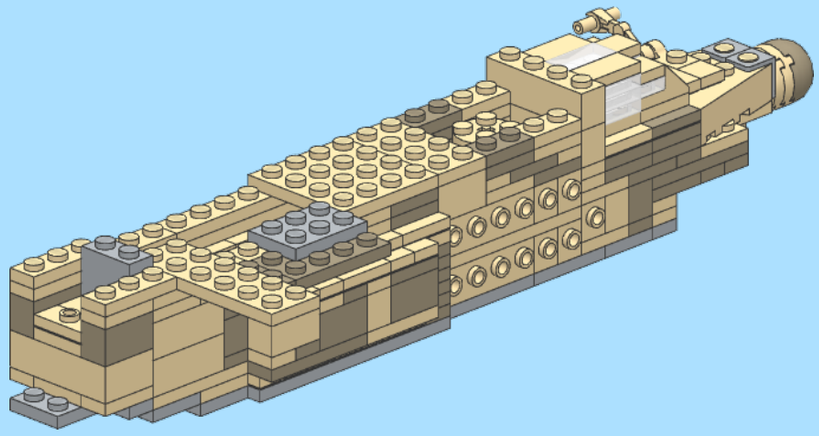

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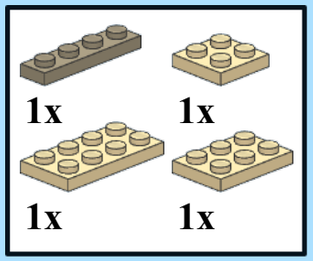

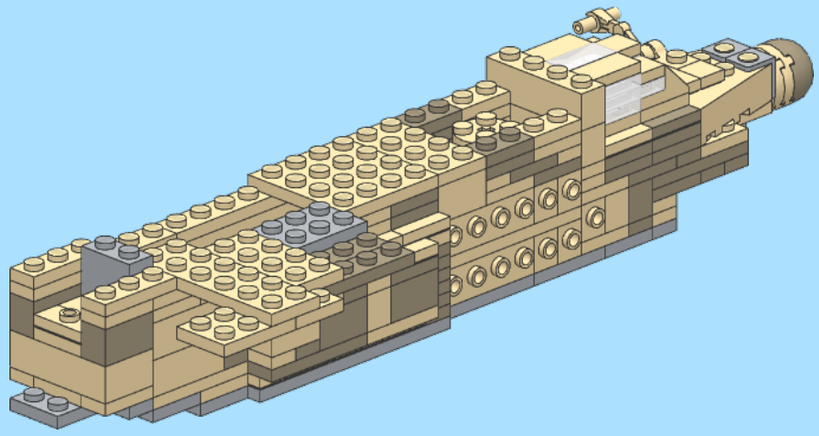

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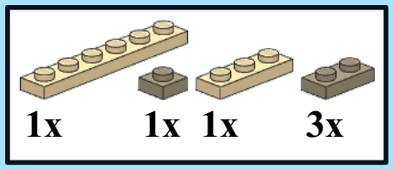

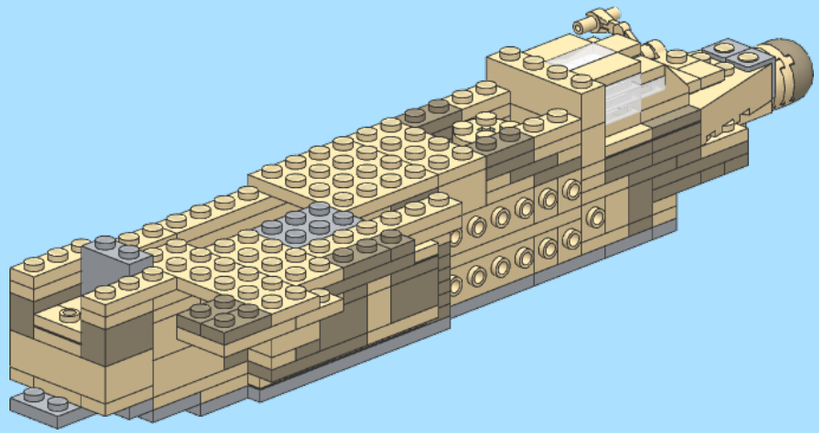

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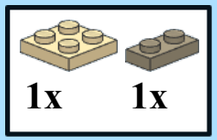

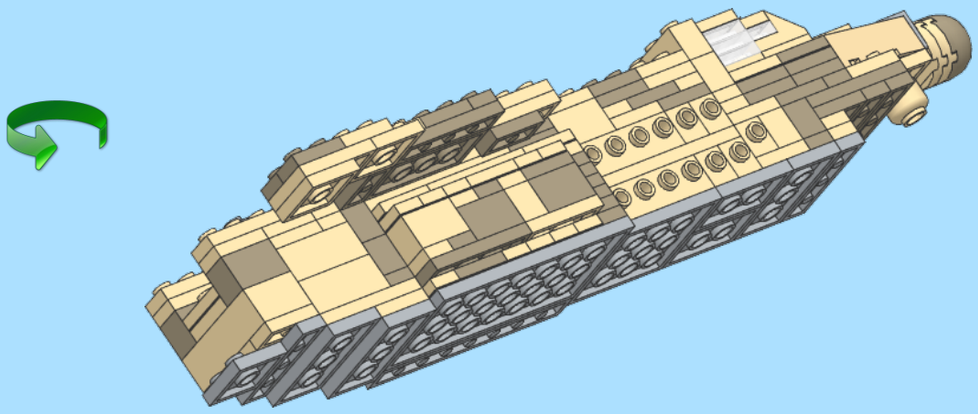

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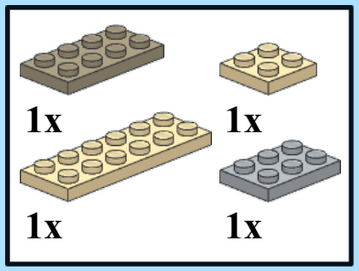

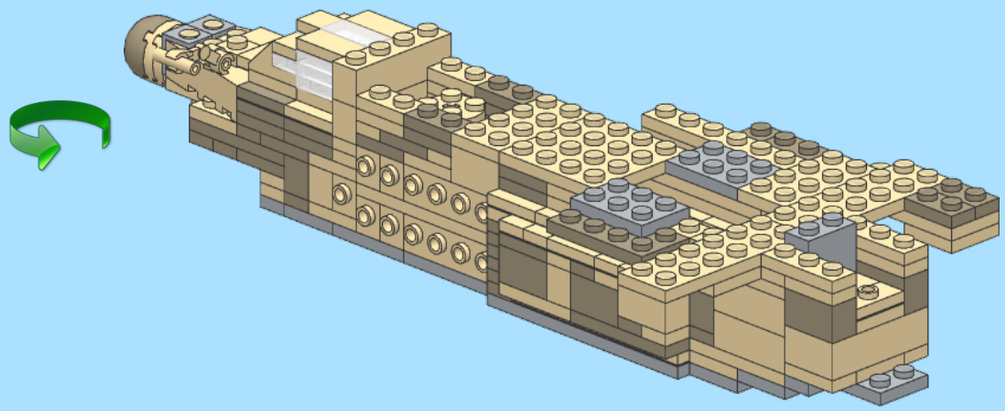

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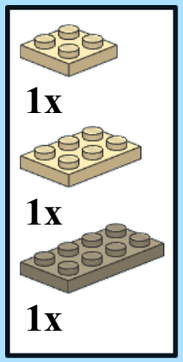

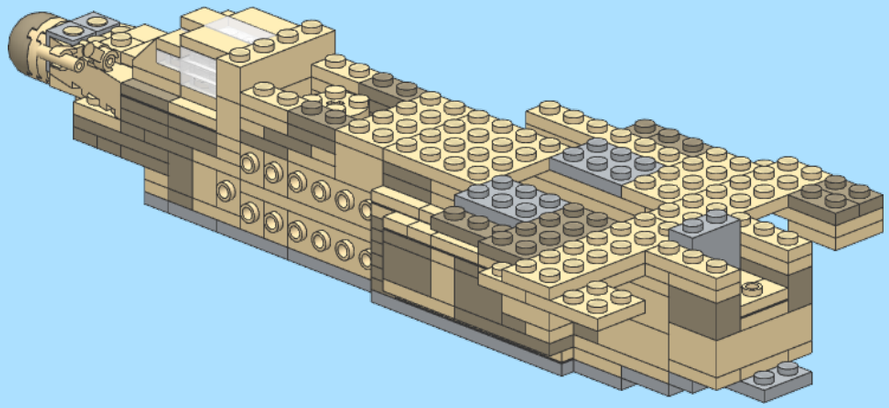

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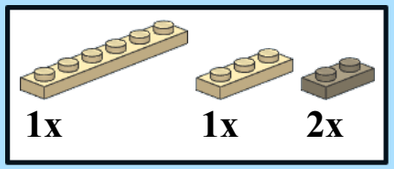

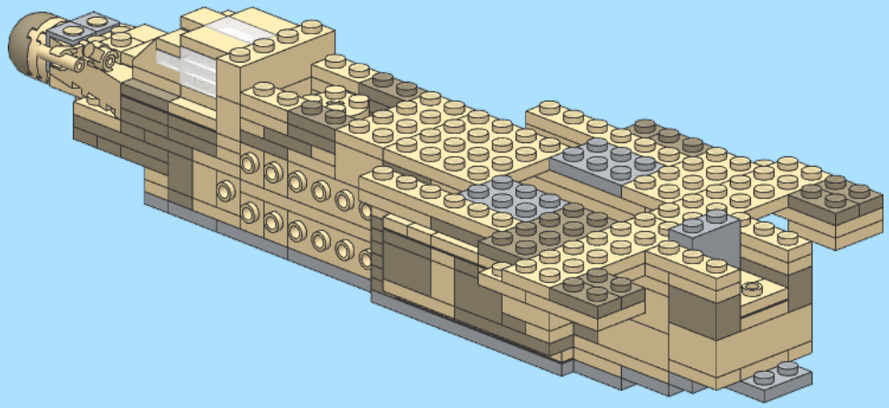

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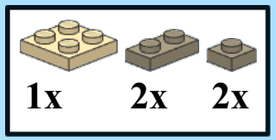

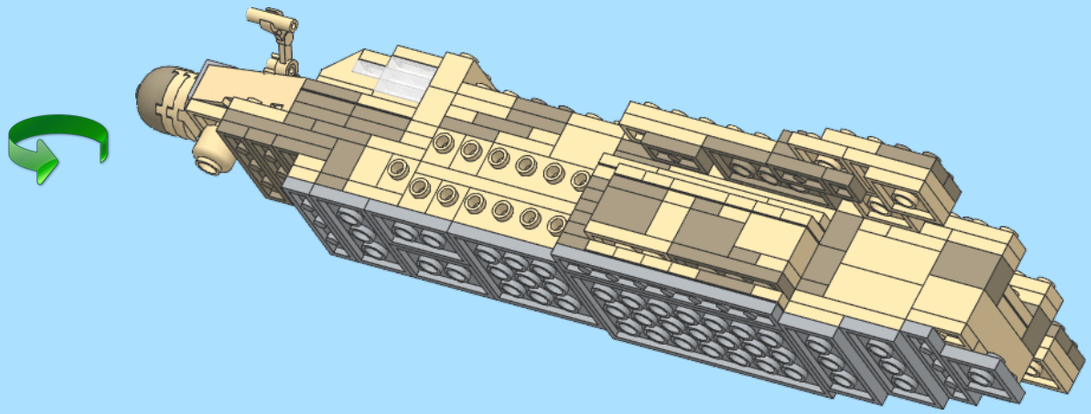

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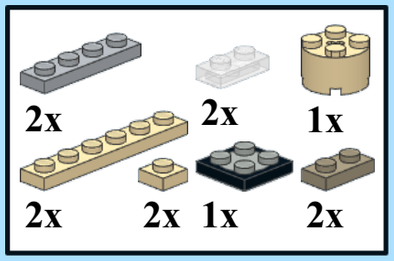

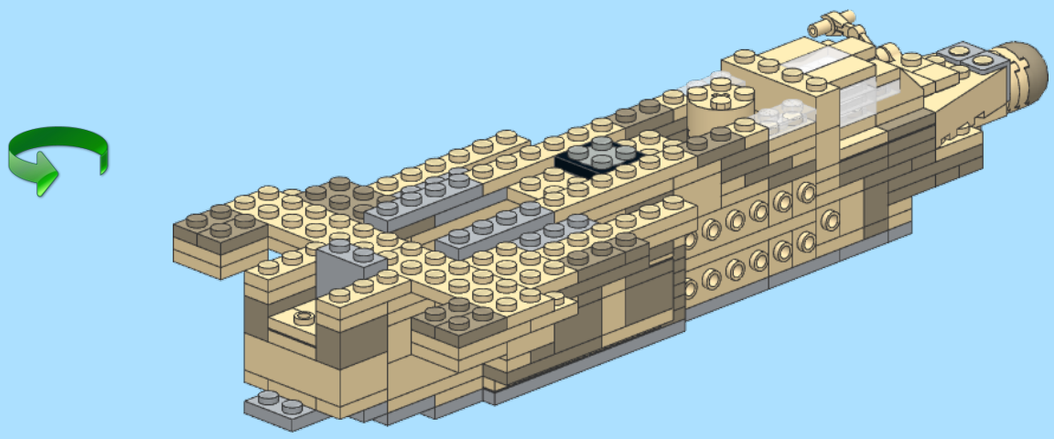

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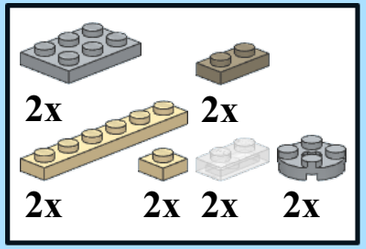

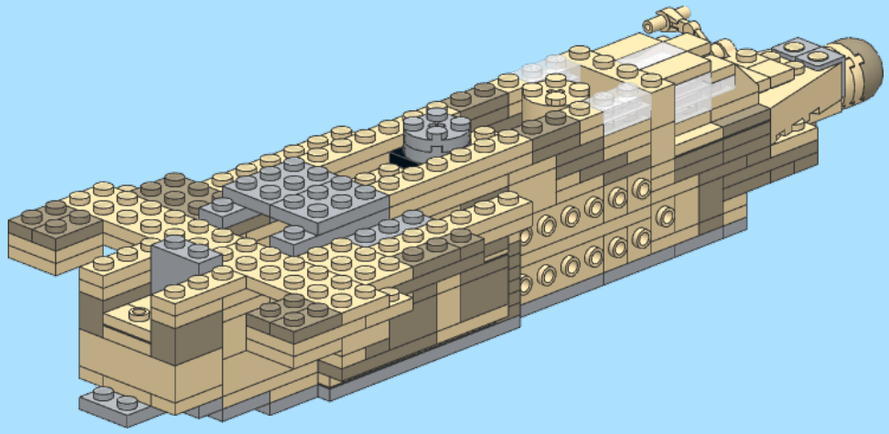

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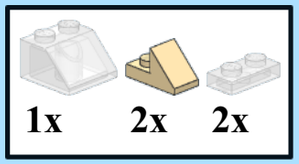

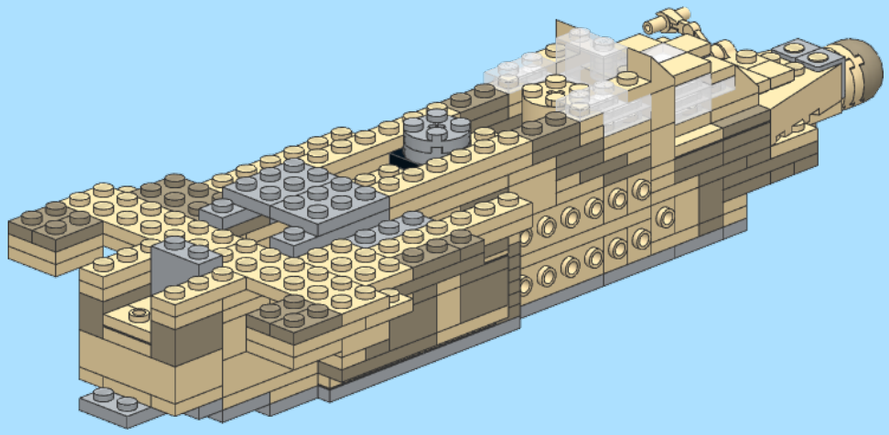

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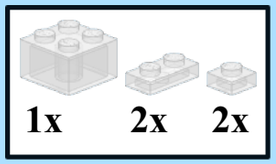

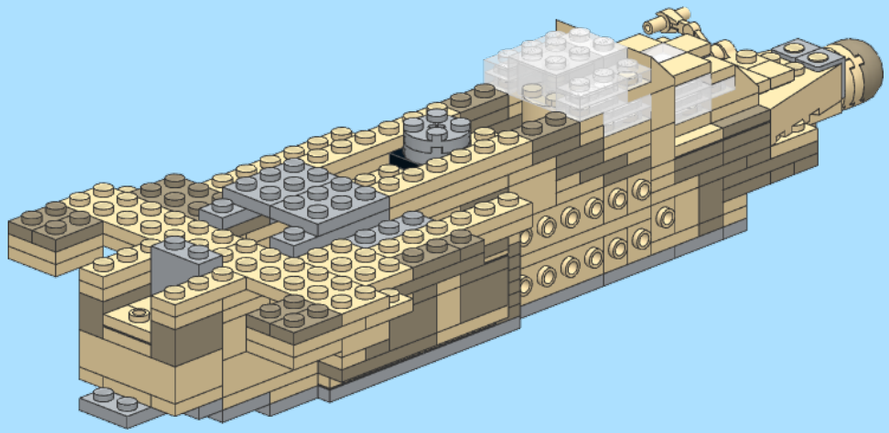

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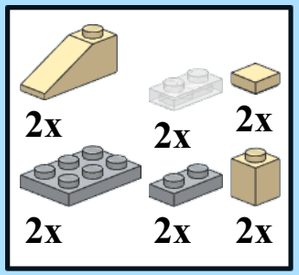

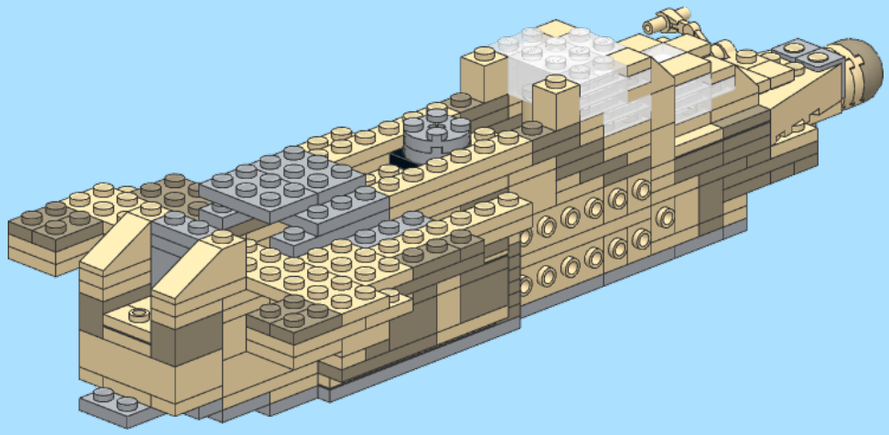

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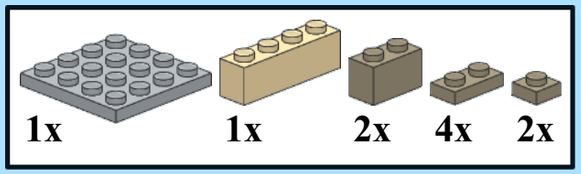

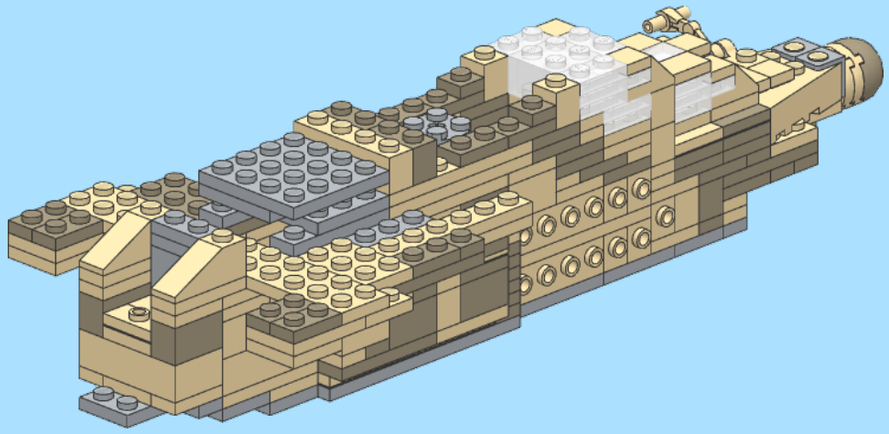

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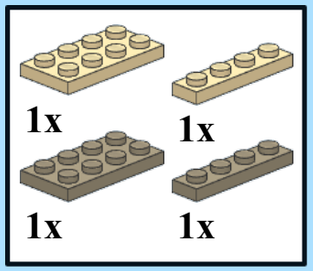

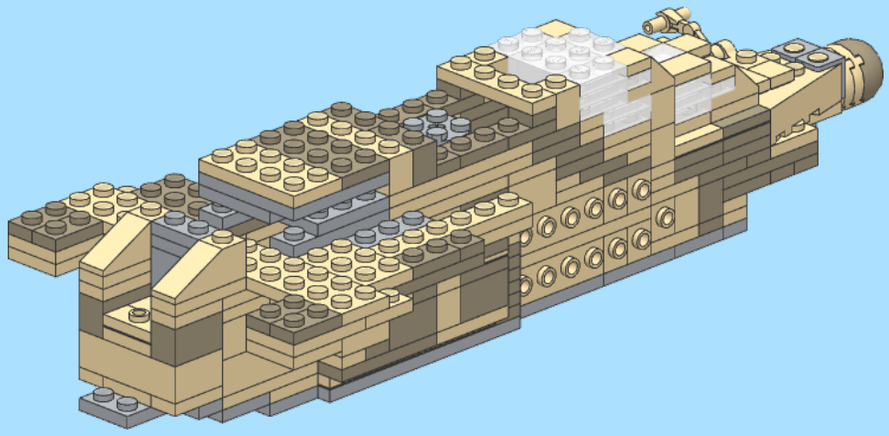

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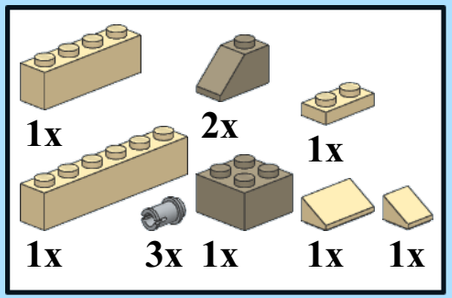

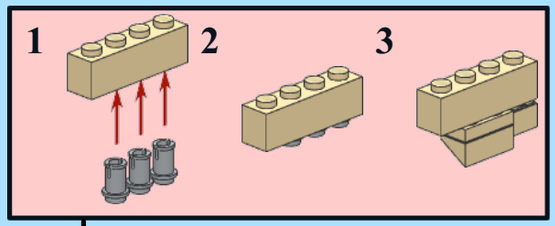

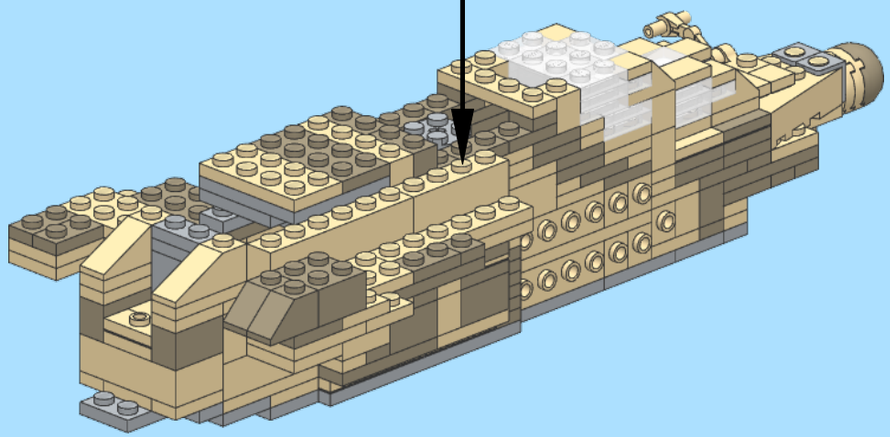

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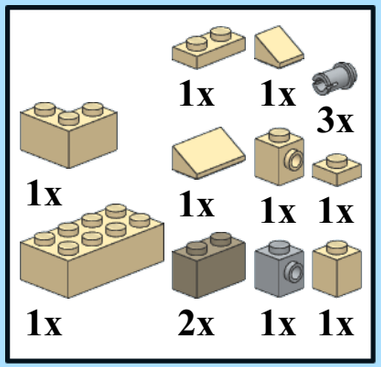

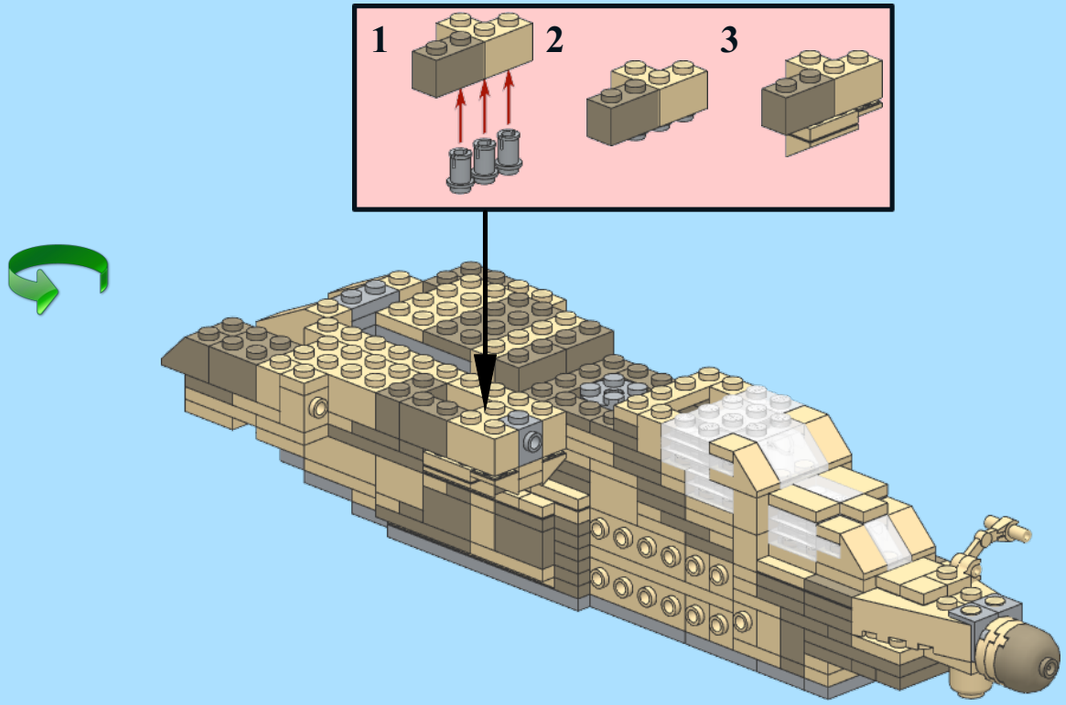

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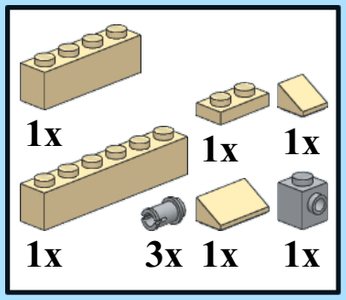

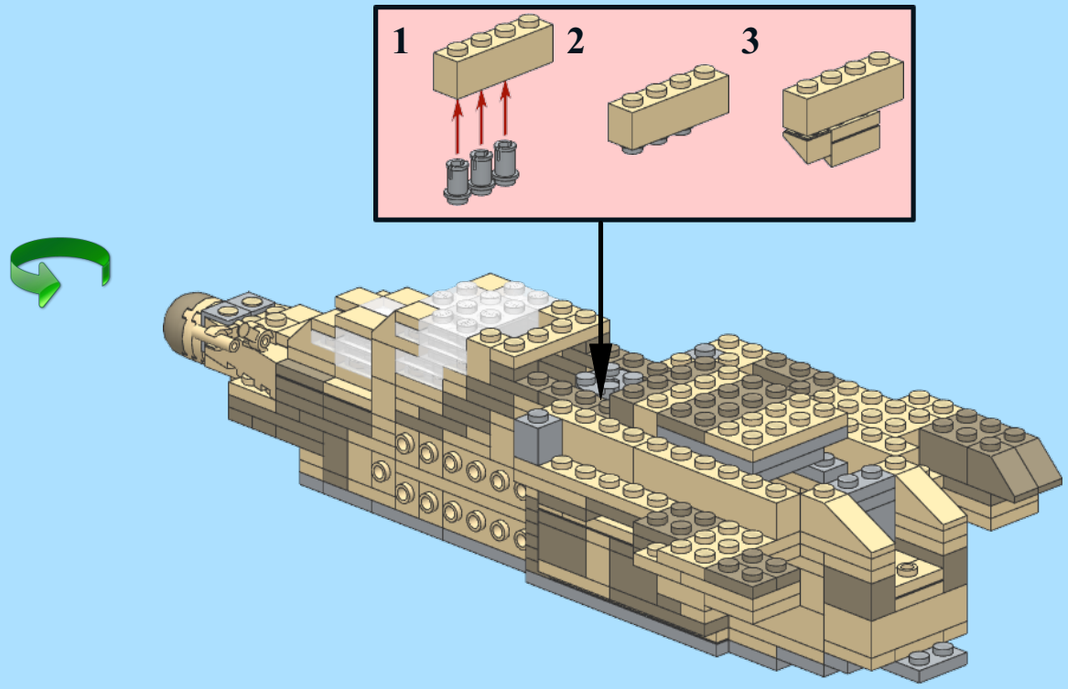

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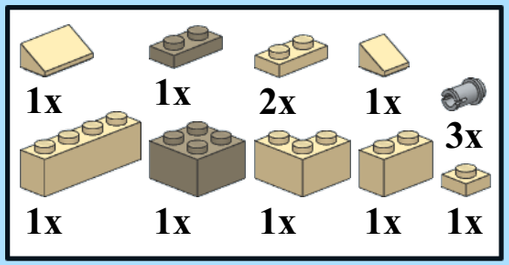

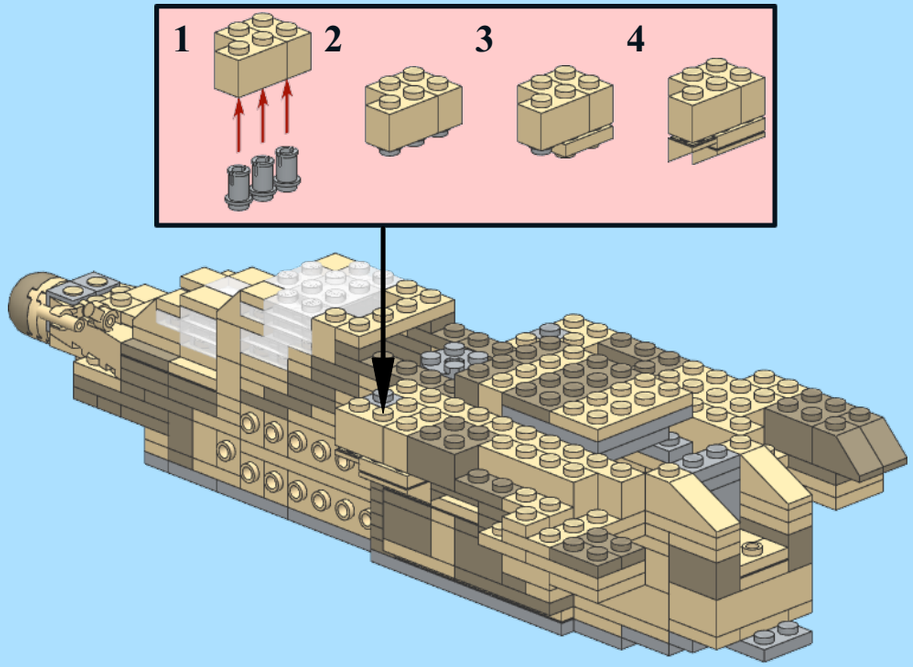

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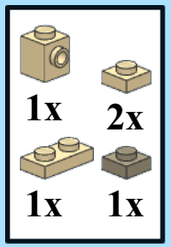

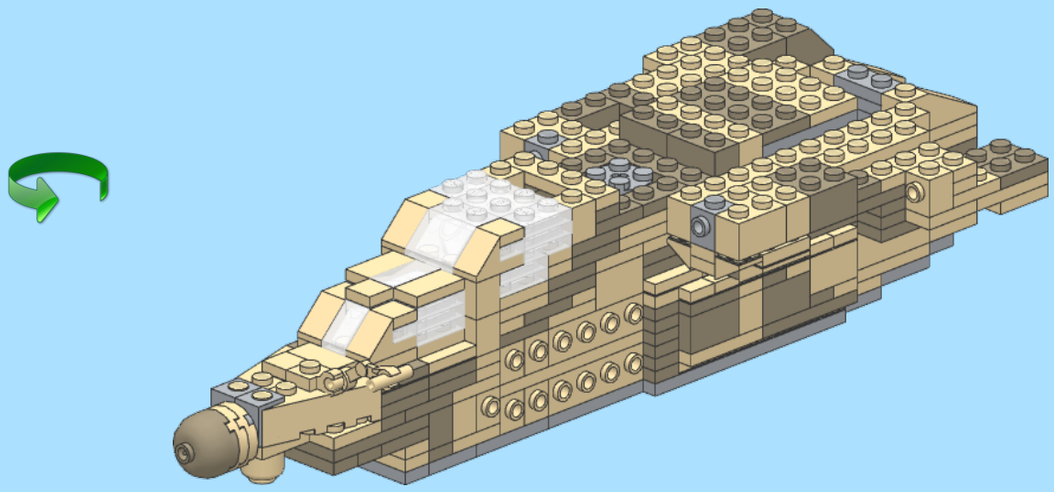

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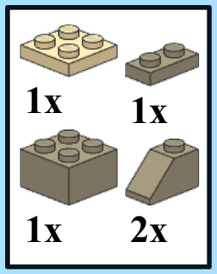

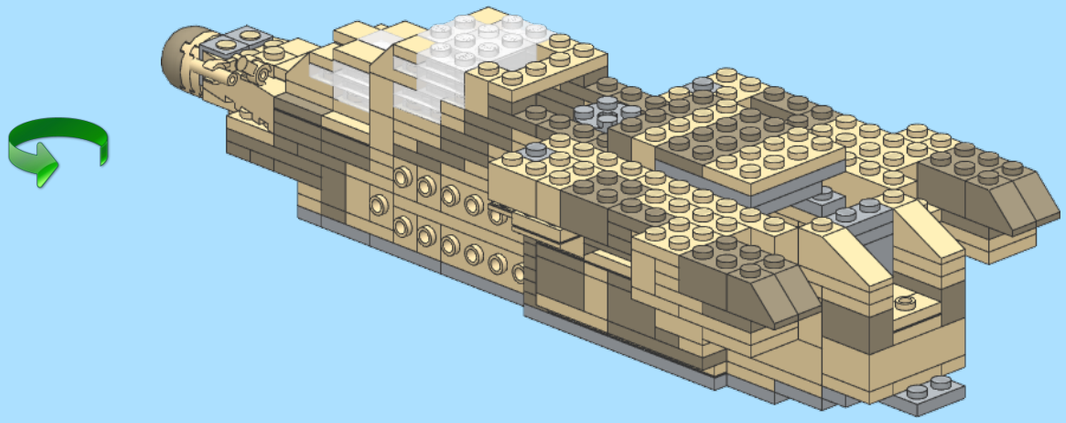

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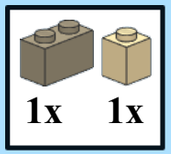

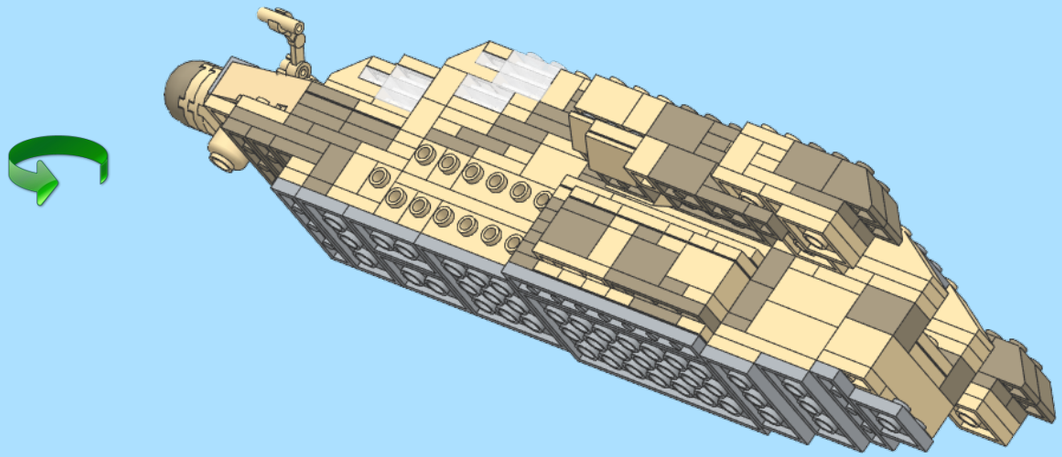

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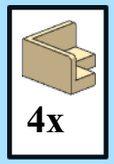

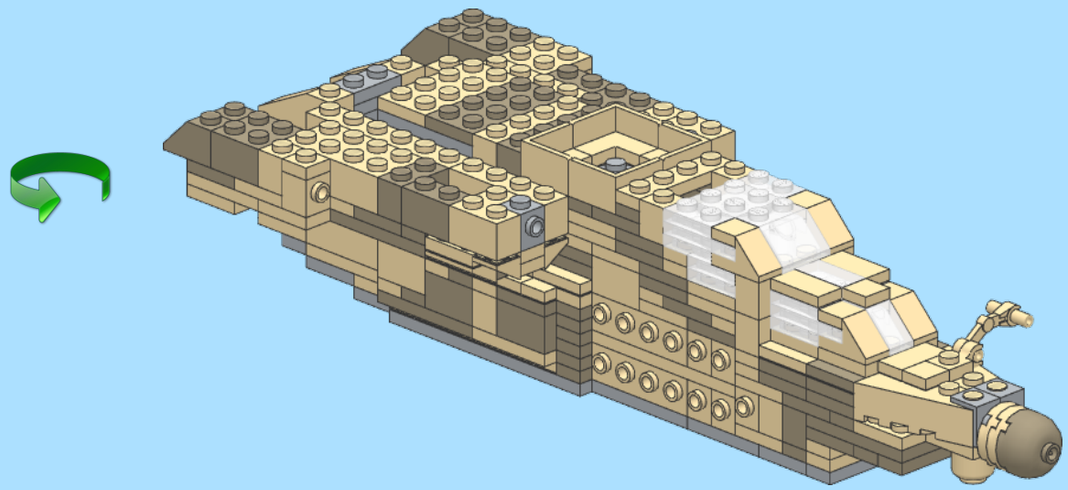

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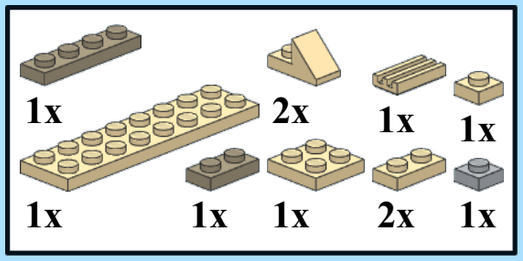

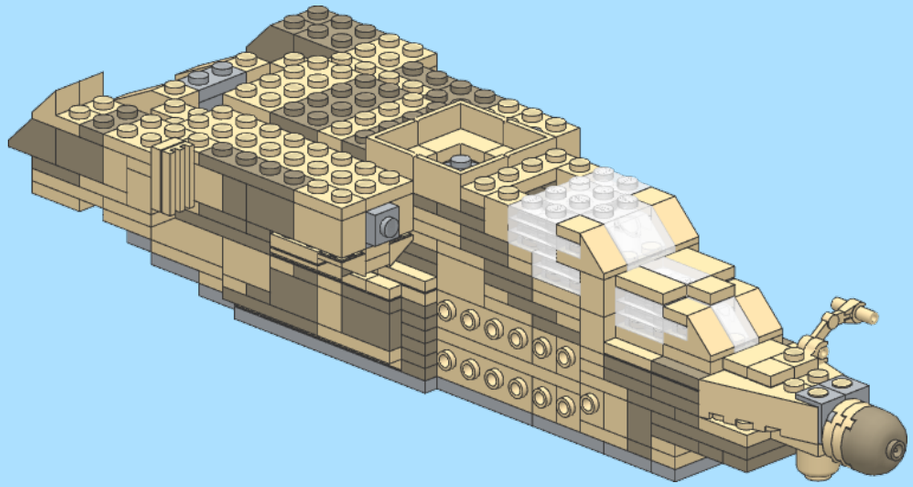

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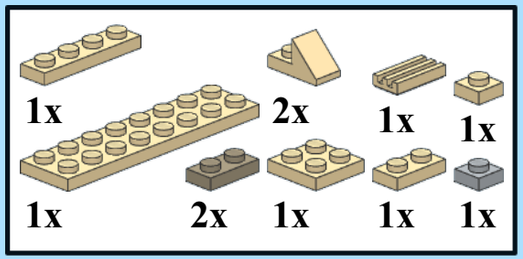

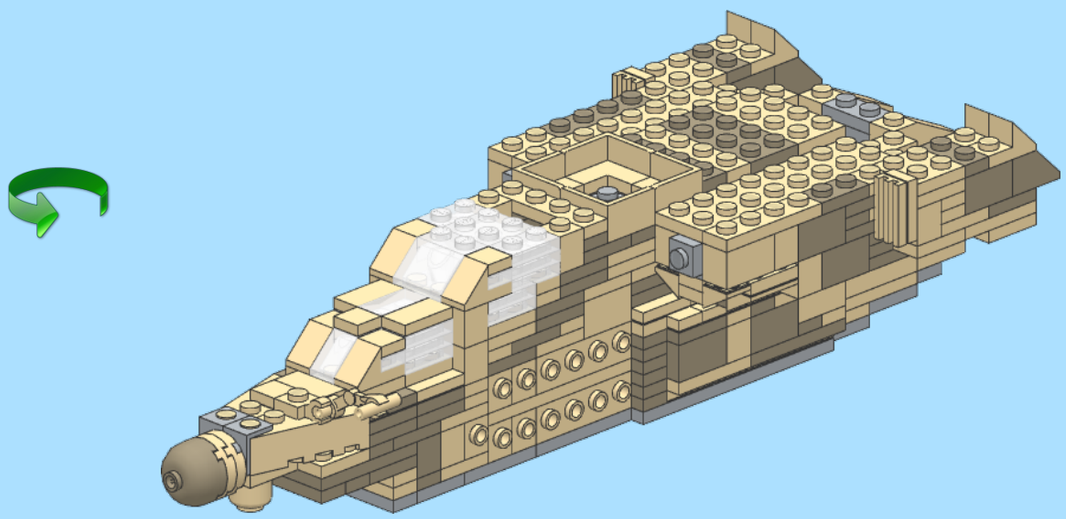

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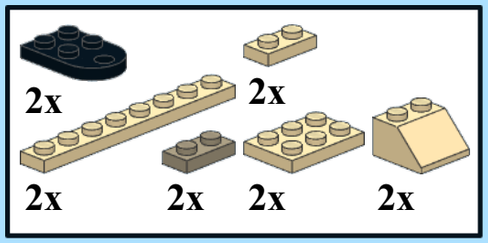

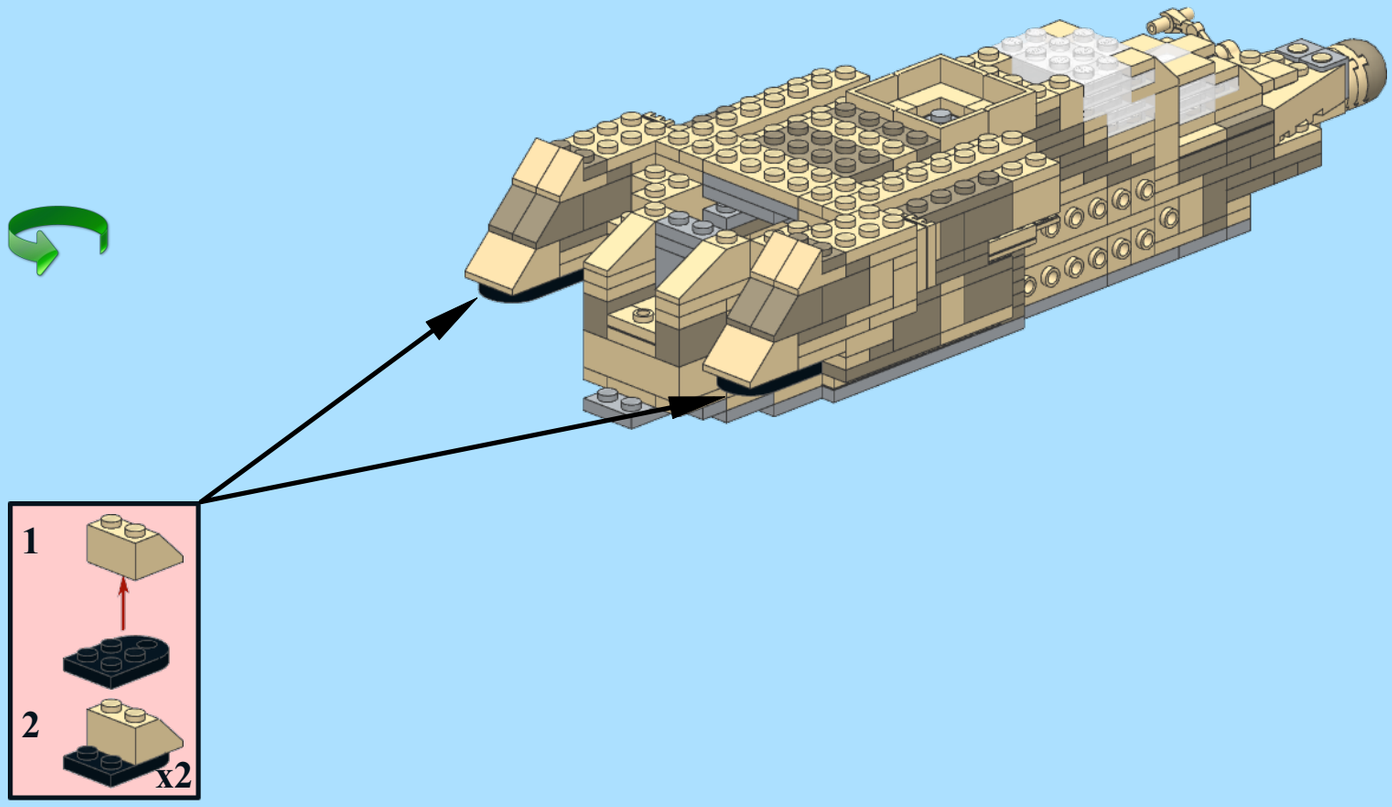

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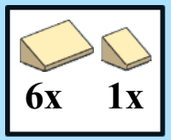

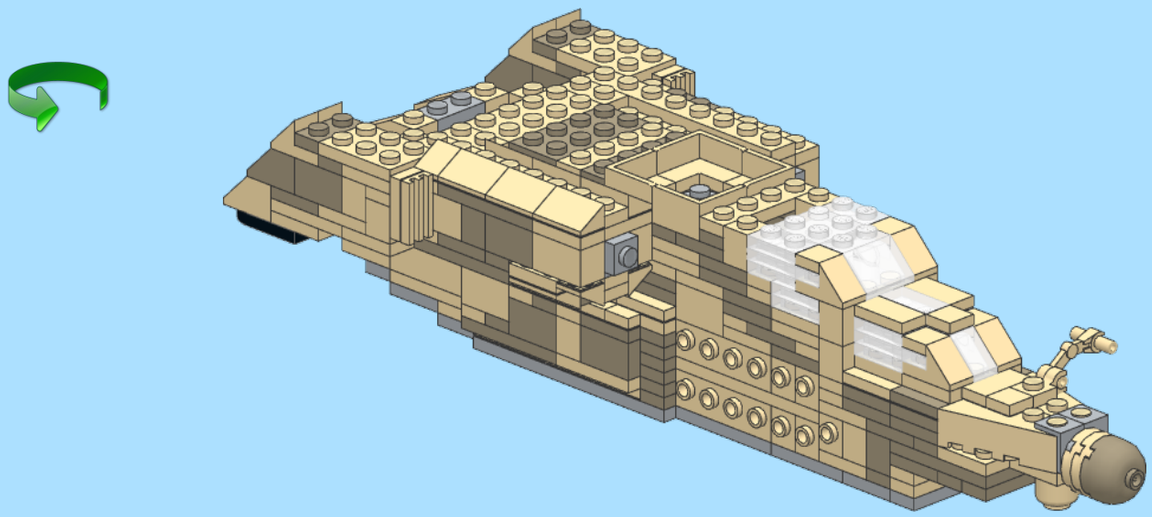

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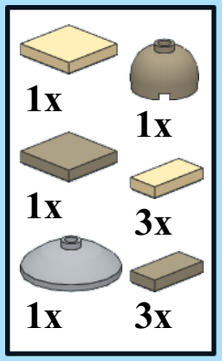

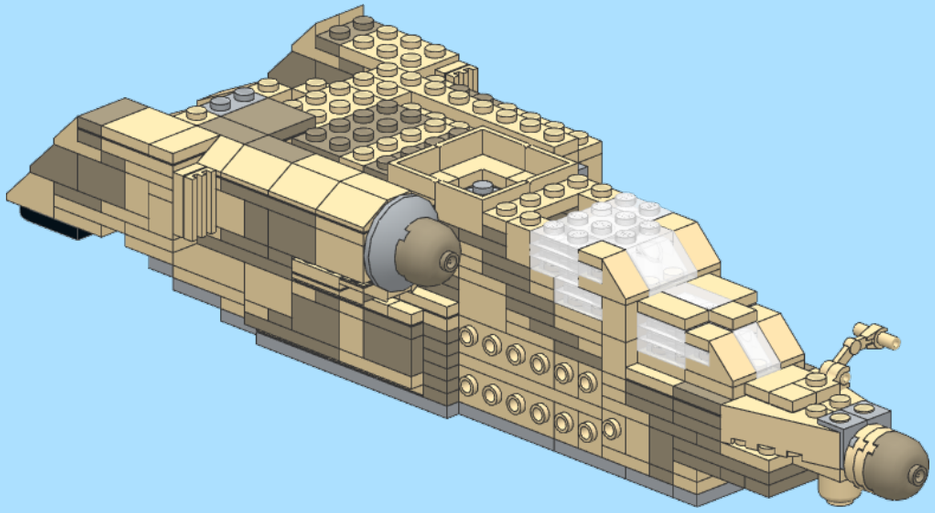

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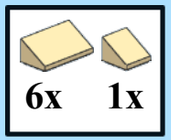

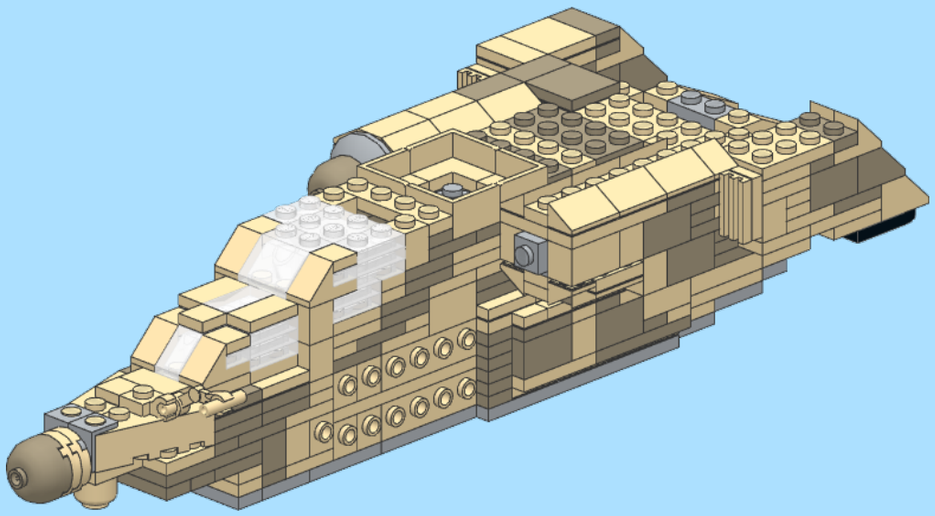

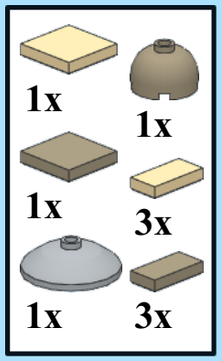
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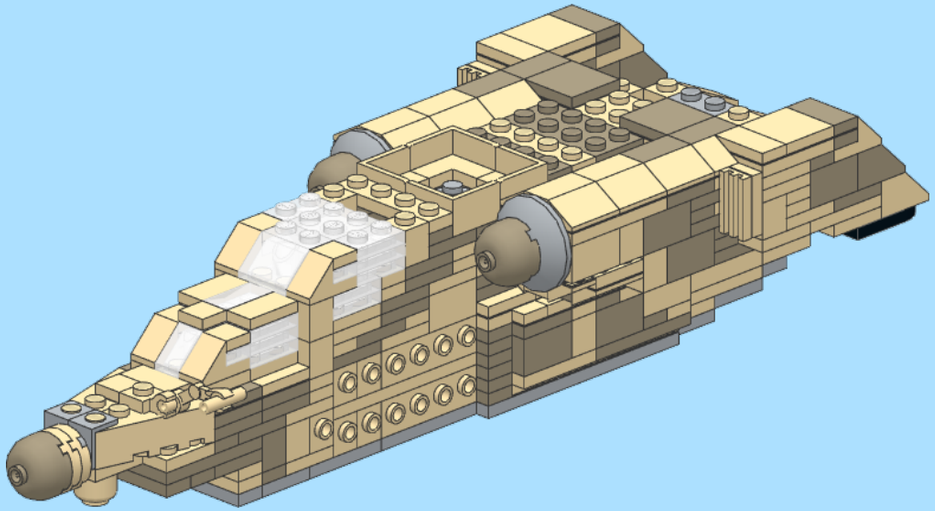

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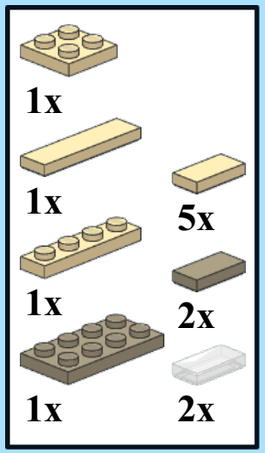

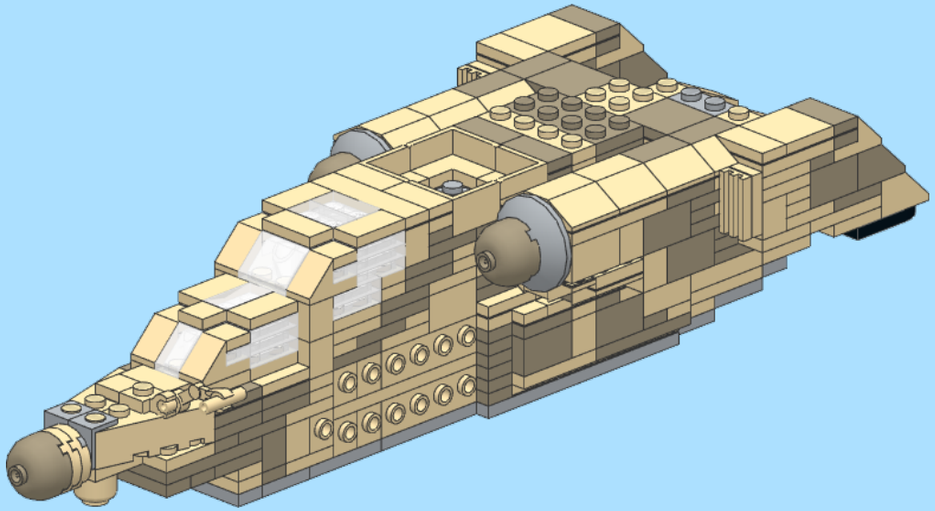

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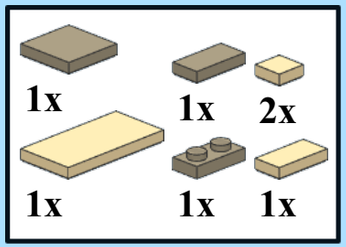

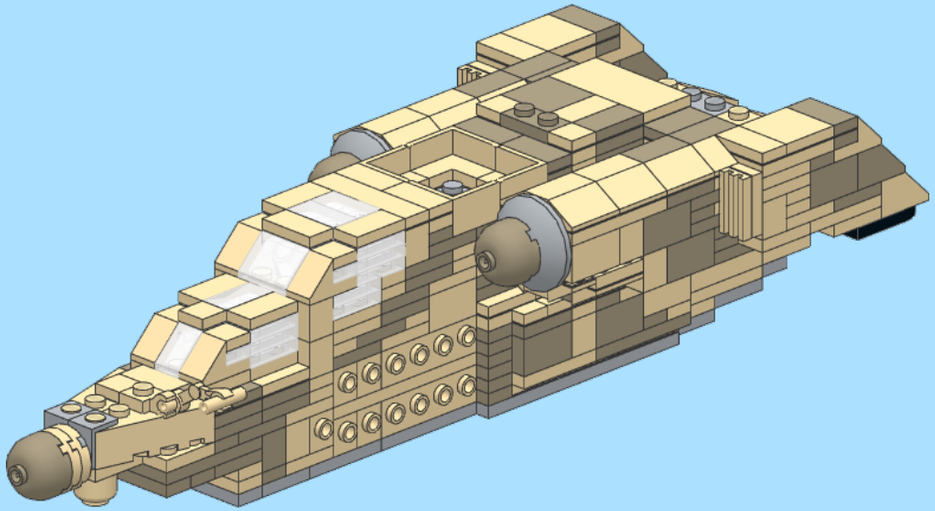

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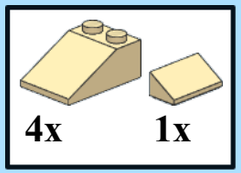

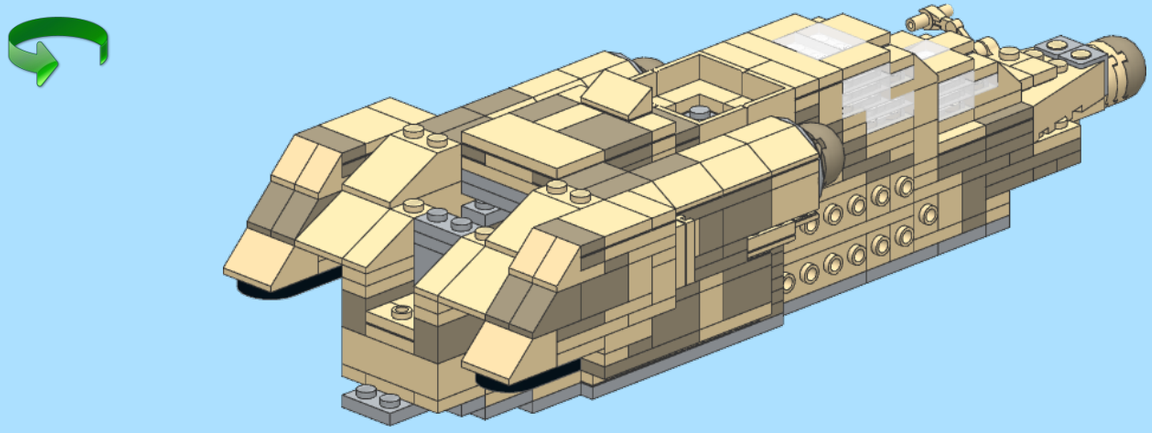

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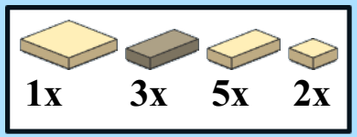

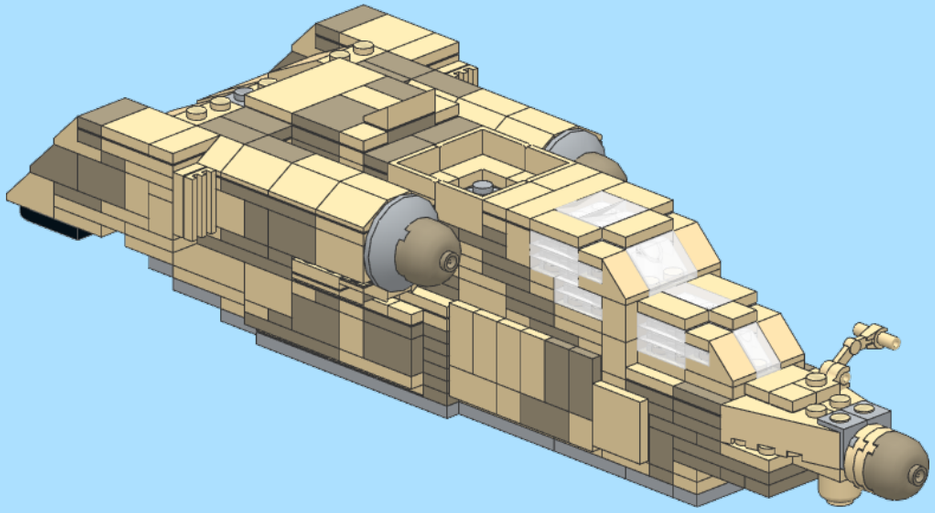

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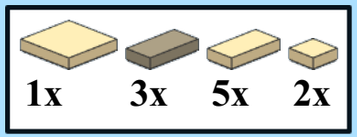

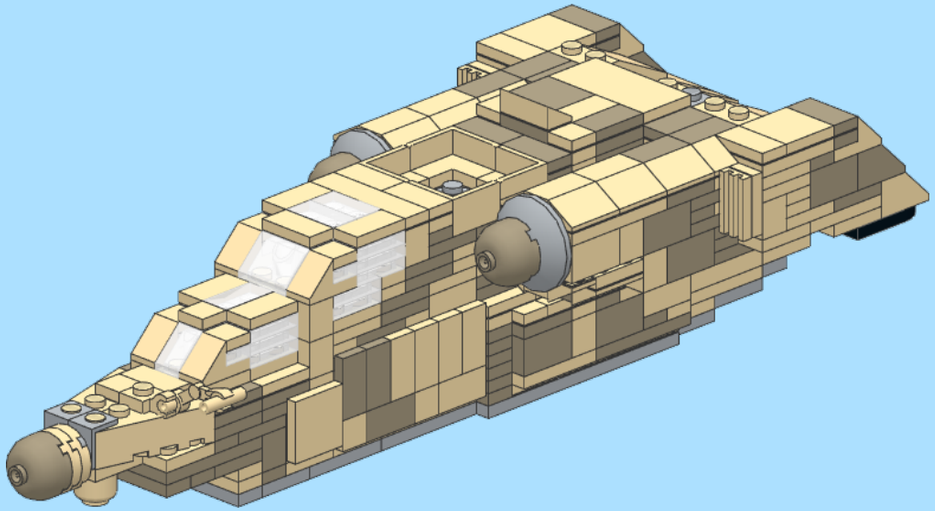

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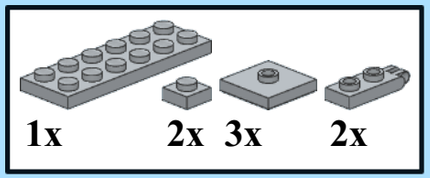

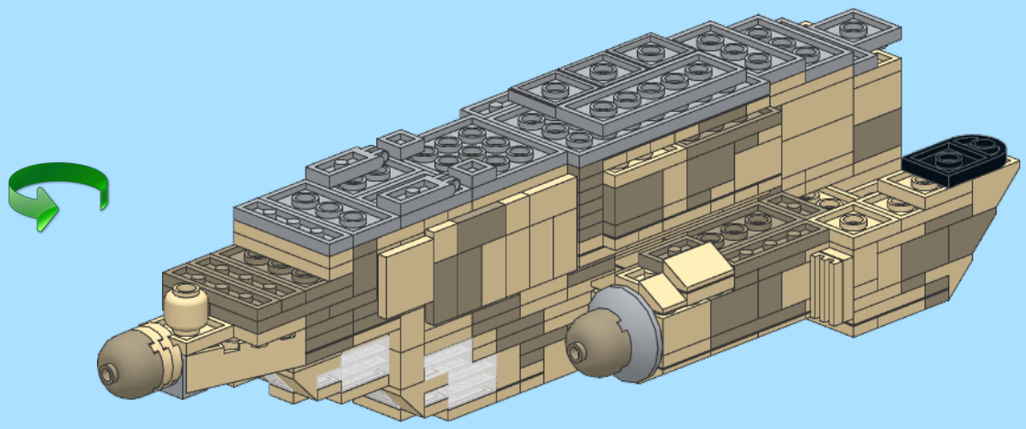

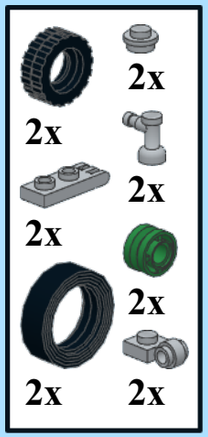
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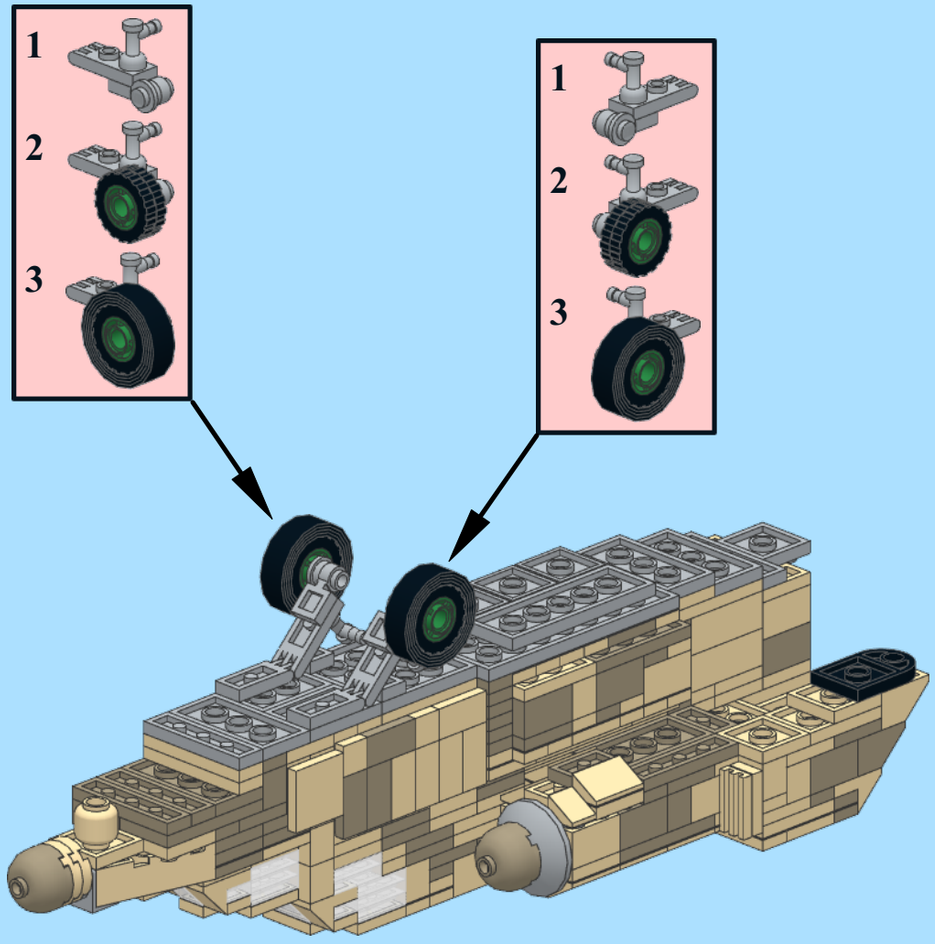
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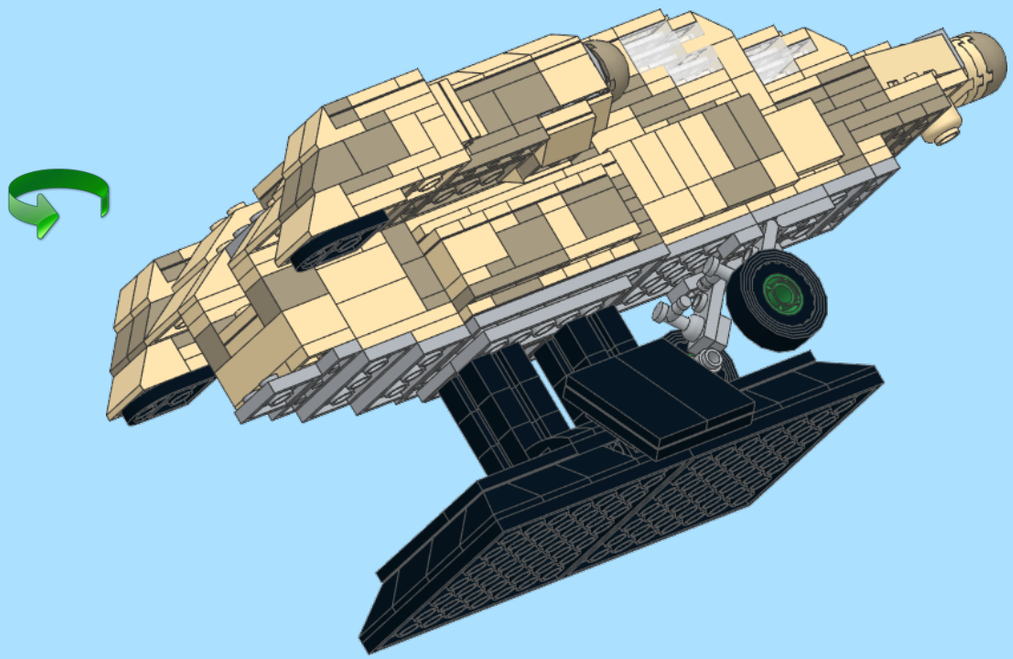

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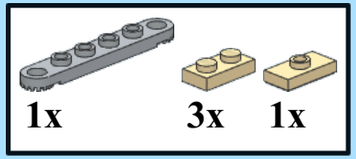

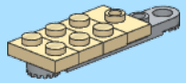

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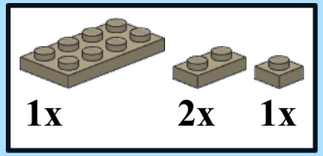

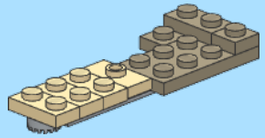

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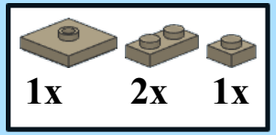

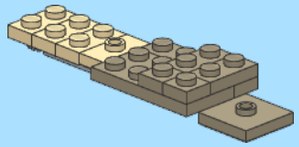

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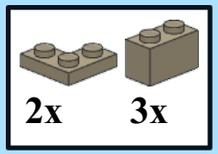

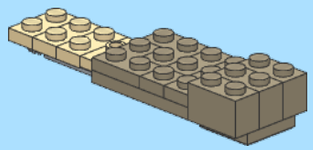

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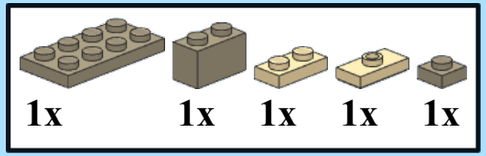

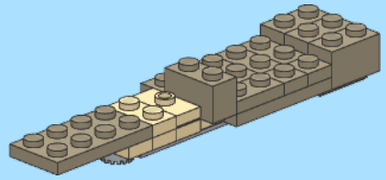

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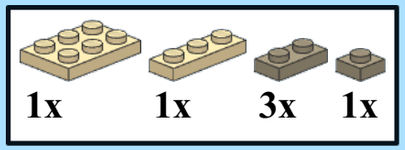

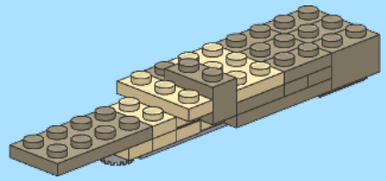

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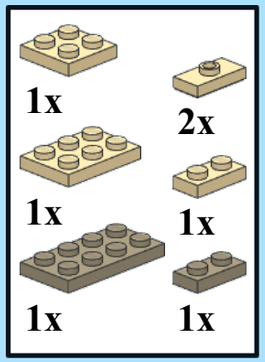

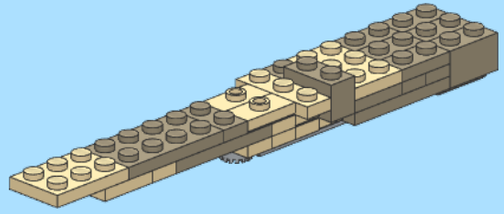

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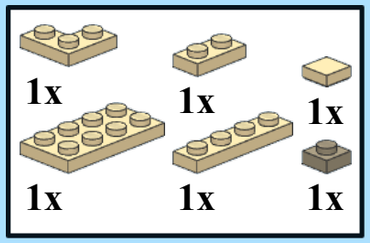

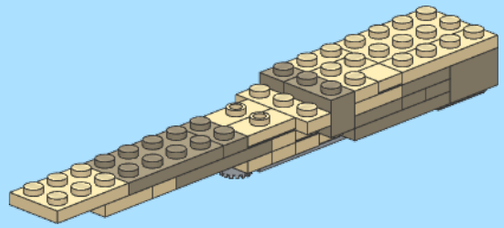

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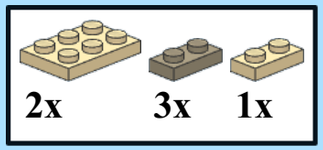

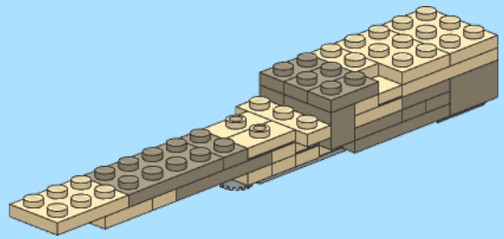

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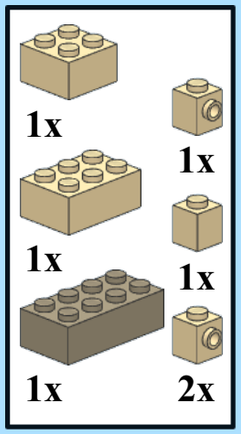

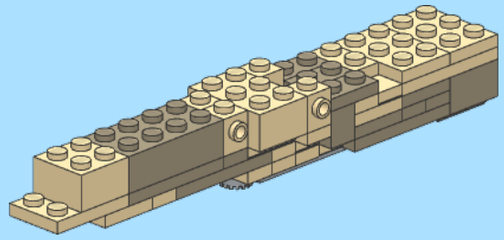

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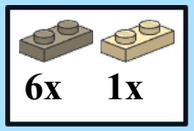

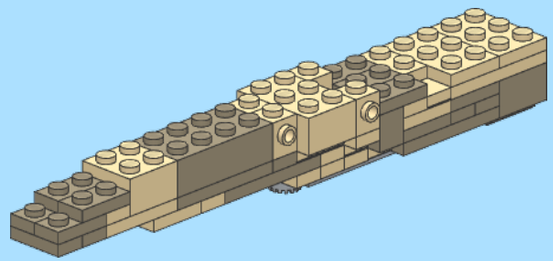

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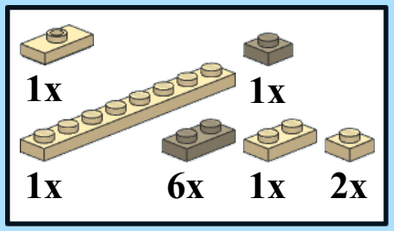

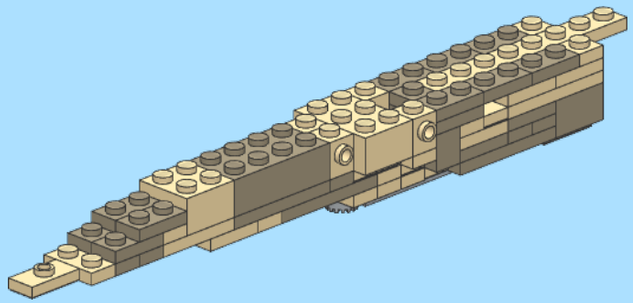

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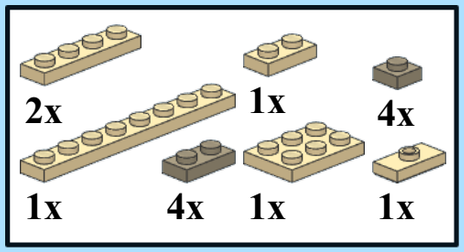

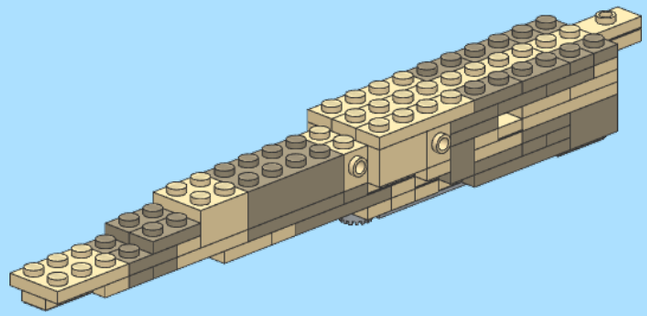

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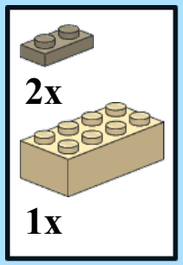

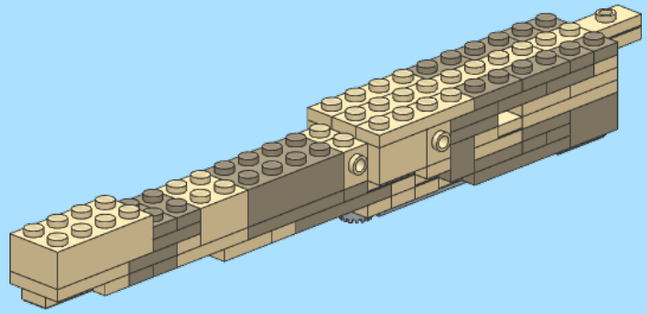

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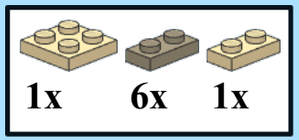

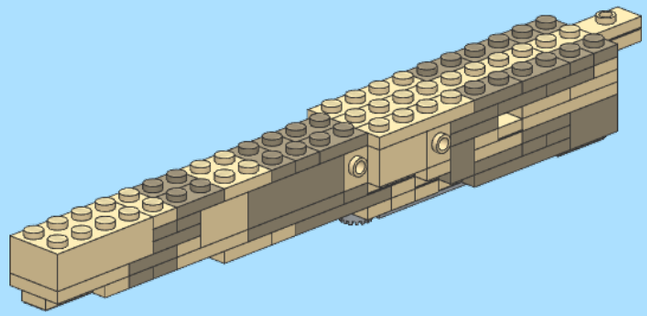

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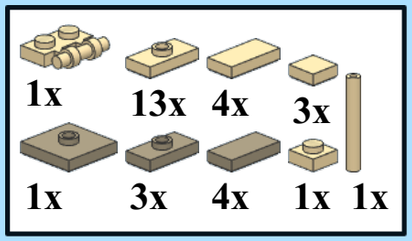

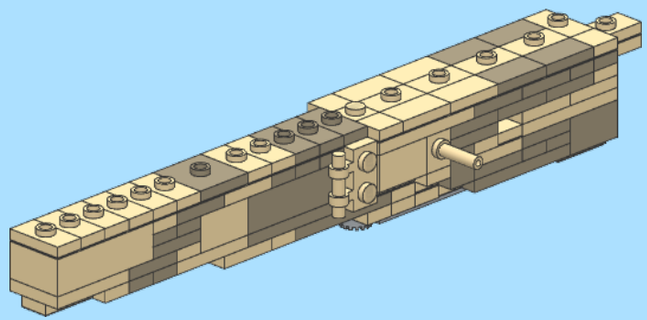

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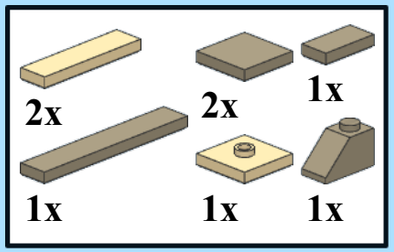

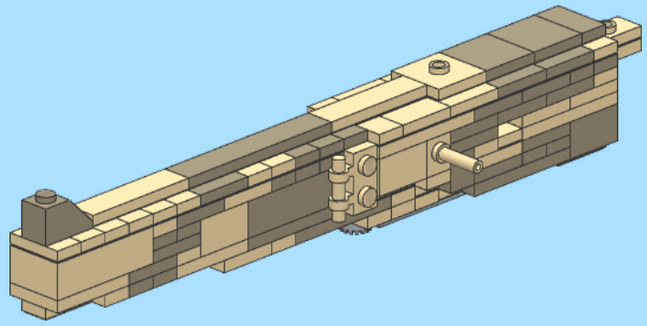

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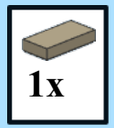

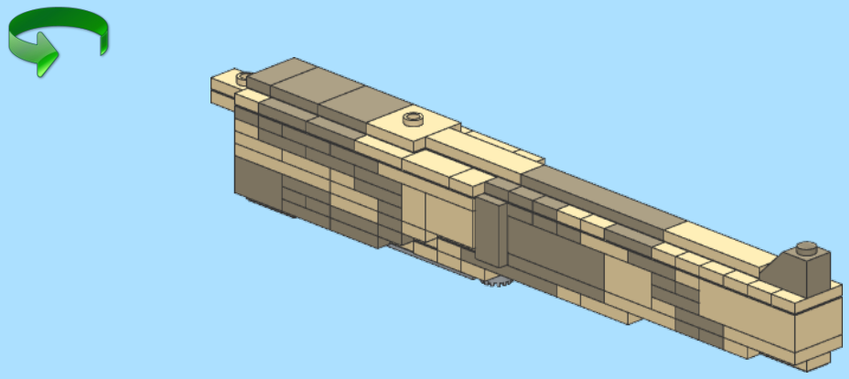

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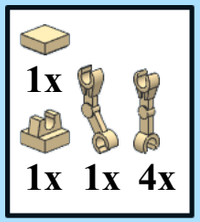

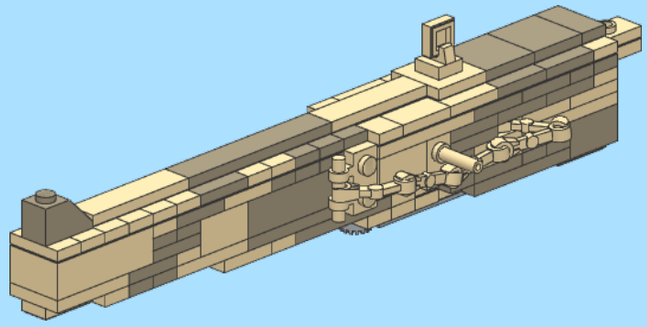

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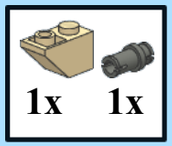

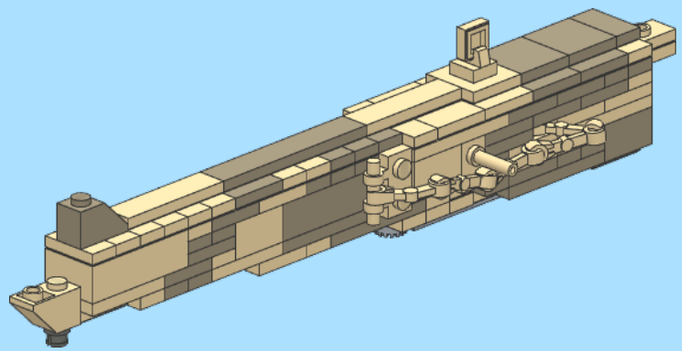

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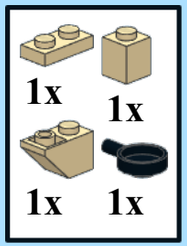

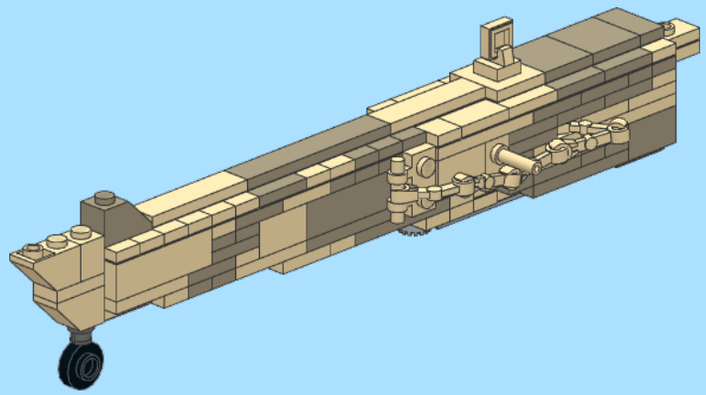

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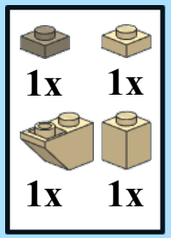

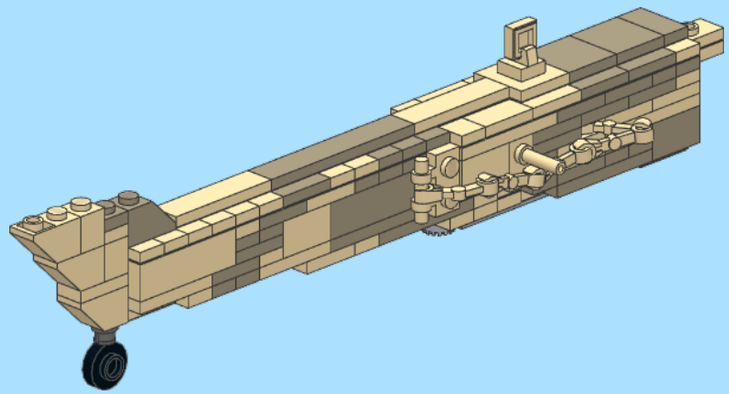

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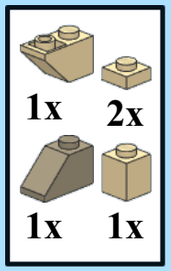

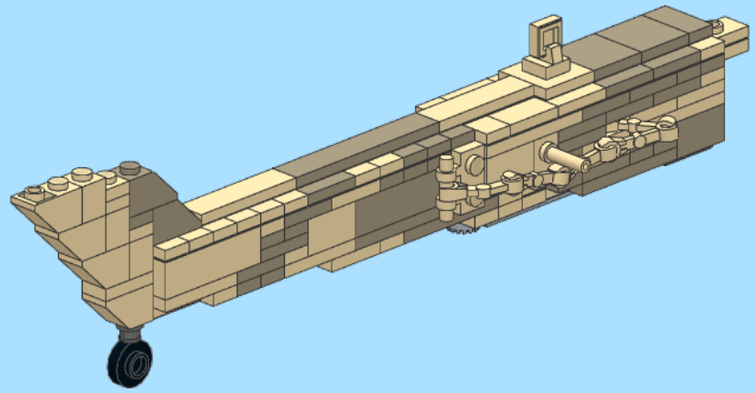

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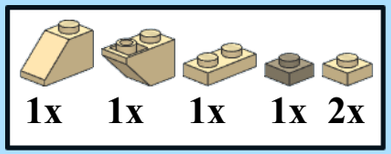

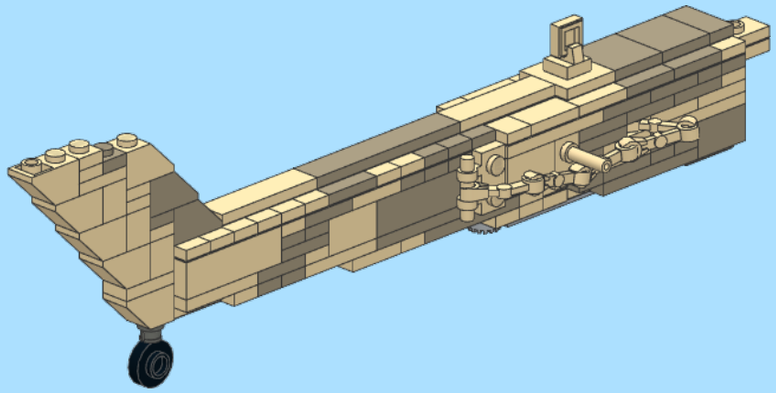

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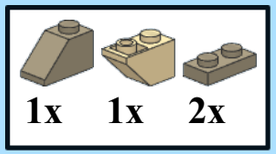

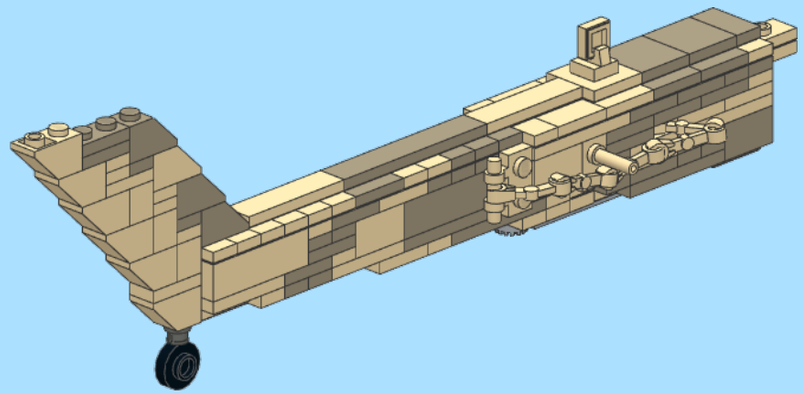

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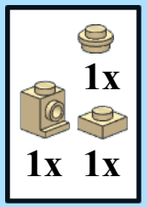

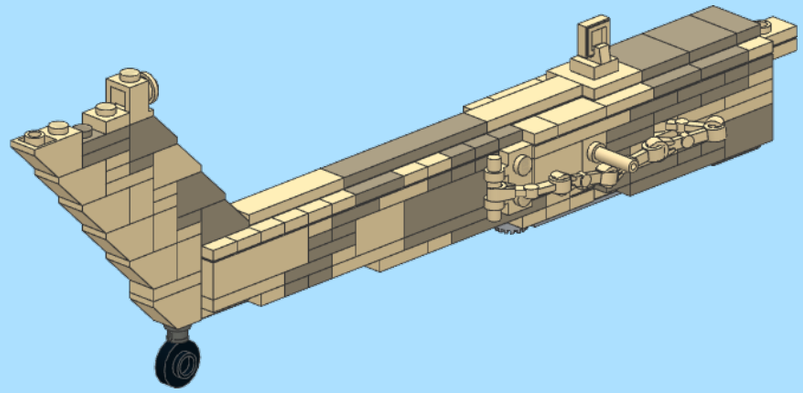

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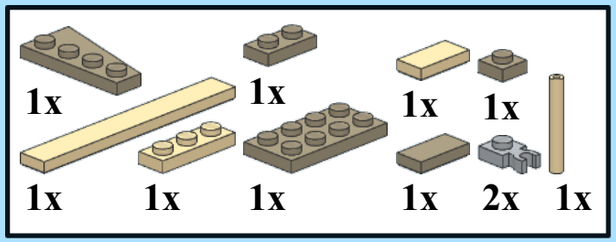

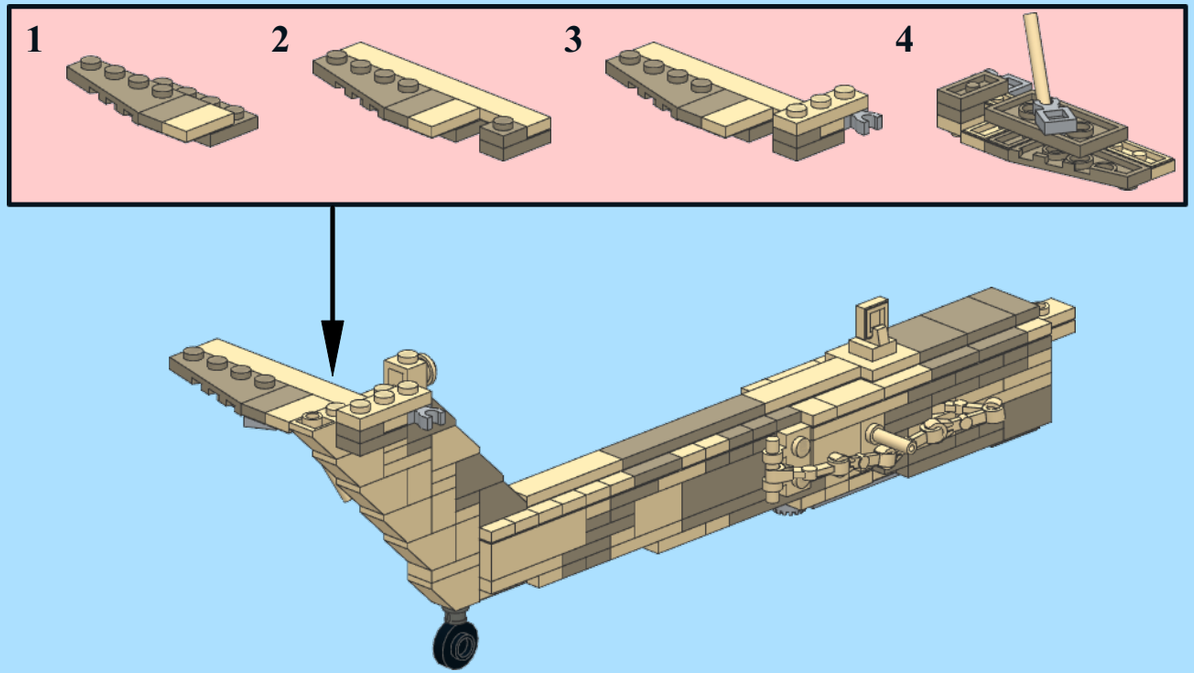

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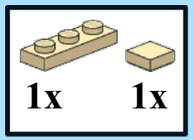

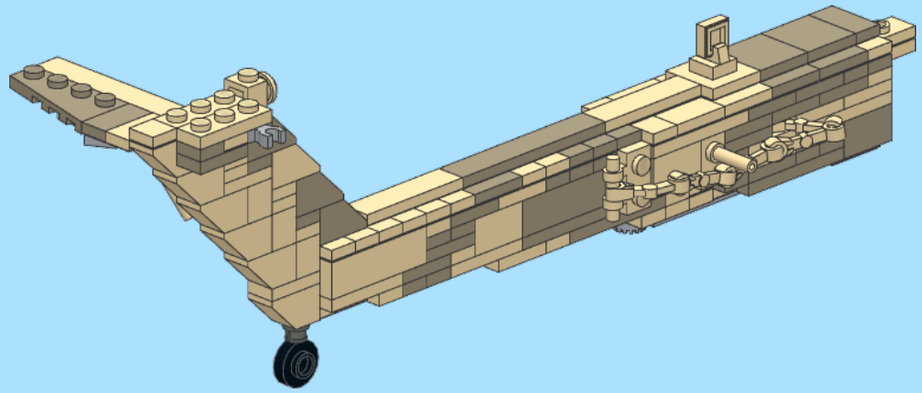

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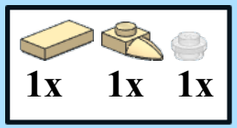

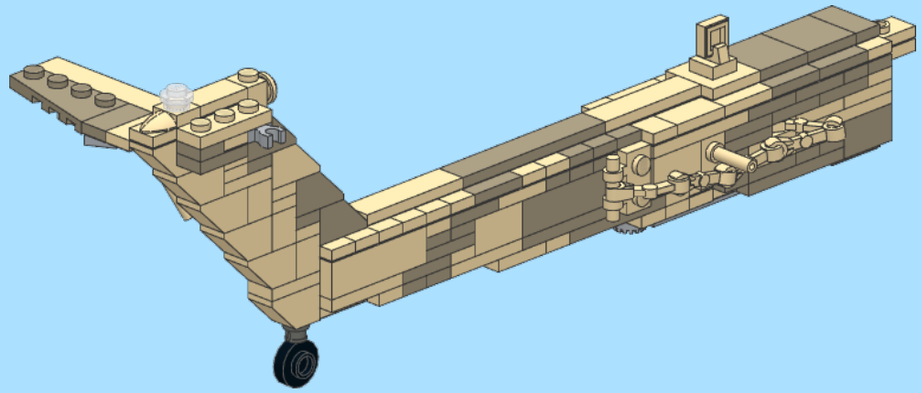

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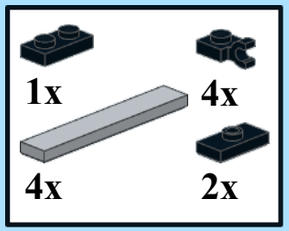

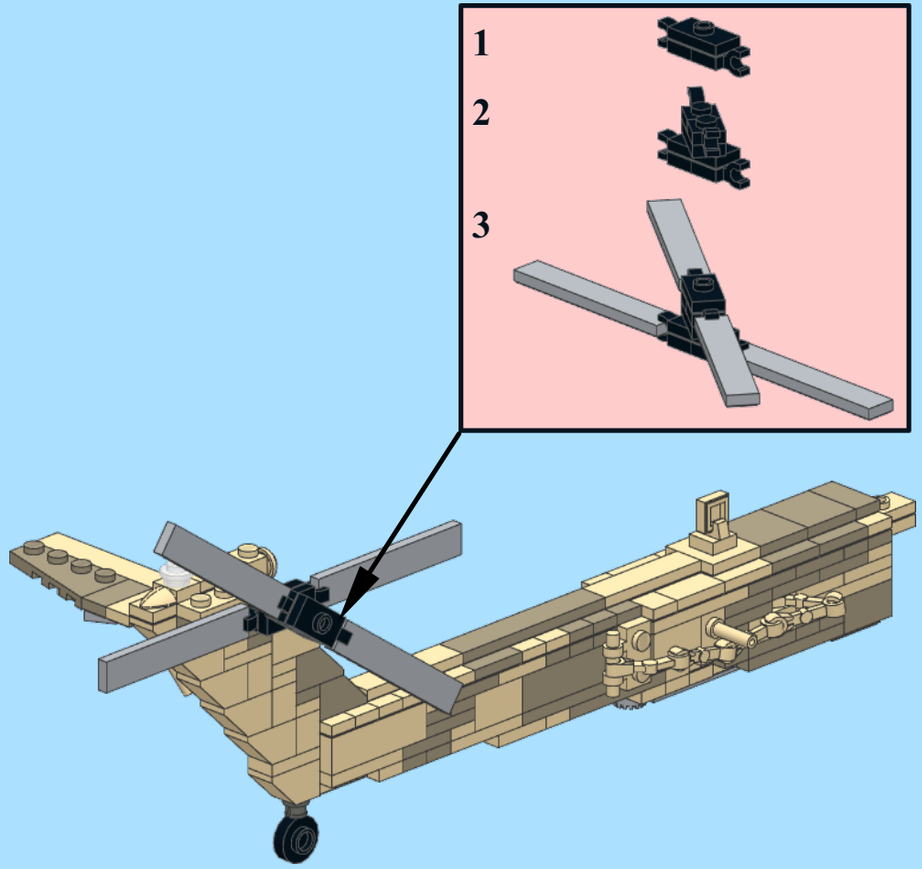

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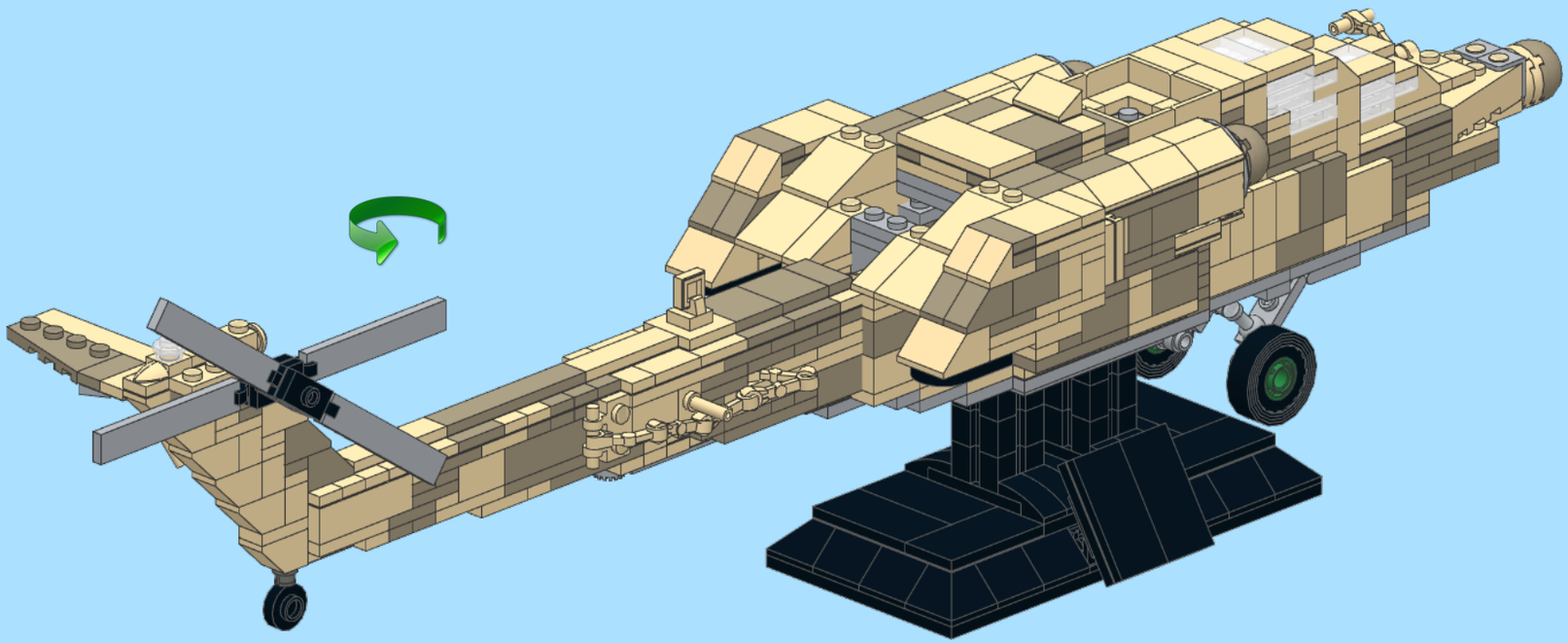

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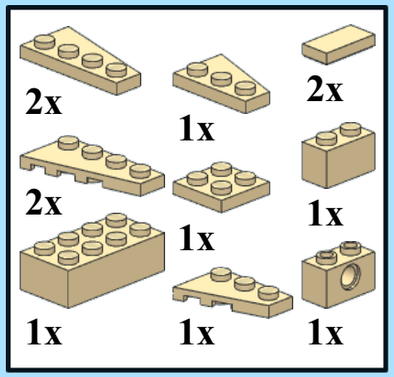

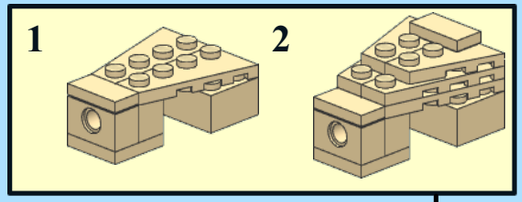

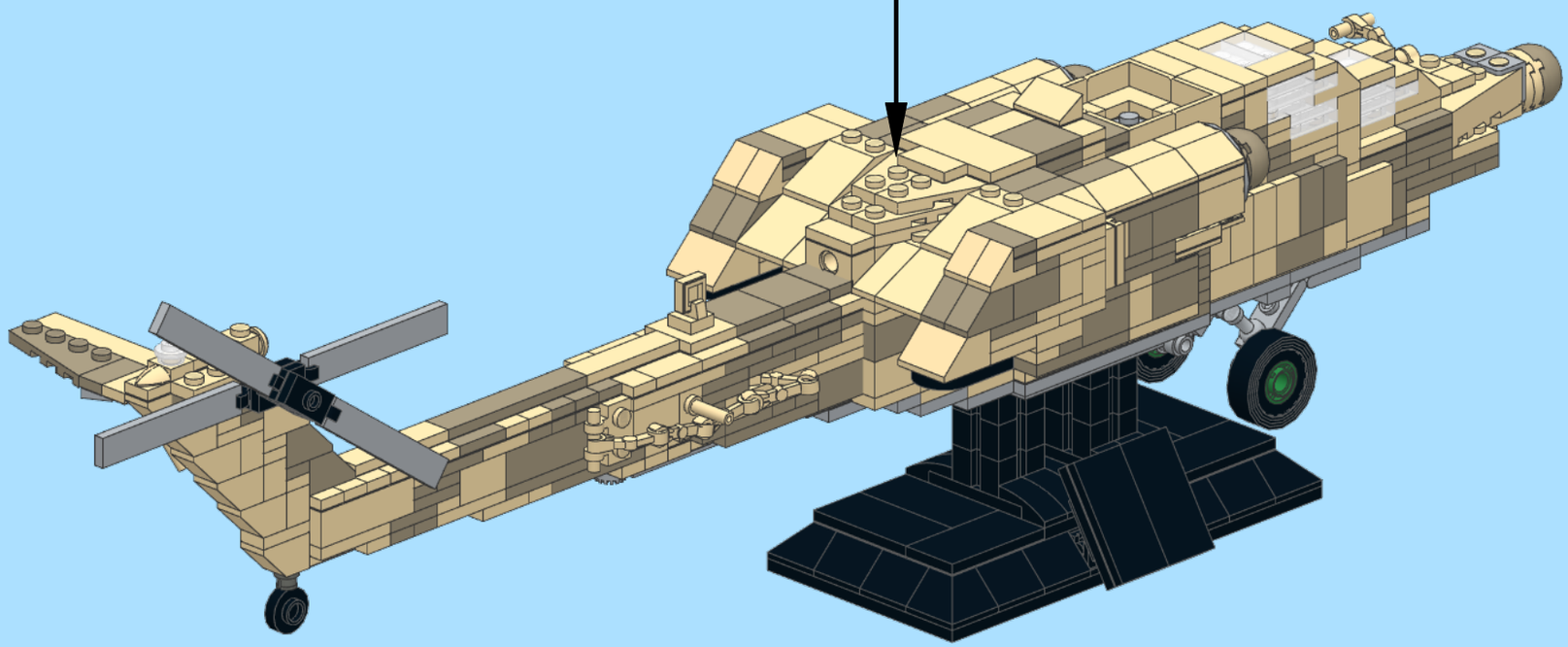

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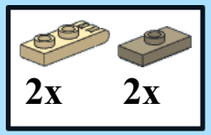

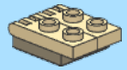

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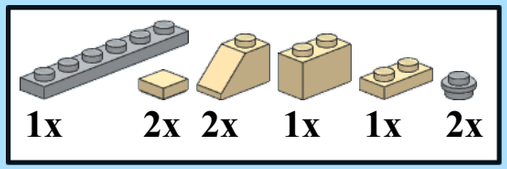

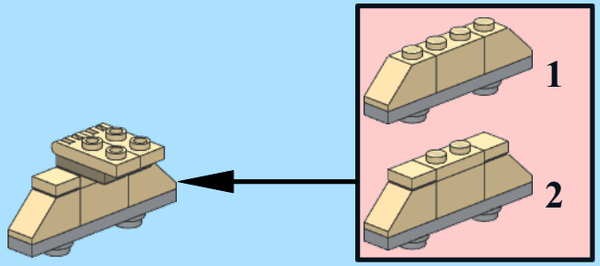

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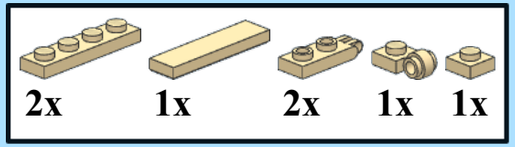

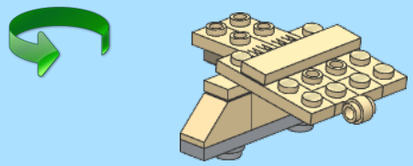

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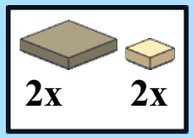

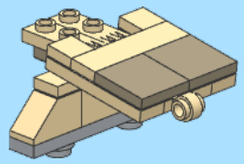

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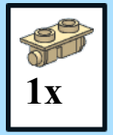

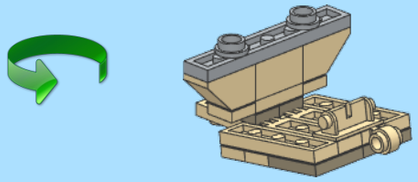

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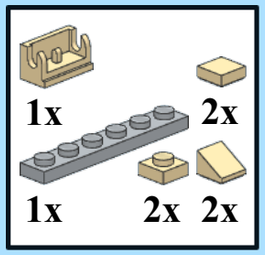

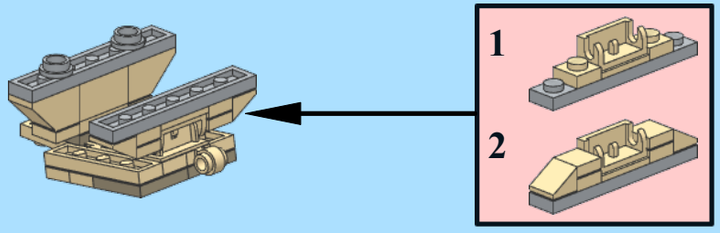

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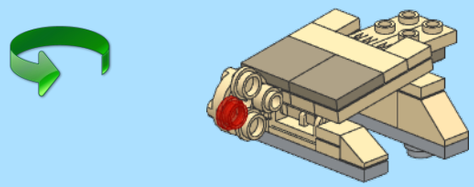

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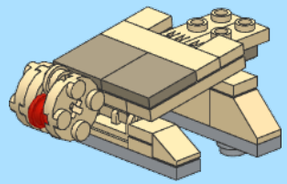

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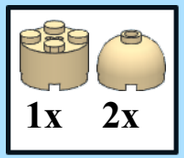

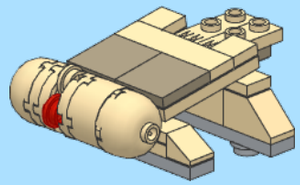

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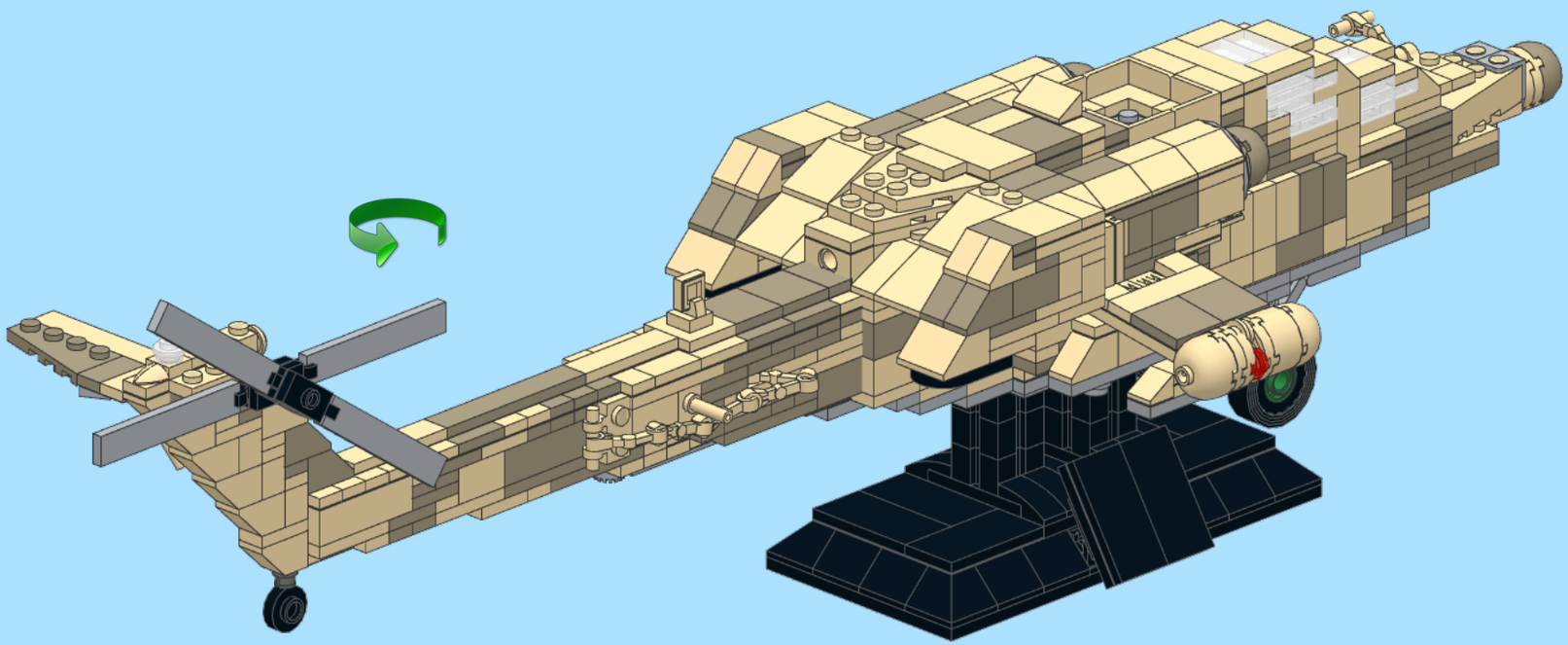

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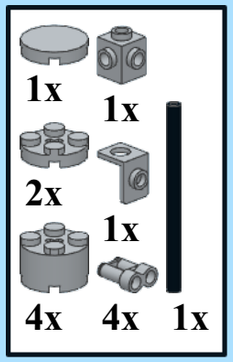

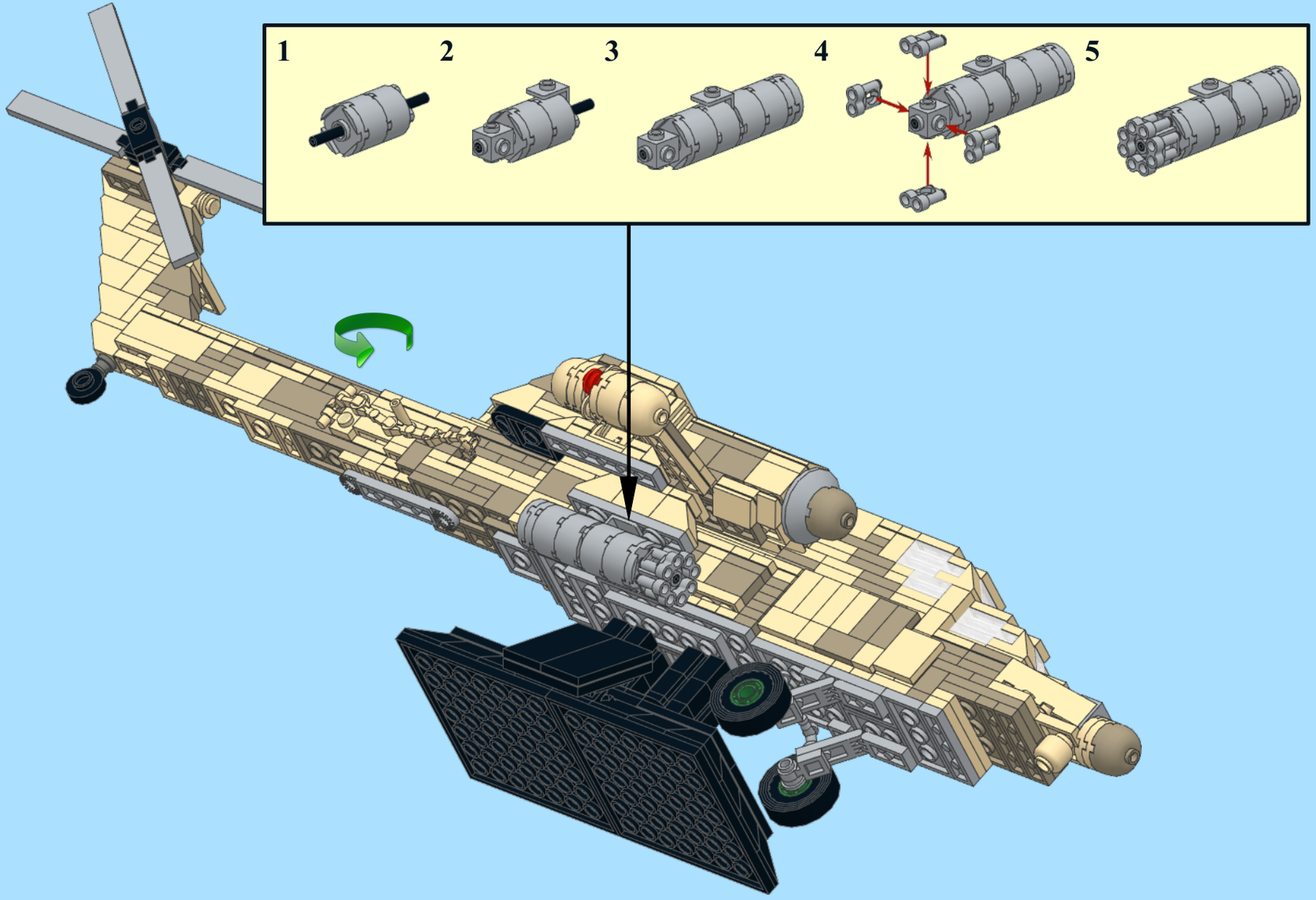

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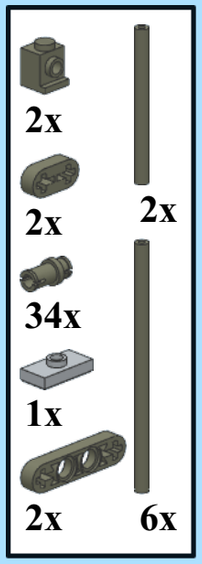

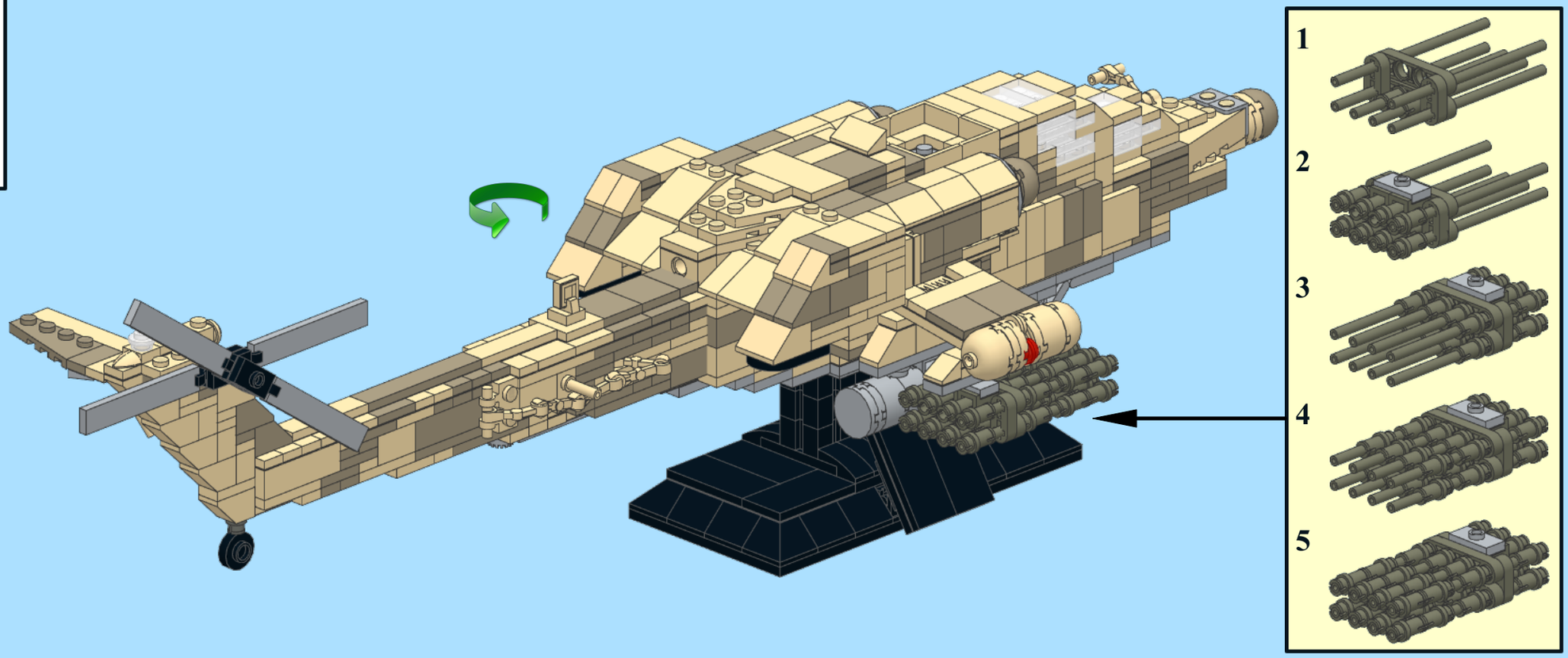

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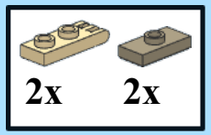

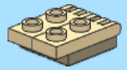

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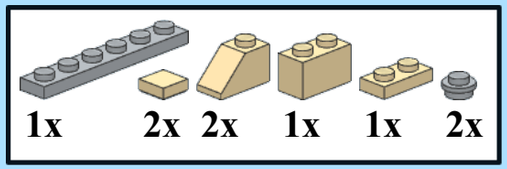

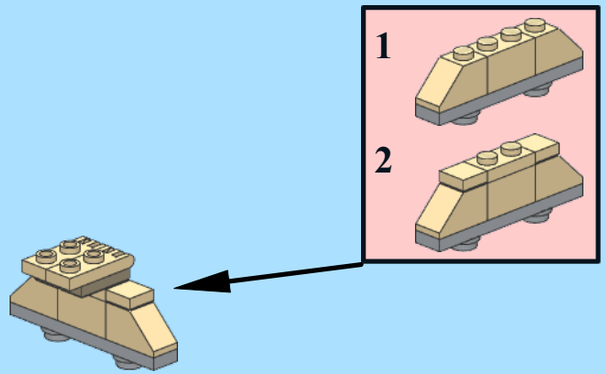

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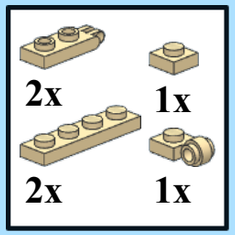

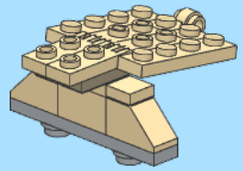

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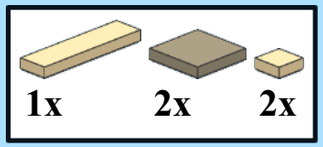

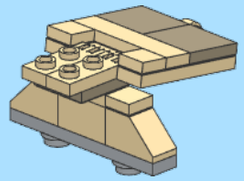

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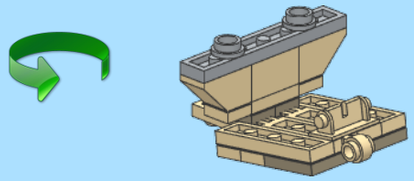

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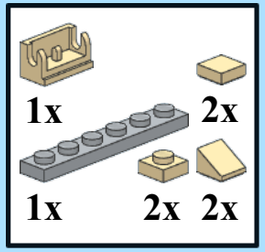

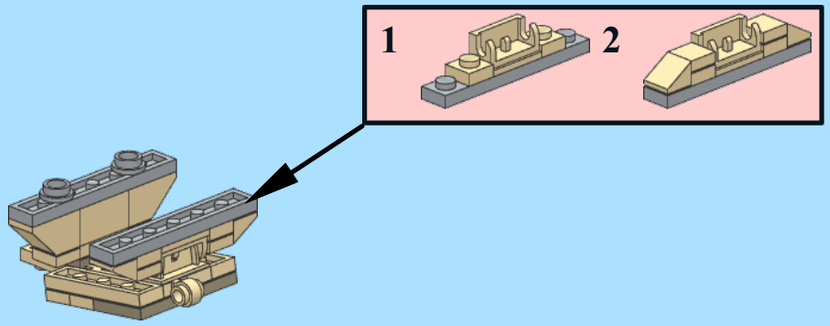

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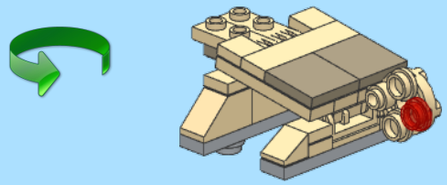

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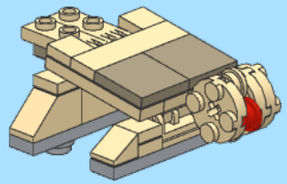

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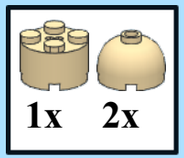

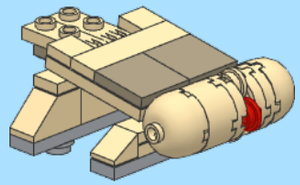

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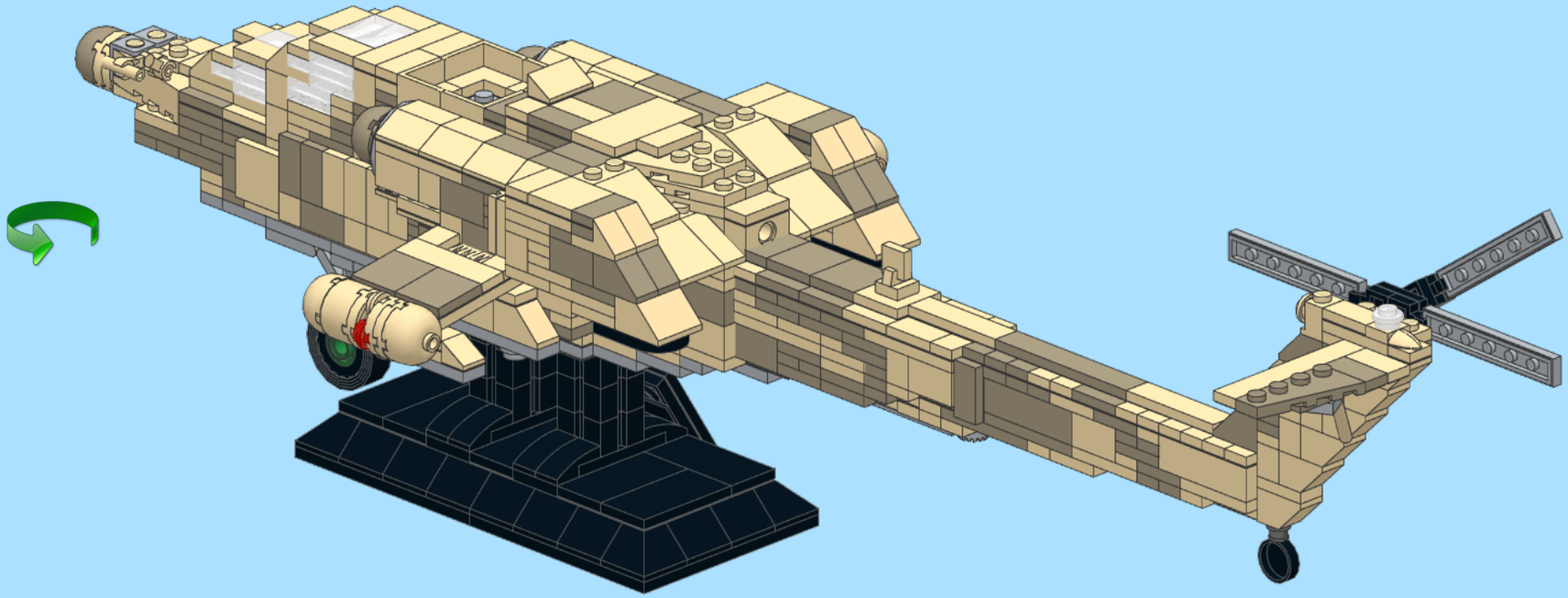

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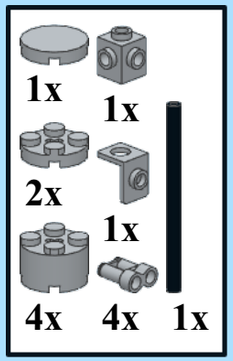

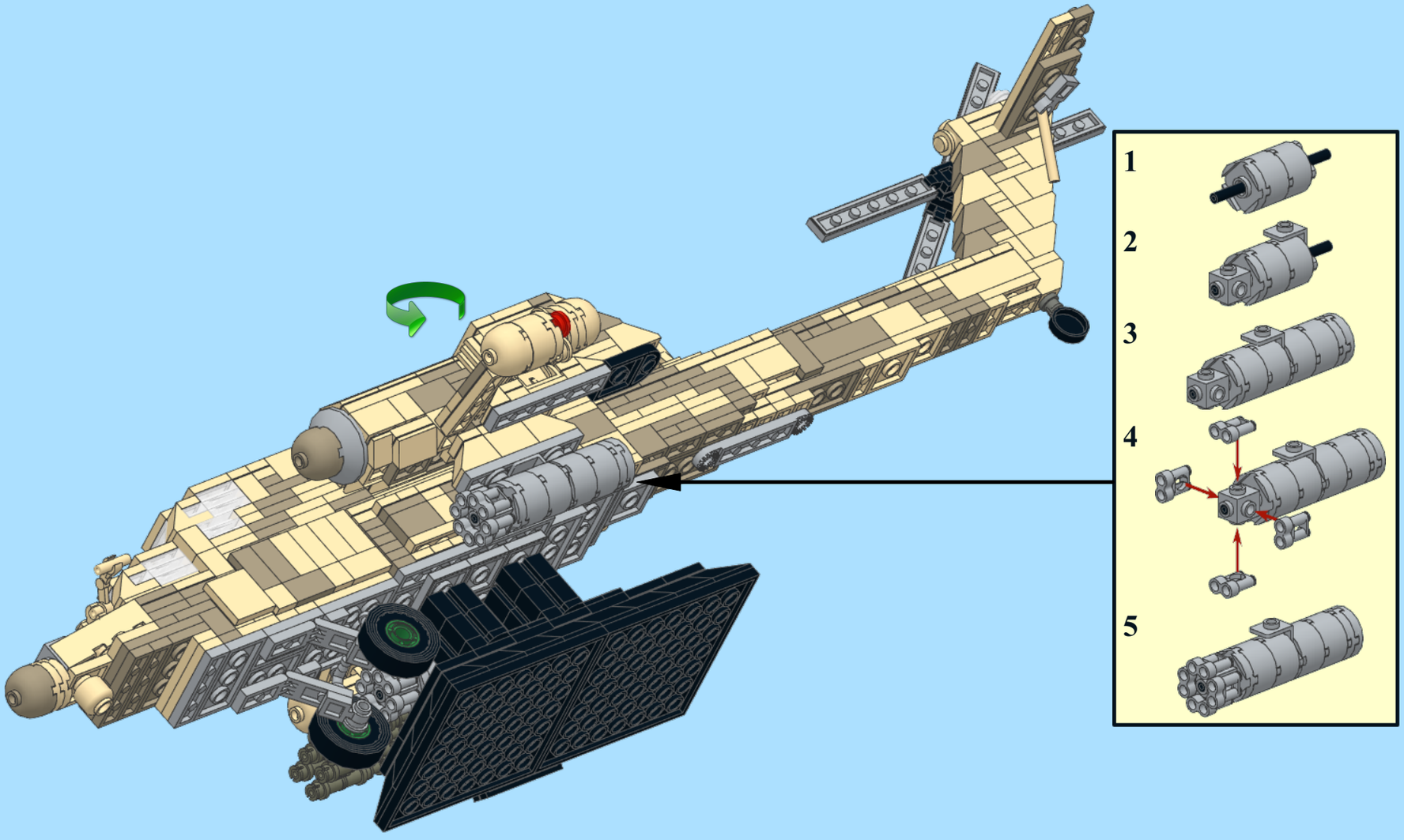

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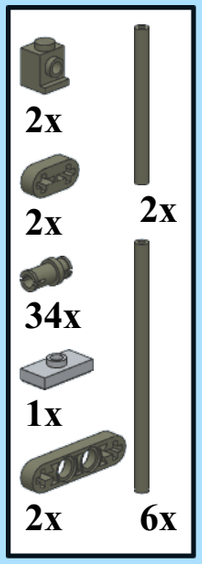

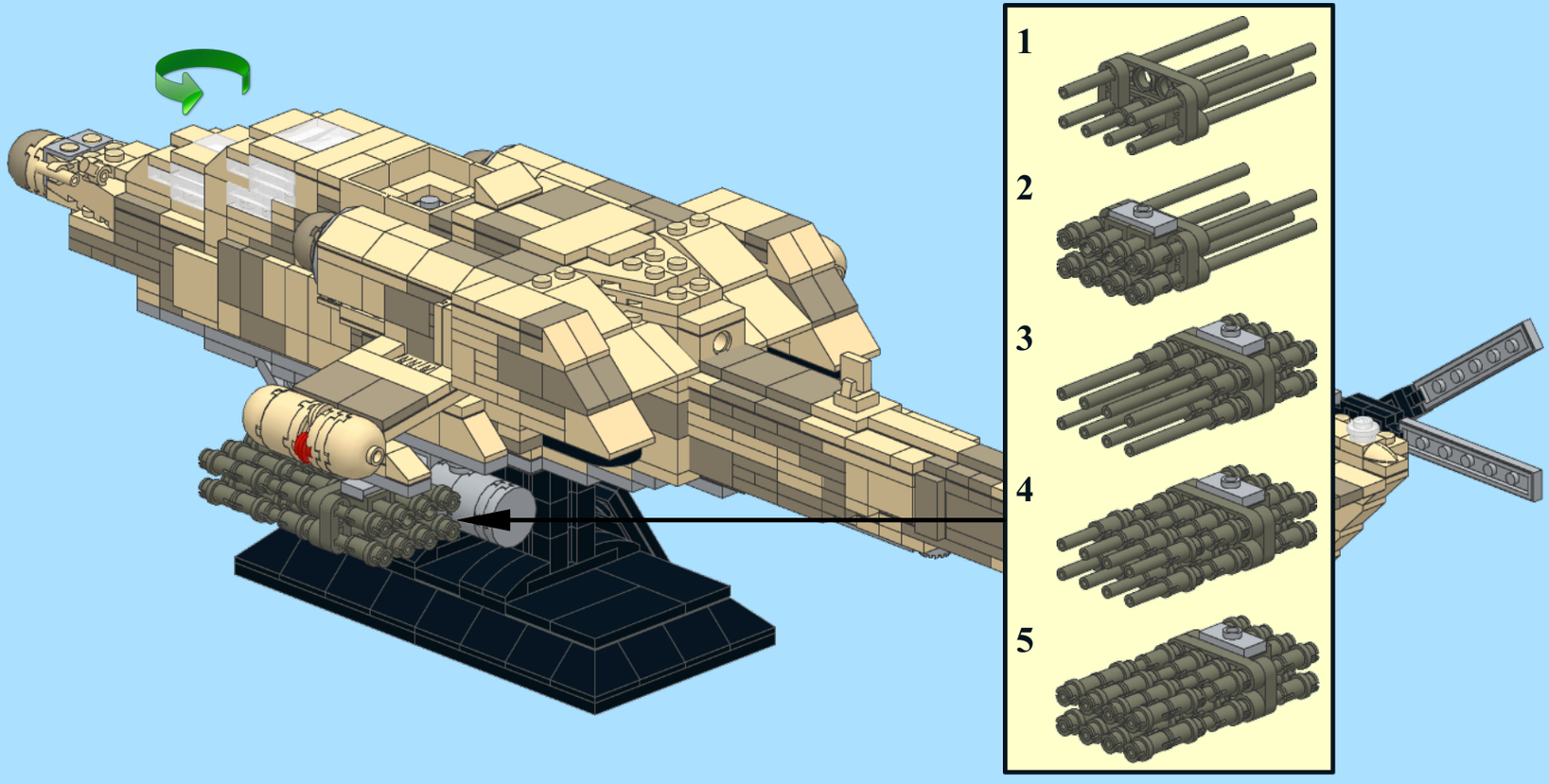

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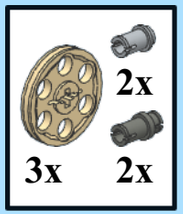

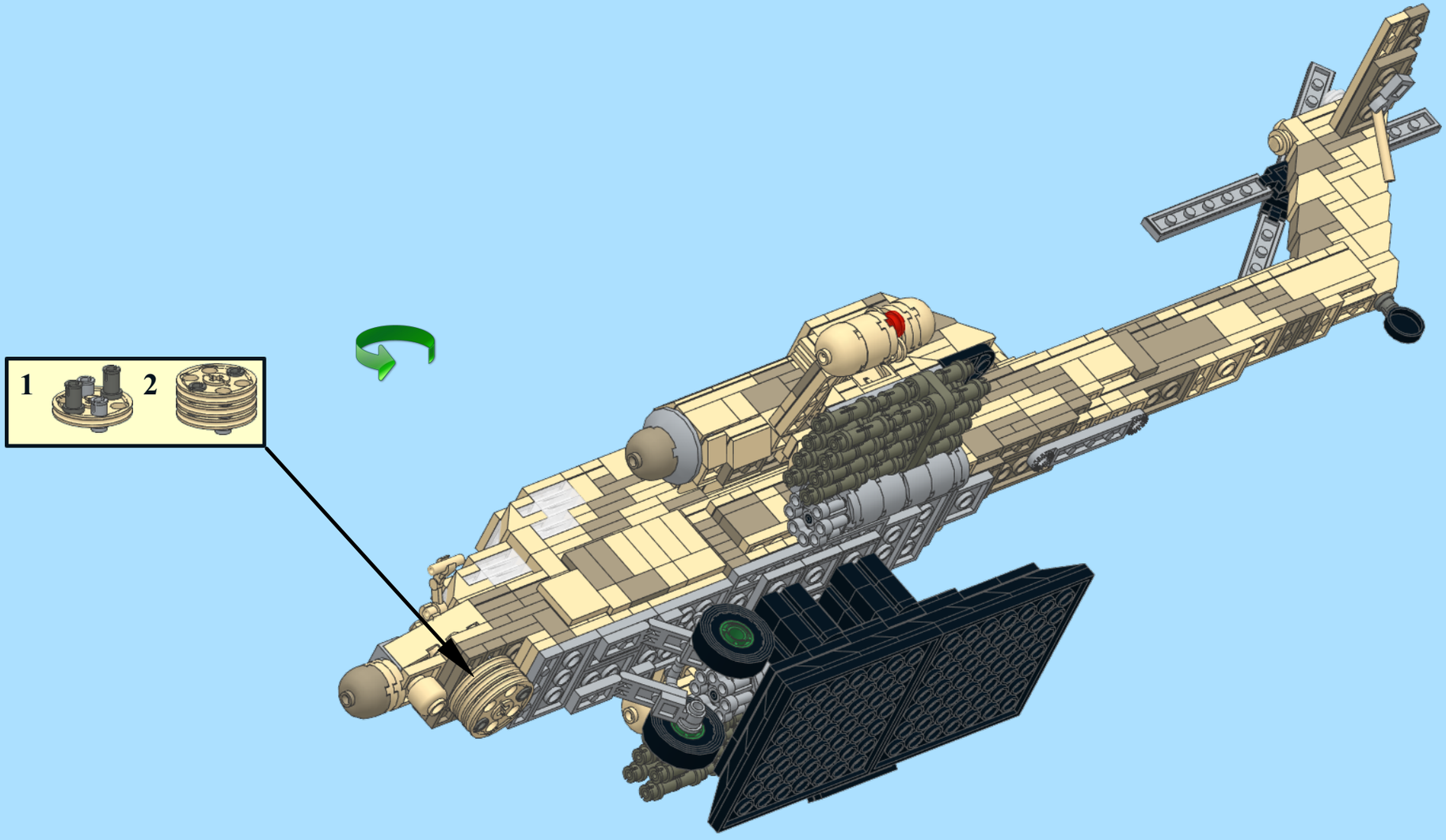

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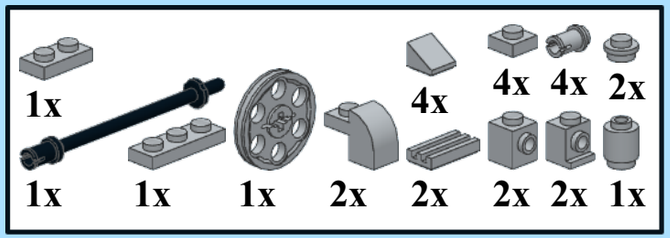

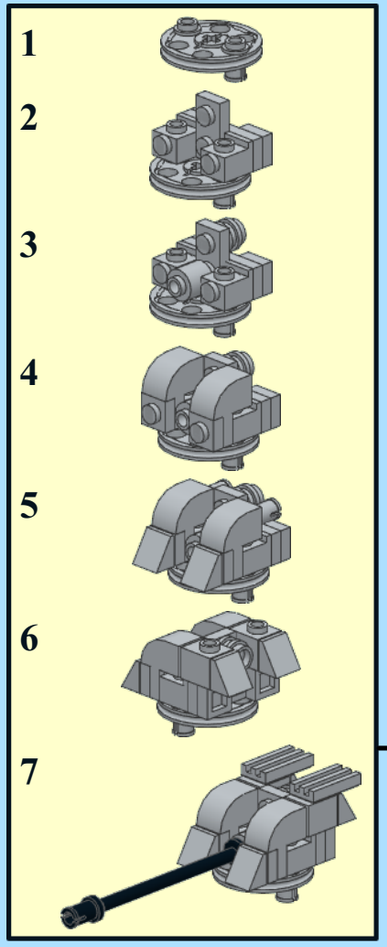

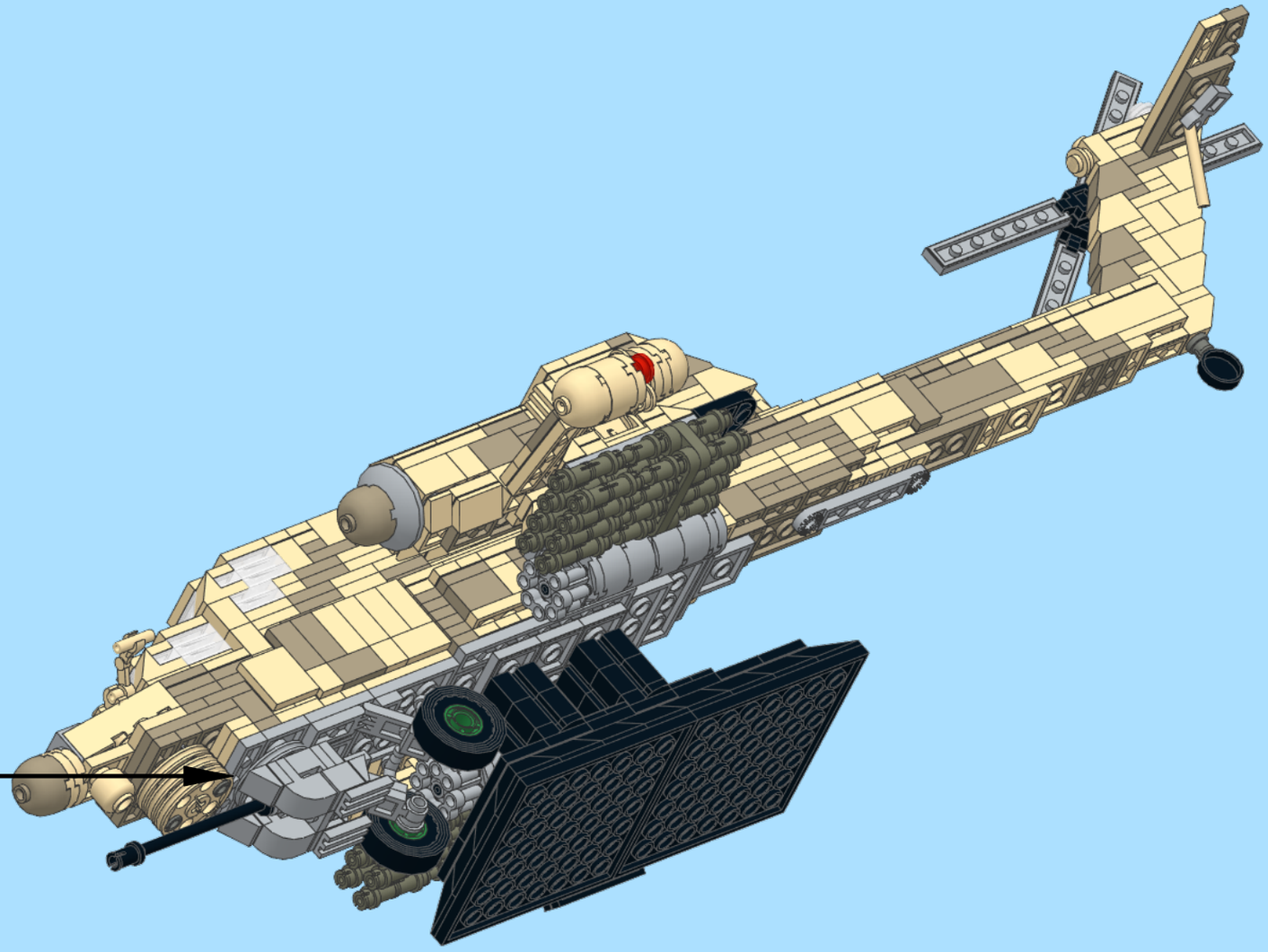

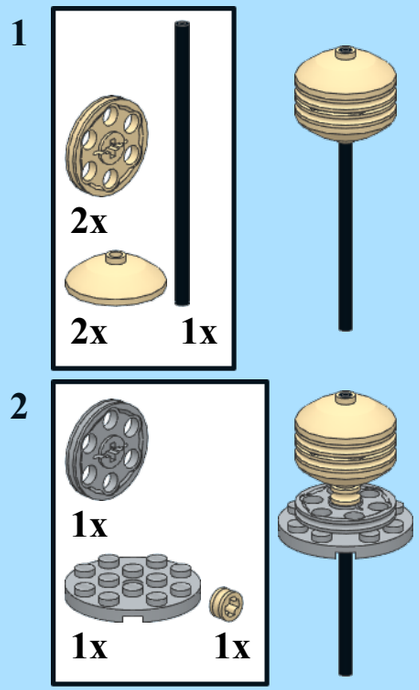

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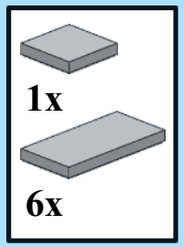

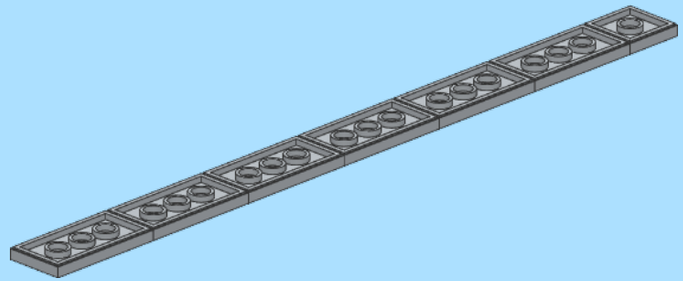

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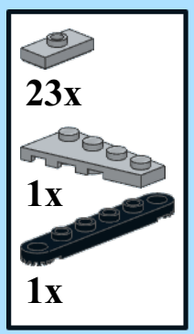

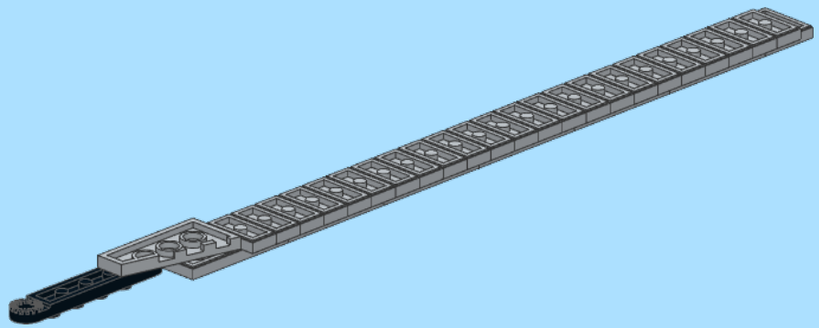

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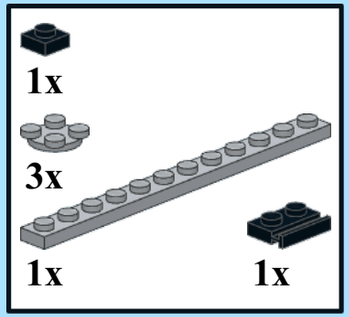

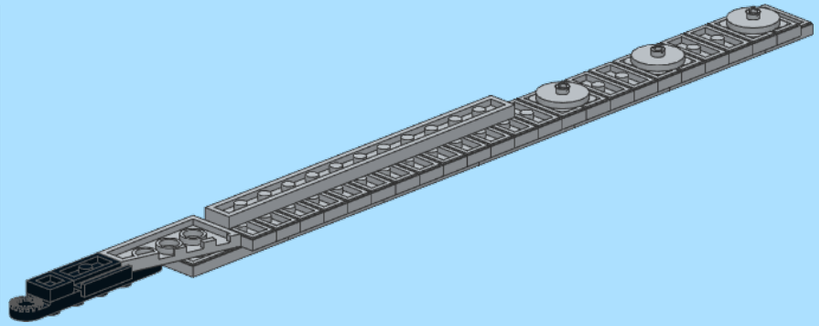

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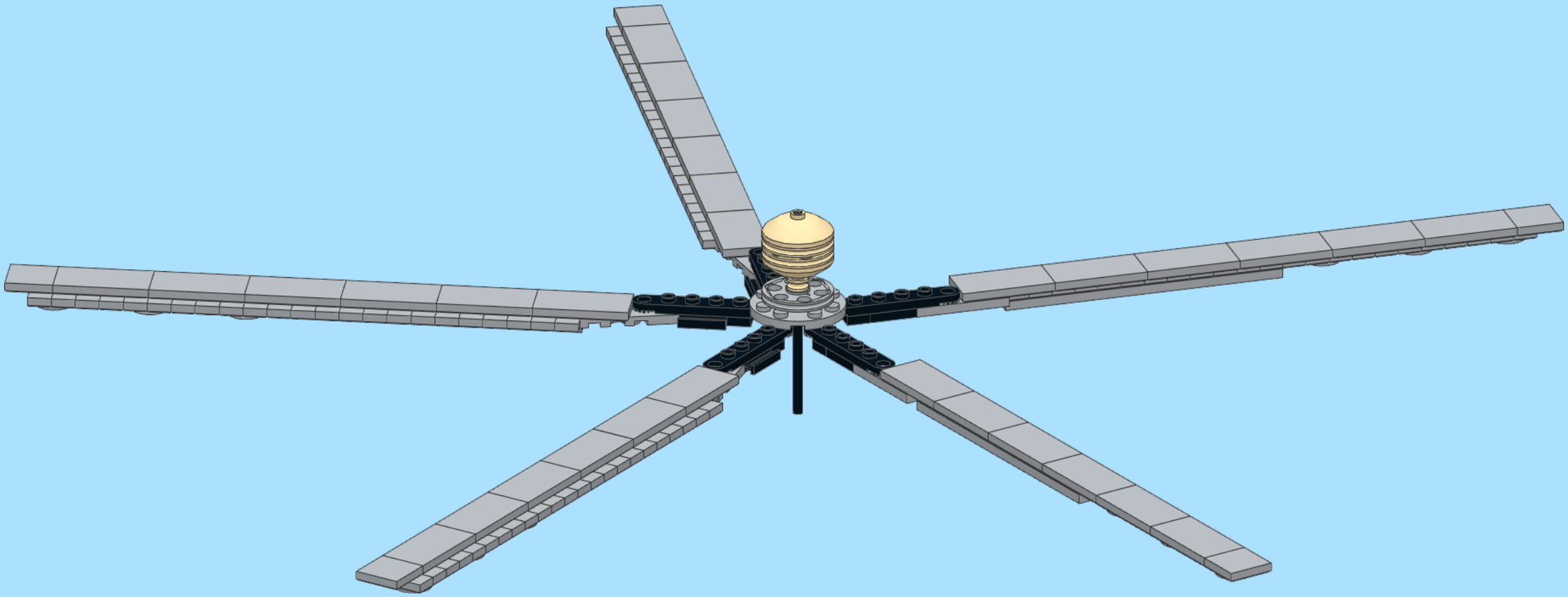

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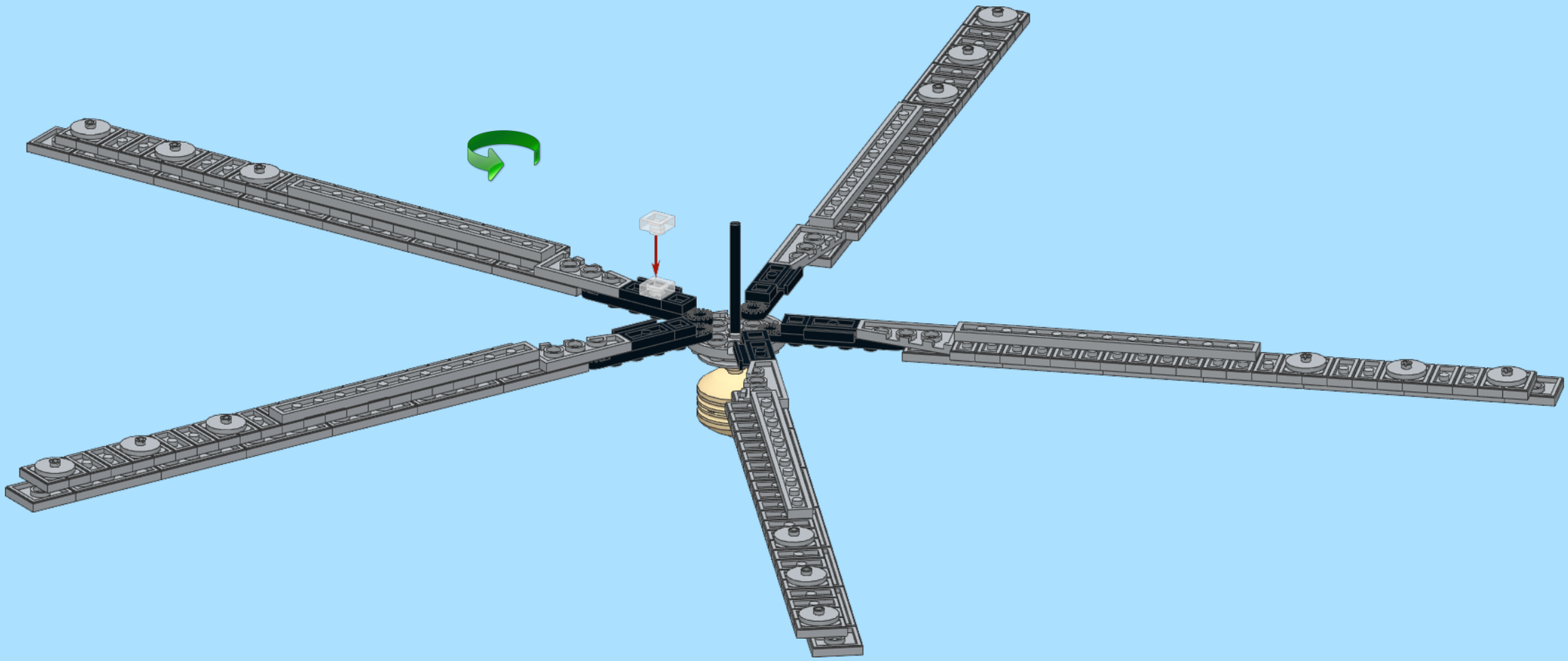

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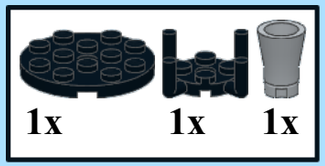

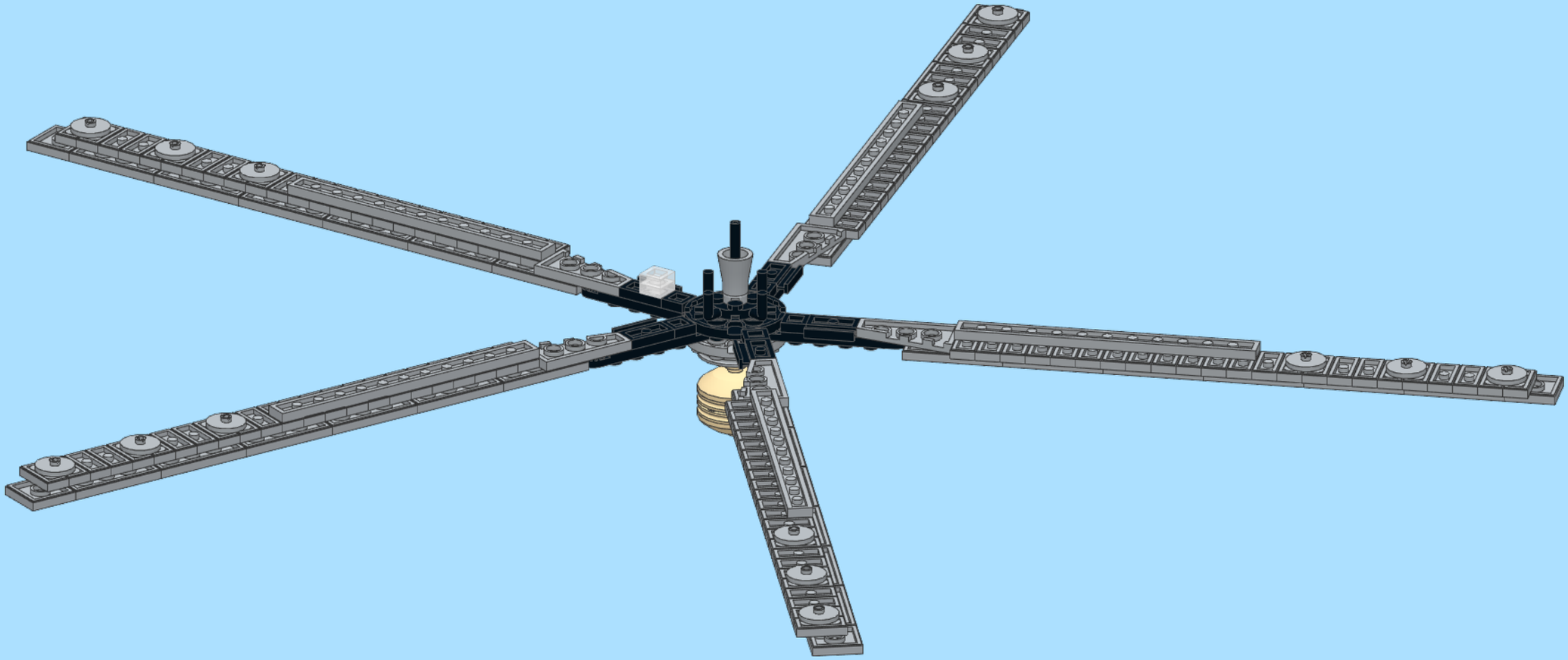

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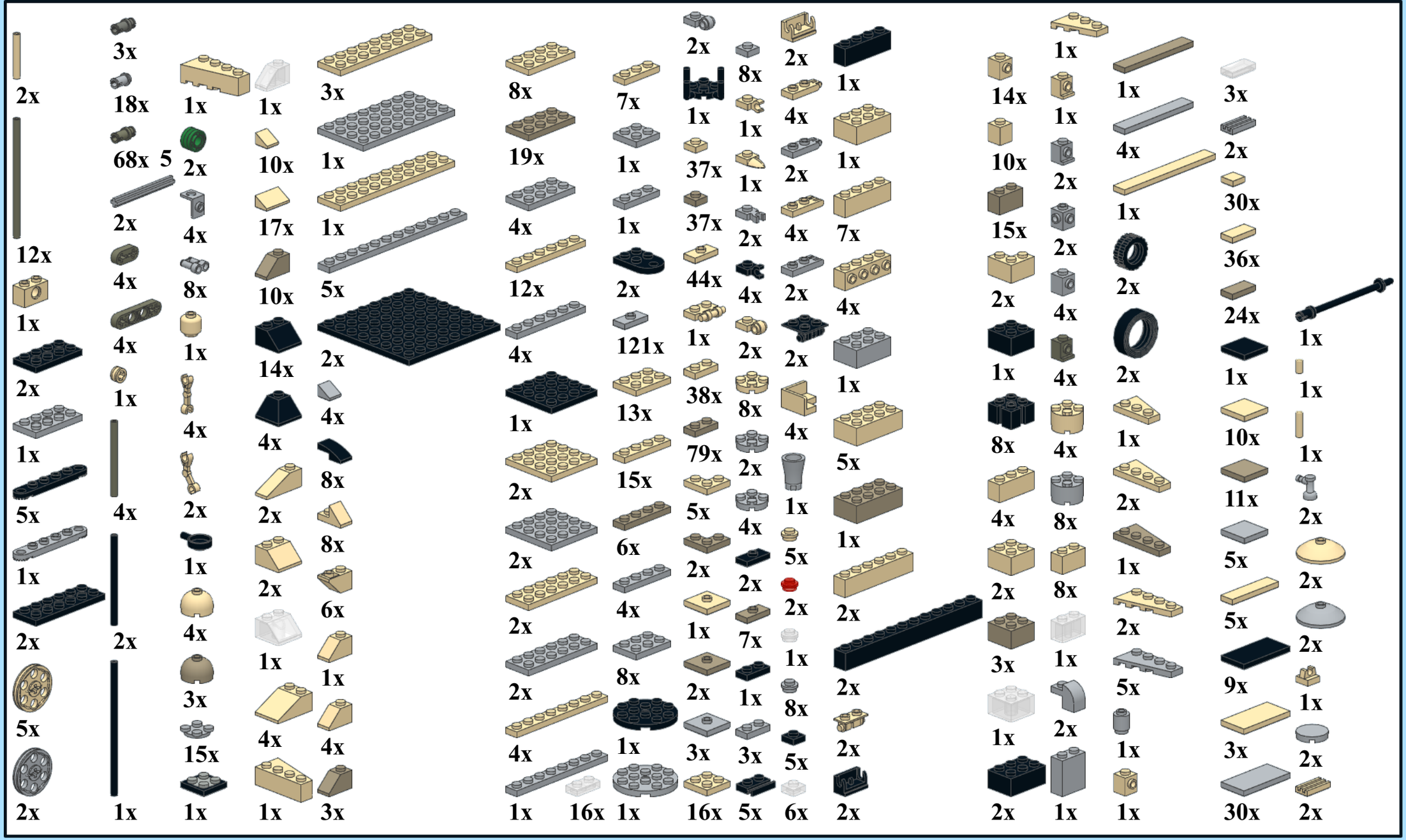

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