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# Una misión sin precedentes

En los años 70 y 80, la NASA y Boeing unieron sus fuerzas con el objetivo de crear una tecnología innovadora para transportar los orbitadores de la NASA, conocidos comúnmente como *lanzaderas espaciales*. La idea de un medio de transporte por aire surgió de un desafío tangible: los traslados terrestres resultaban demasiado complicados y llevaban mucho tiempo.

Los equipos de la NASA y Boeing colaboraron para explorar si un Boeing™ 747™, diseñado originalmente para fines comerciales, podría modificarse para servir como SCA (Shuttle Carrier Aircraft, Avión de Transporte de Lanzaderas Espaciales) y de qué manera hacerlo.

De 1974 a 1990, dos aviones Boeing 747 se sometieron con éxito a una serie de adaptaciones para transportar lanzaderas espaciales activas entre los lugares de aterrizaje y los complejos de lanzamiento. En su mayoría, los vuelos tendrían como origen o destino el Centro Espacial Kennedy de la NASA, situado en Florida.

La NASA adquirió el primer SCA Boeing 747 a una aerolínea comercial en 1974. Después de usarlo para estudiar los efectos de las estelas turbulentas, se le hicieron las modificaciones necesarias para llevar a cuestas una lanzadera espacial. Desempeñó un papel clave en las pruebas de aproximación y aterrizaje del Enterprise, el prototipo del orbitador, efectuadas en 1977. Este avión realizó la mayoría de las misiones de traslado de las lanzaderas y, además, entregó las naves retiradas a los museos que las albergarían. Tras su último vuelo en 2012, hoy se exhibe en el Centro Espacial Houston de la NASA.

El segundo SCA Boeing 747 prestó servicio de 1990 a 2012, y acumuló un total de más de 33.000 horas de vuelo desde su construcción. Ahora se expone en un museo del patrimonio aeroespacial en California.

# Preparación para el primer lanzamiento

Los dos SCA presentaban modificaciones únicas. Se eliminó la mayor parte de los accesorios del interior para reducir su peso y dar cabida al equipo necesario para llevar las lanzaderas.

### ESTABILIZADORES VERTICALES:

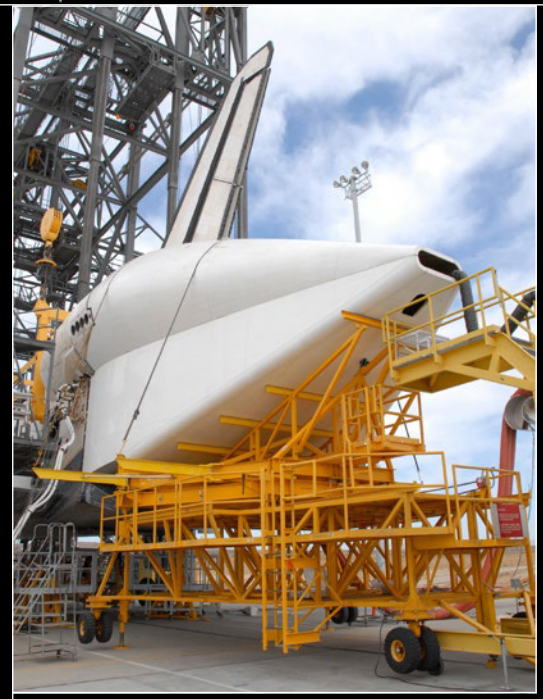
*Se colocaron dos estabilizadores verticales adicionales, uno en cada extremo del estabilizador horizontal estándar, para mejorar la estabilidad durante el vuelo.*

### FUENTES DE ALIMENTACIÓN ADICIONALES:

*Se agregaron fuentes de alimentación y cableado, principalmente para alimentar los calentadores del sistema de fluidos y las bombas del circuito de refrigeración por agua del orbitador durante las operaciones de traslado.*

### SOPORTES DE MONTAJE DEL ORBITADOR:

*Se instalaron tres soportes de montaje (uno a proa y dos a popa) para fijar la lanzadera espacial a la aeronave.*



### CONO DE COLA:

*El motor posterior de la lanzadera espacial se tapaba con una cubierta especial para mejorar su rendimiento aerodinámico durante el transporte.*

### MEJORAS EN LOS MOTORES AERONÁUTICOS:

*Se adecuaron los motores Pratt & Whitney JT9D a fin de aumentar su potencia.*

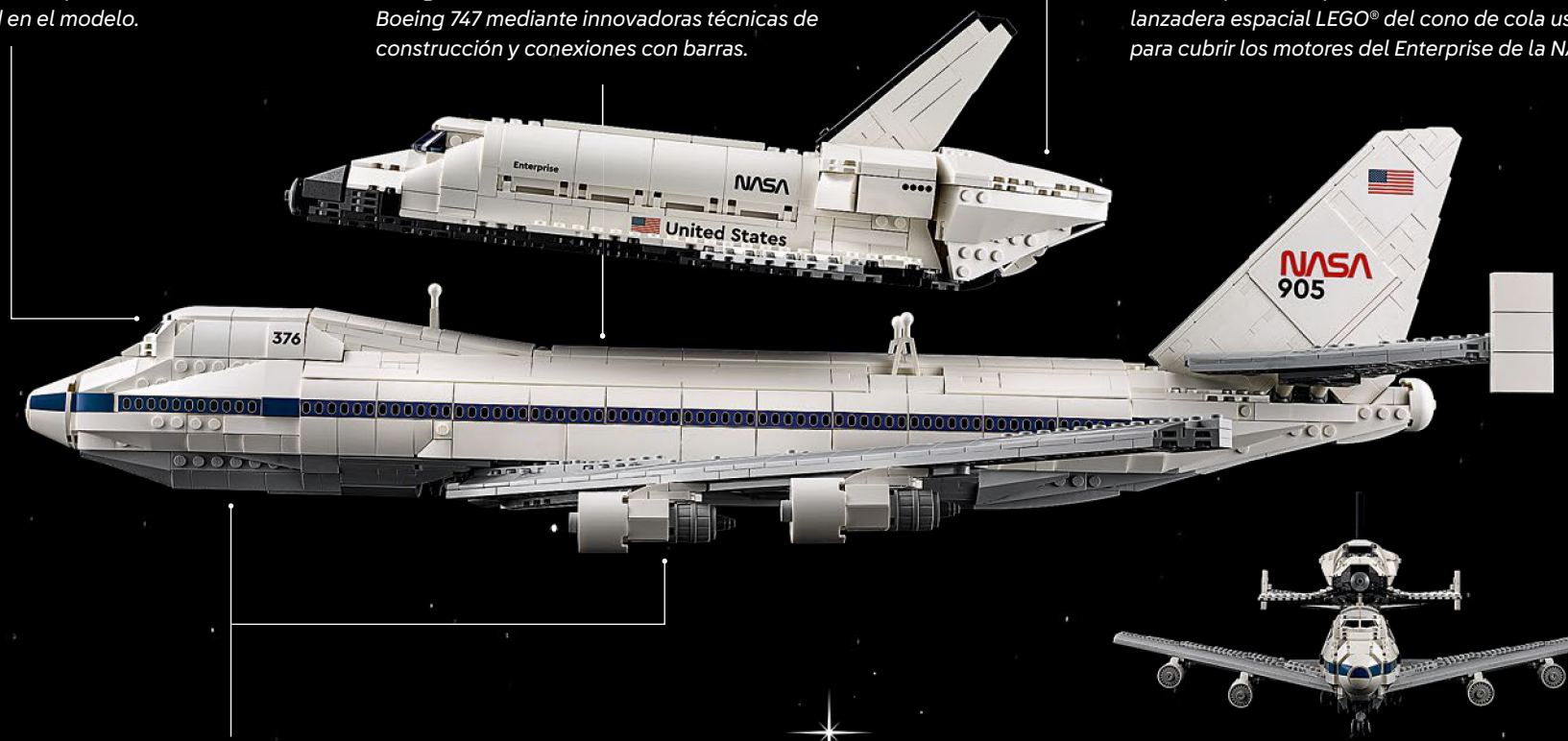
# Impresiones del equipo de diseño de LEGO® Icons

En 1983, el primer SCA Boeing™ 747™ y el orbitador Enterprise de la NASA se presentaron juntos en Francia, en el Paris Air Show, como parte de su única gira internacional. Con la ayuda de los equipos de la NASA y Boeing, desarrollamos nuevas soluciones y elementos de construcción para capturar detalles de diseño y funciones específicos en esta singular pieza de exposición. Esperamos que disfrutes construyendo esta maravilla de la ingeniería aeronáutica tanto como nosotros creándola.

**CABINA:**
*Las características curvas de la cabina y el morro de la aeronave de verdad se reproducen con fidelidad en el modelo.*

**FUSELAJE:**
*Se logra recrear la uniforme silueta tubular del Boeing 747 mediante innovadoras técnicas de construcción y conexiones con barras.*

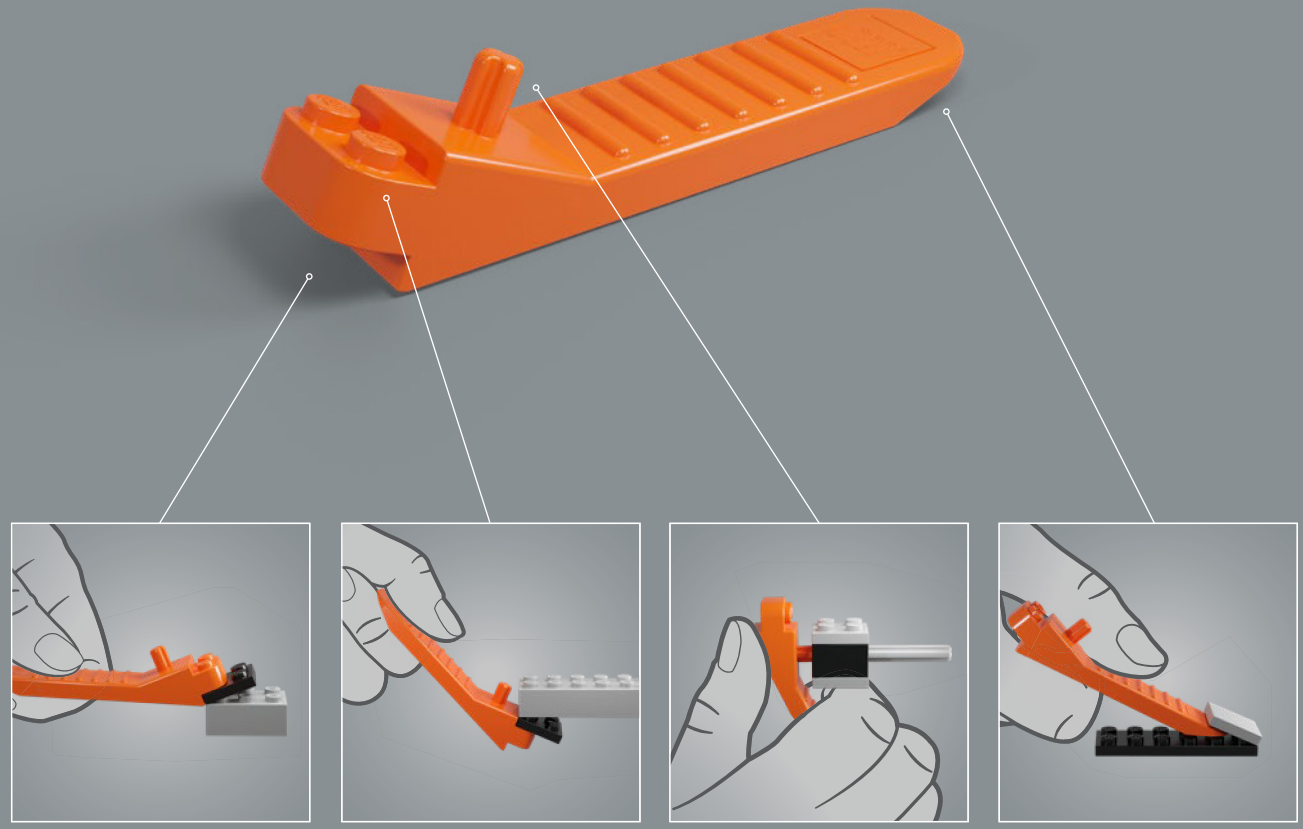
**CONO DE COLA:**
*Esta es la primera representación en una lanzadera espacial LEGO® del cono de cola usado para cubrir los motores del Enterprise de la NASA.*

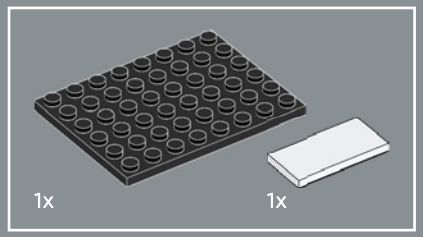





**TREN DE ATERRIZAJE:**
*Este es oficialmente el primer avión LEGO® con cinco trenes de aterrizaje sincronizados. Un nuevo elemento de bogie sostiene las cuatro ruedas de cada tren de aterrizaje principal.*

**ALAS:**
*Un conjunto de construcciones triangulares, una horizontal y otra vertical, ayudan a dar forma al borde de ataque curvo de las alas del Boeing™ 747™ y su ángulo diedro ligeramente positivo.*

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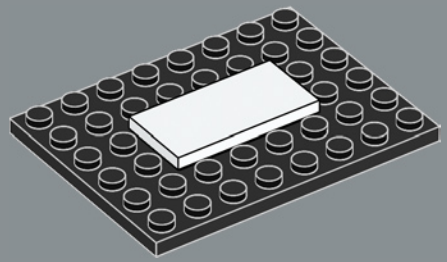

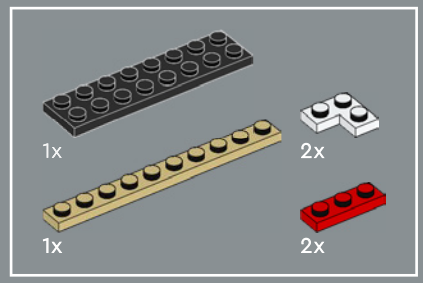


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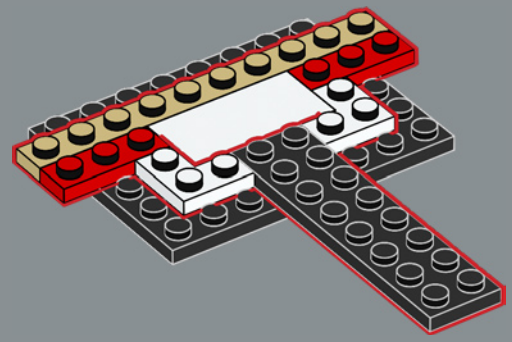

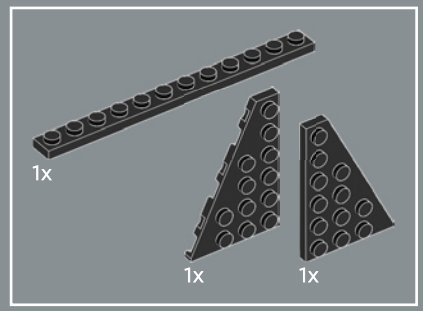


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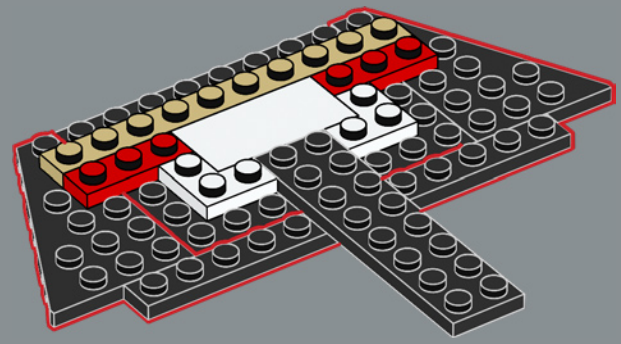

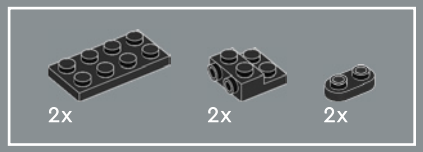


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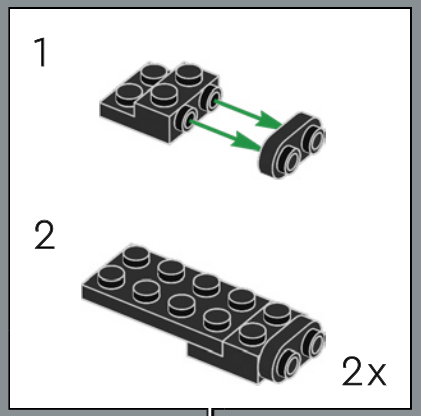


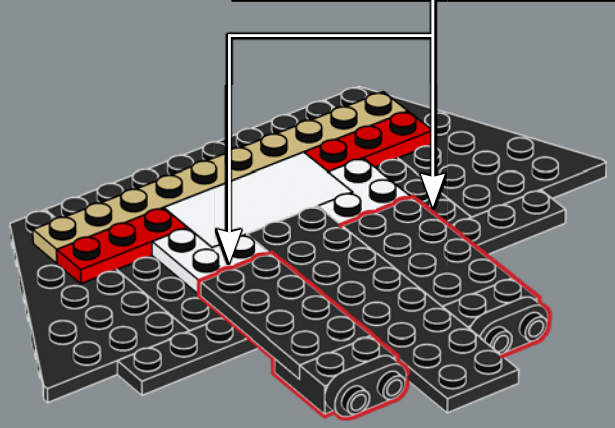

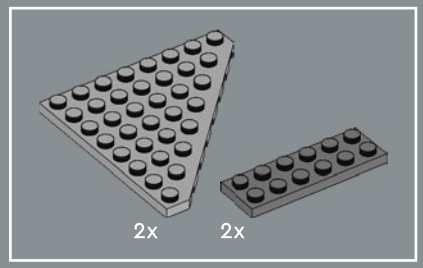


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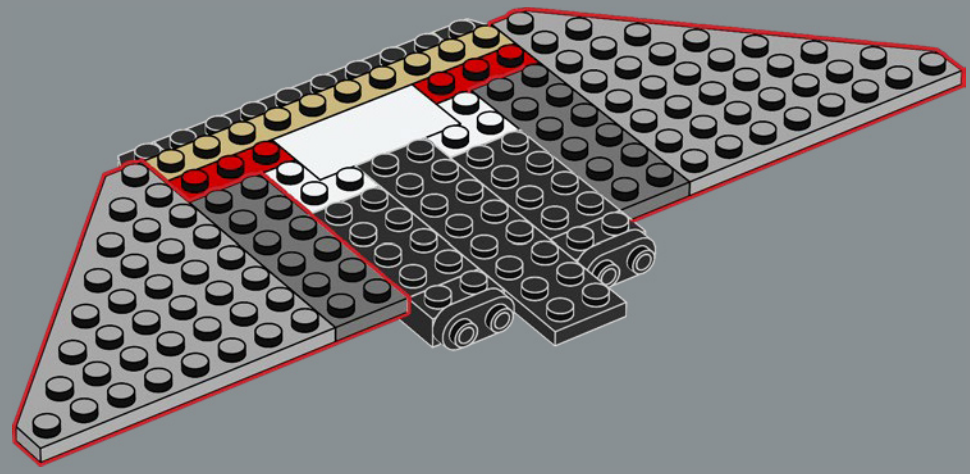
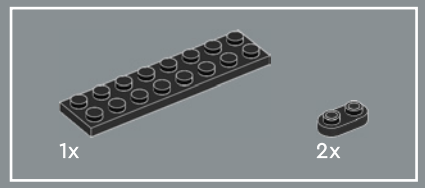


El Enterprise se construyó con la finalidad de realizar vuelos de prueba atmosféricos después de lanzarlo desde un SCA.

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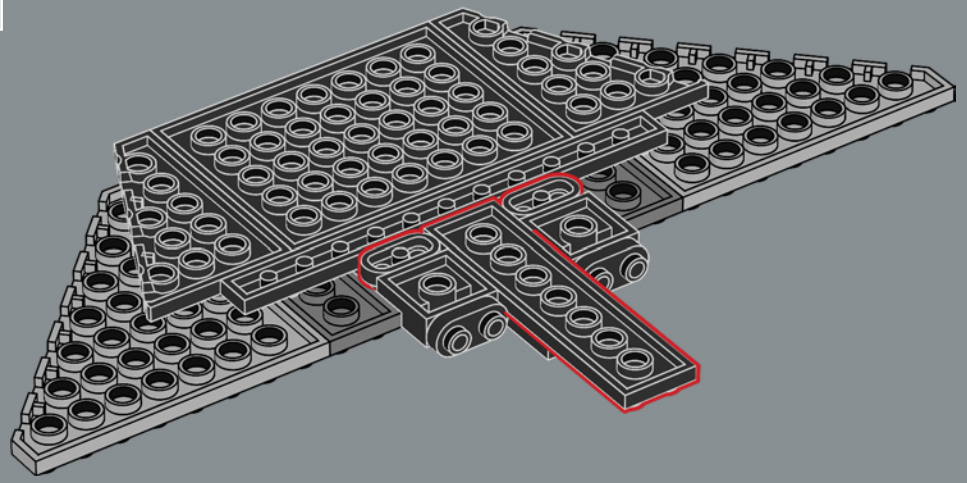

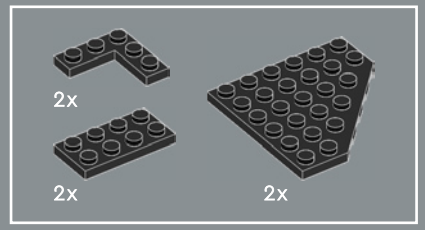


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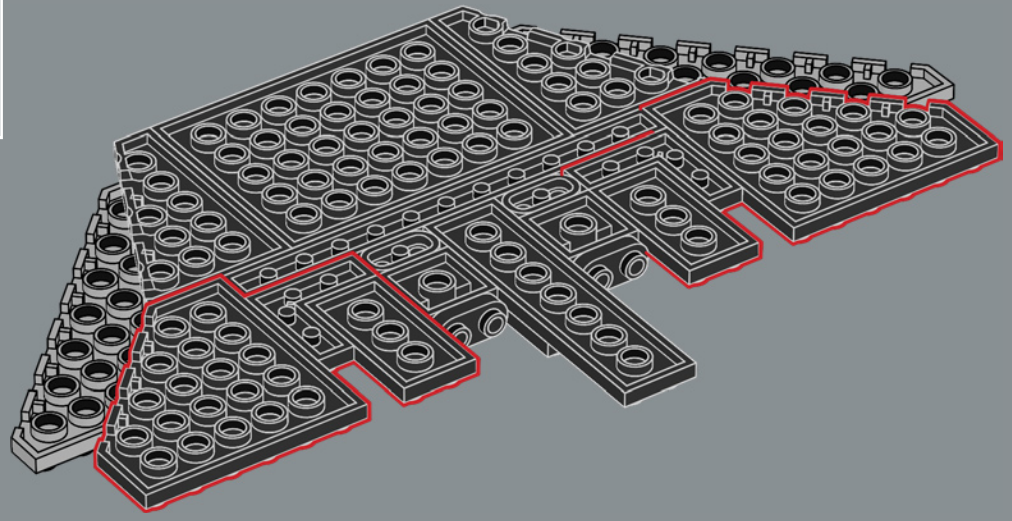

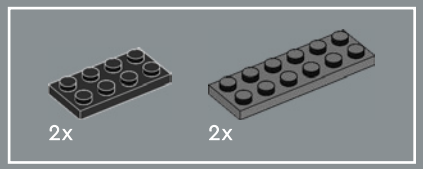


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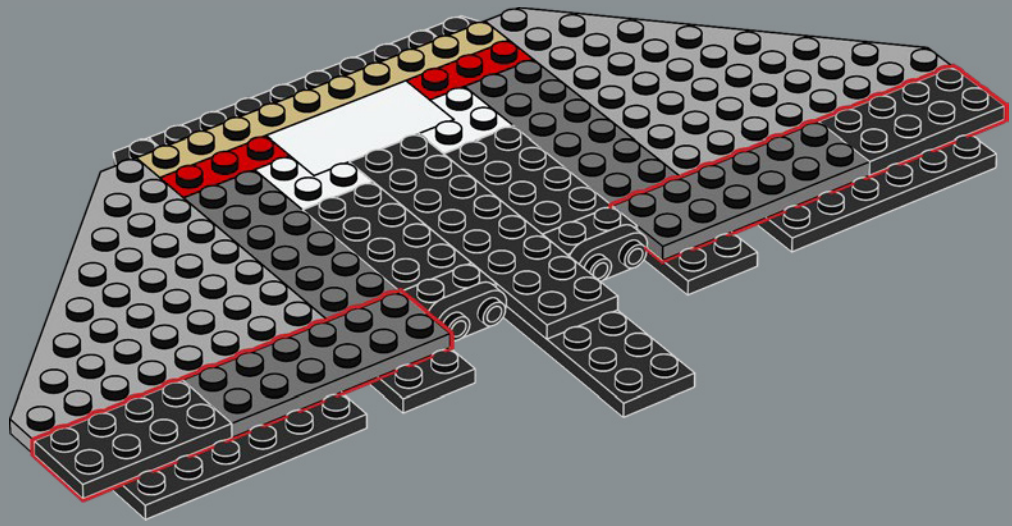

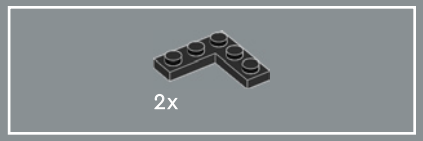


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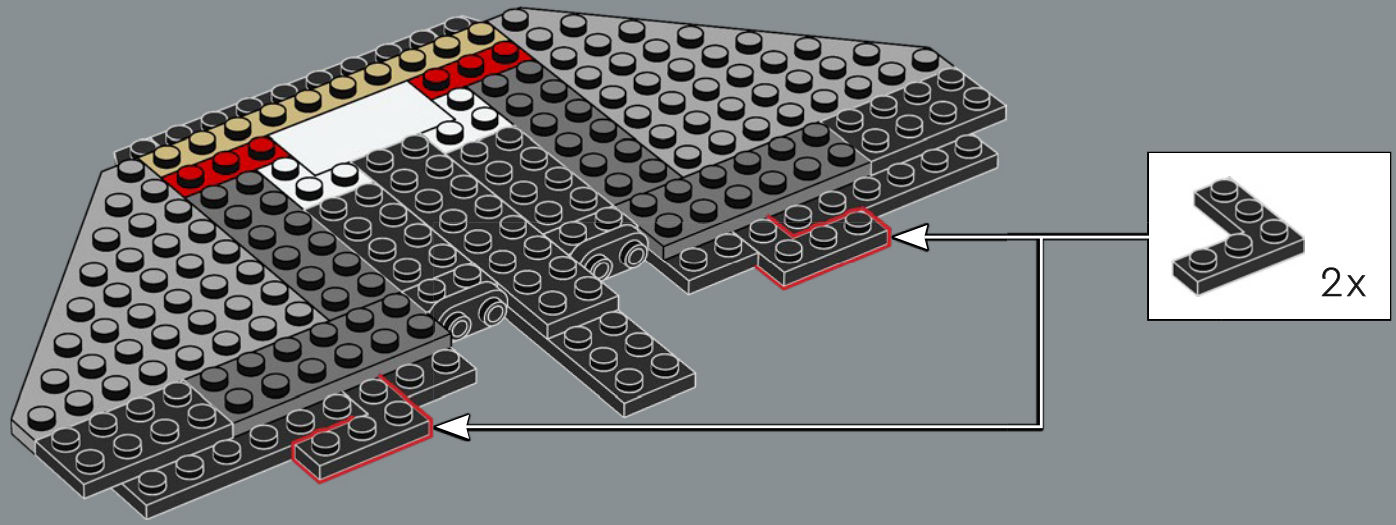

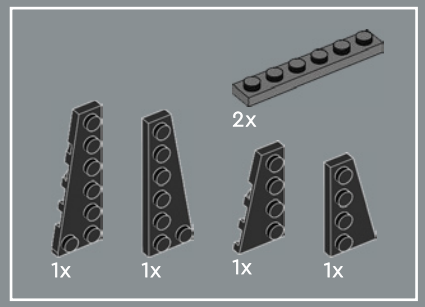


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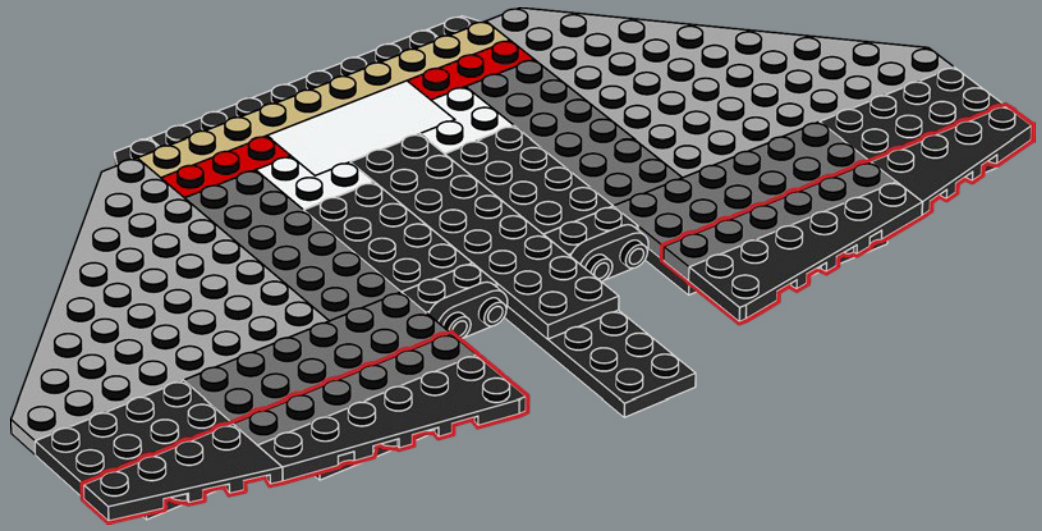

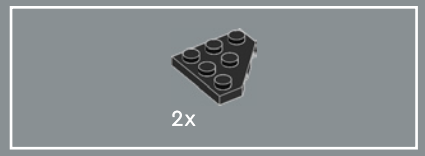


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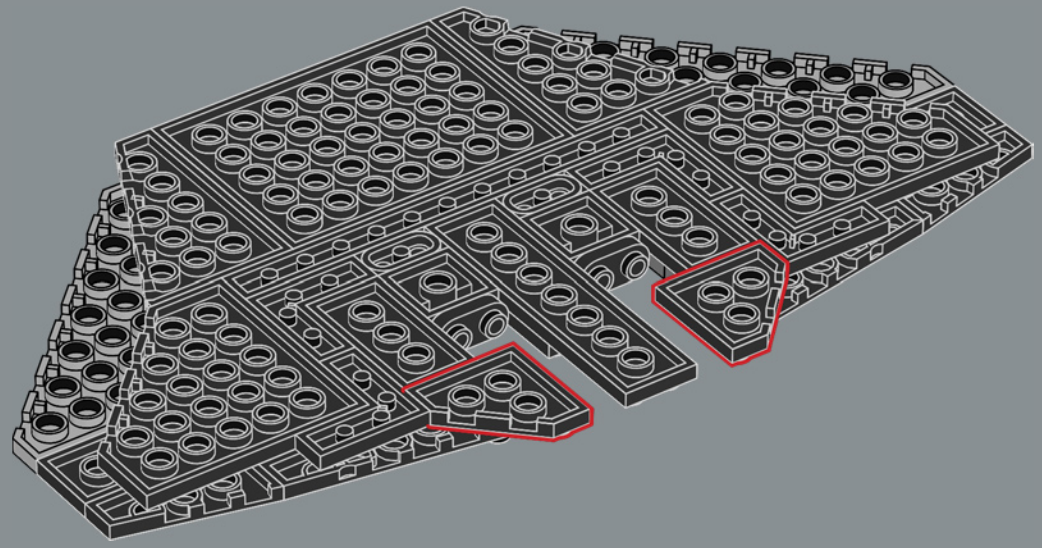

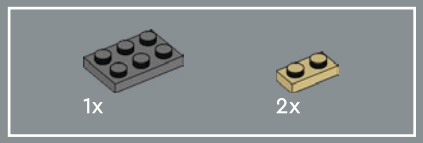


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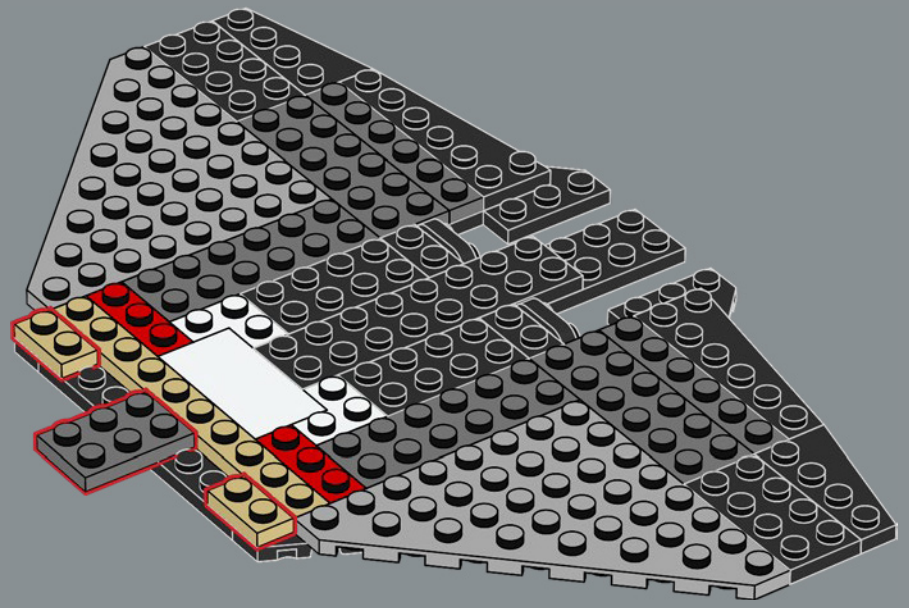

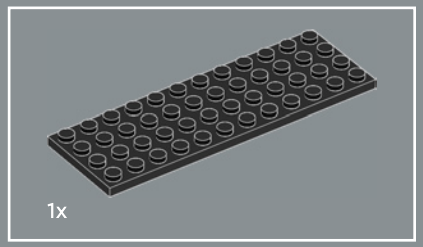


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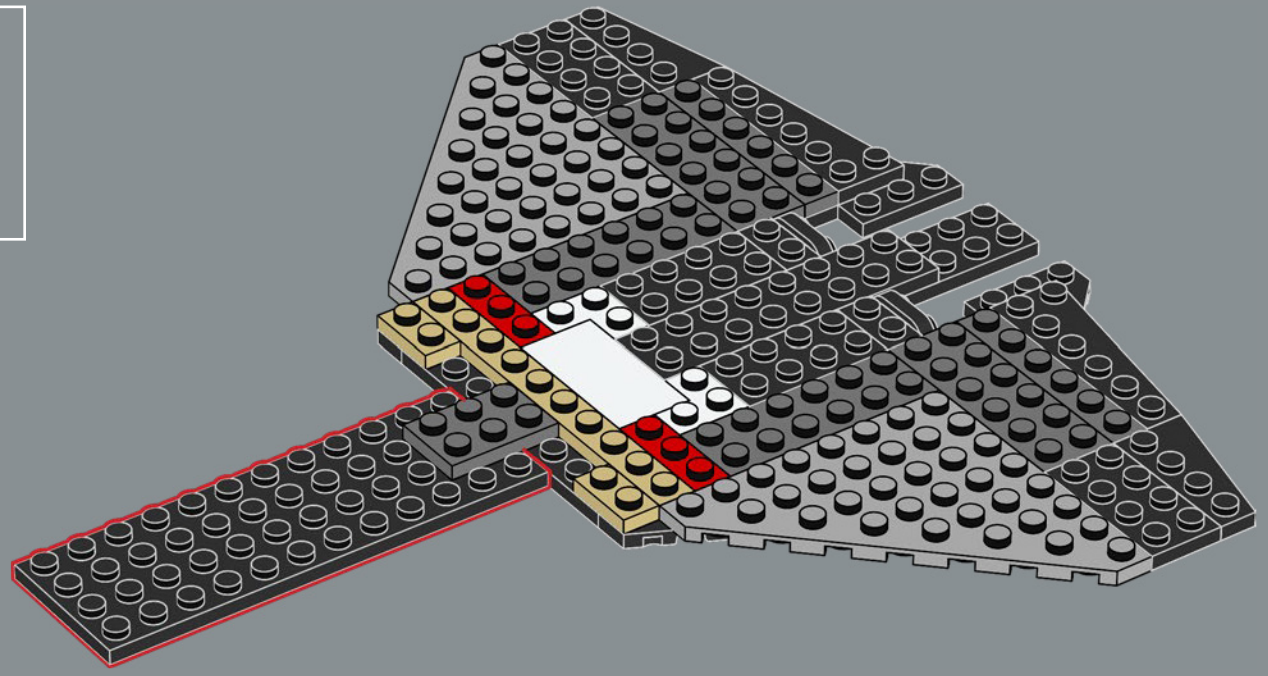

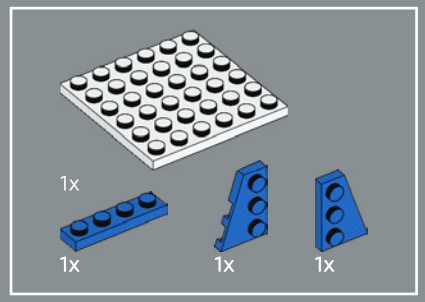


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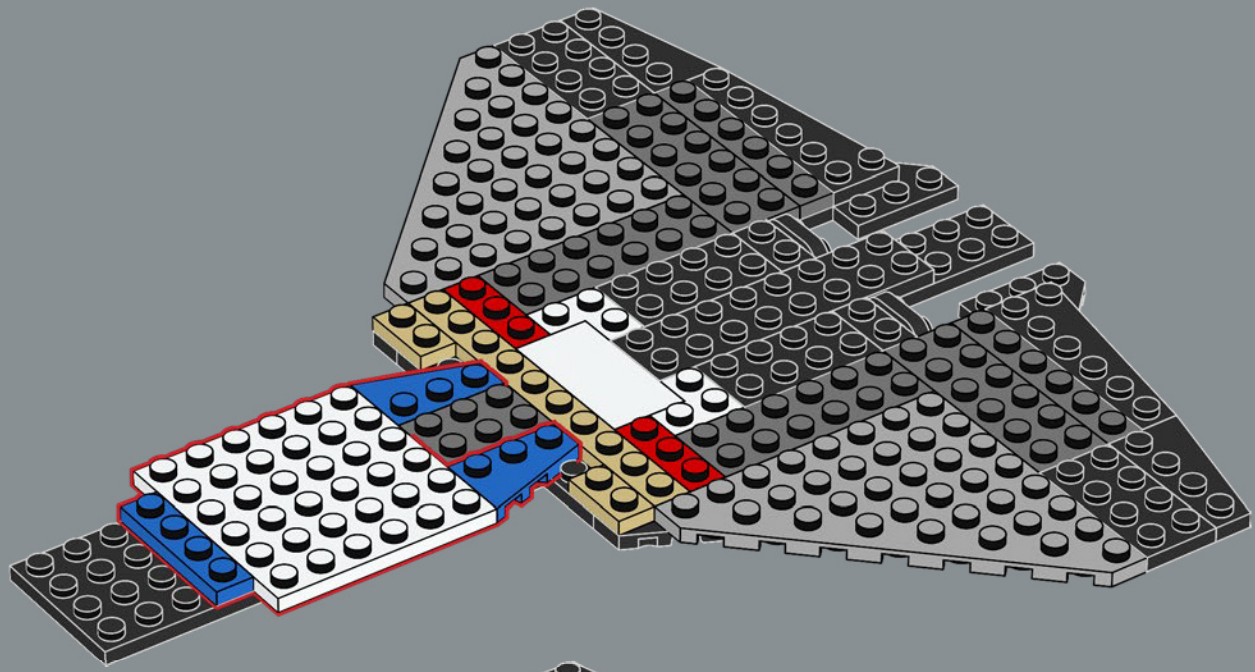

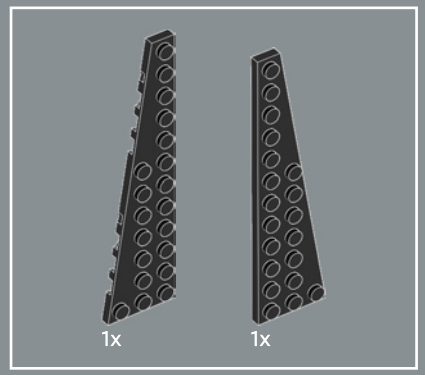


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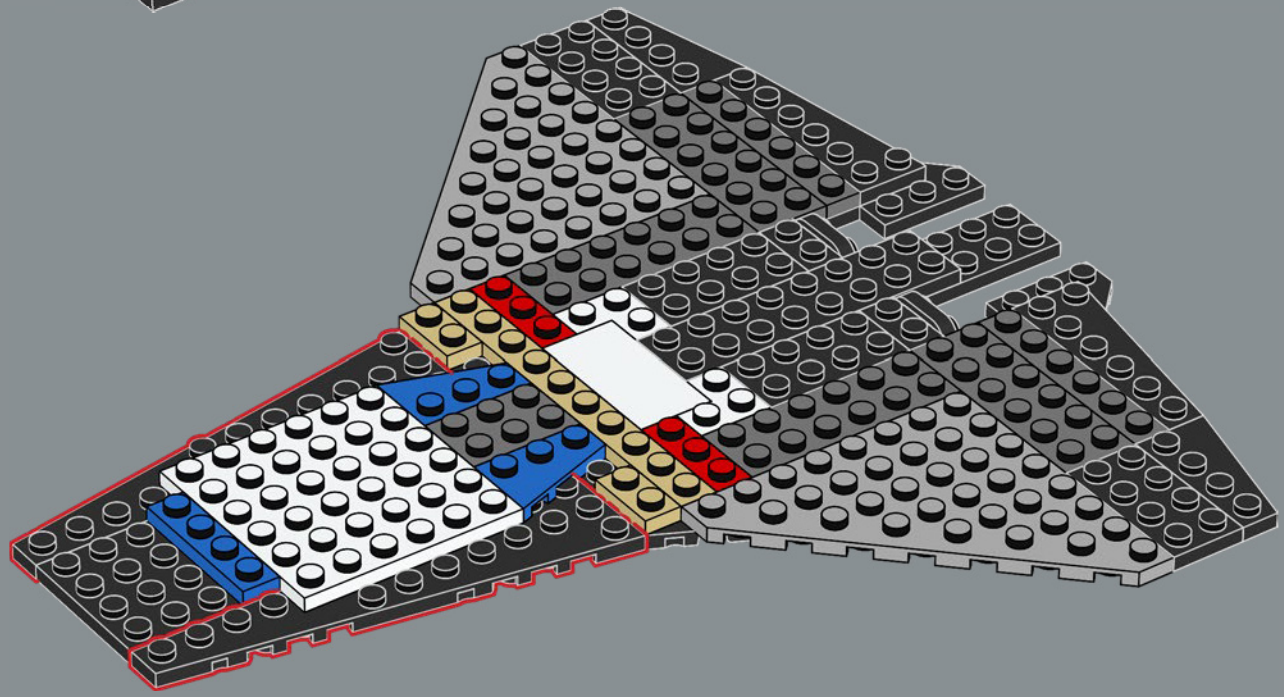

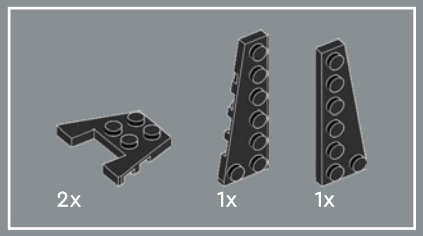


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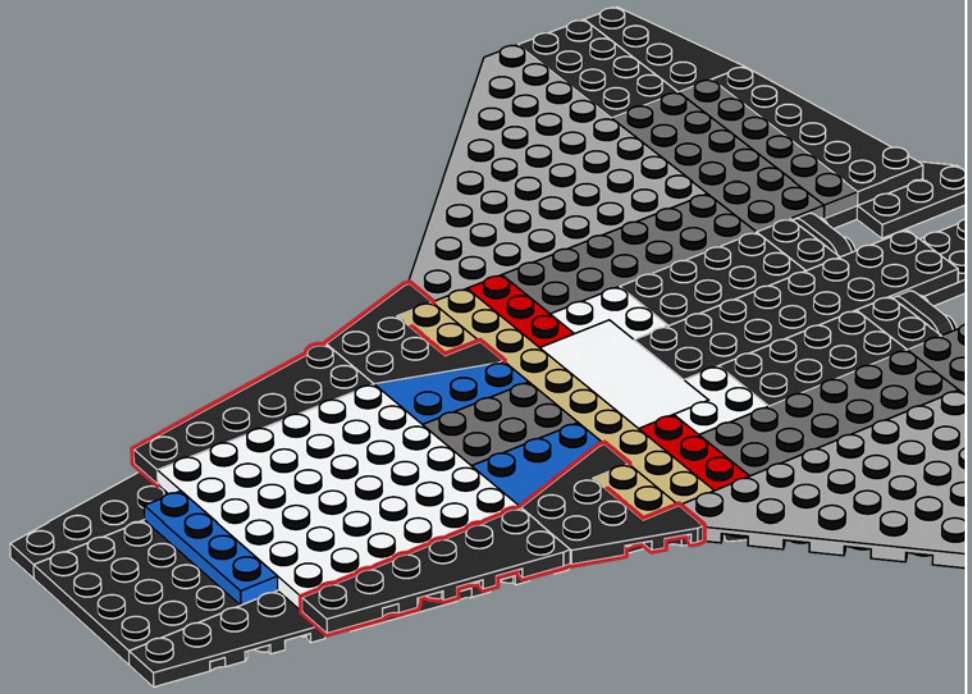

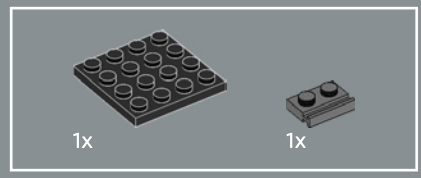


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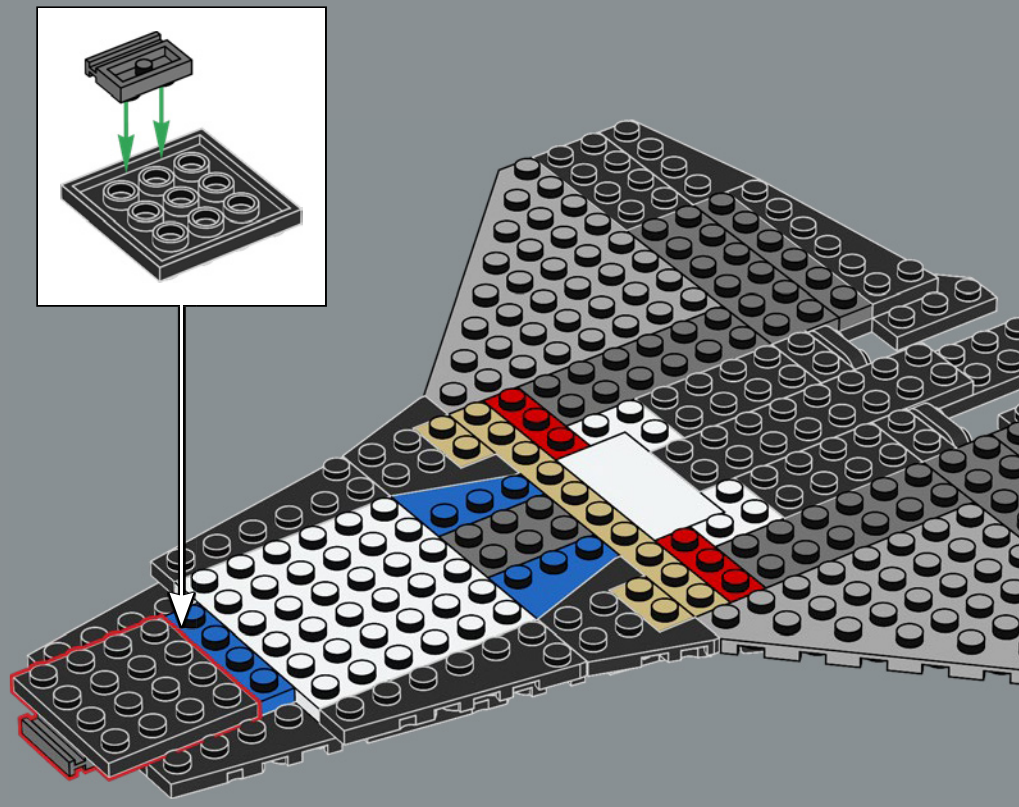

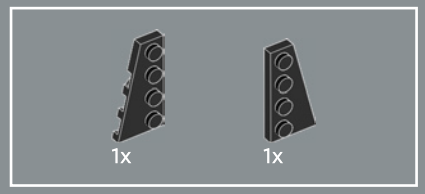


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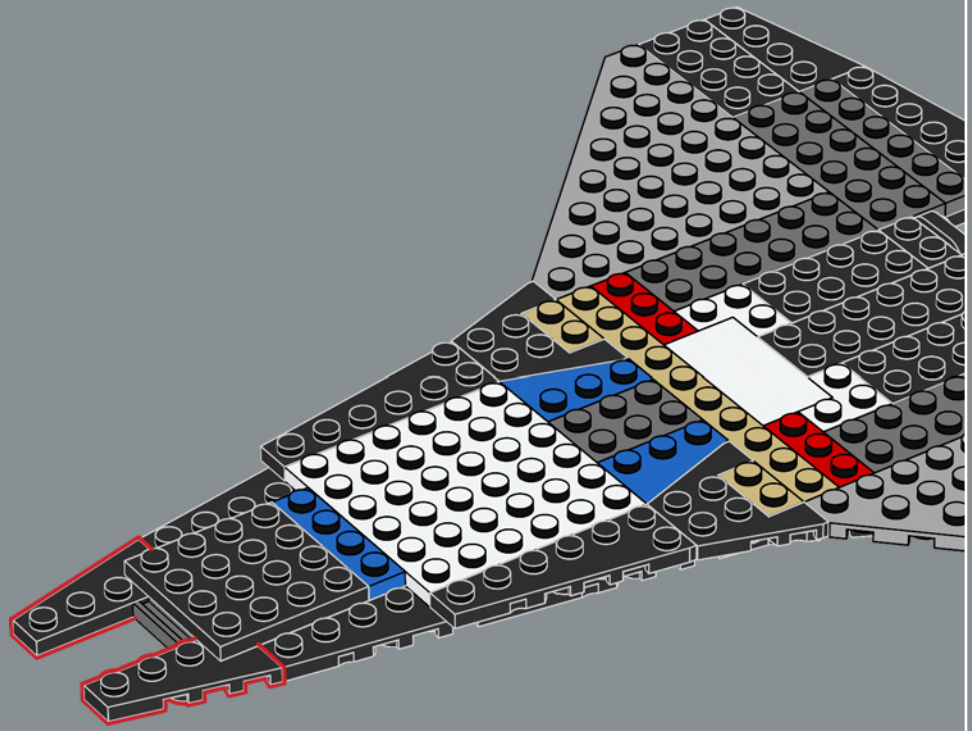

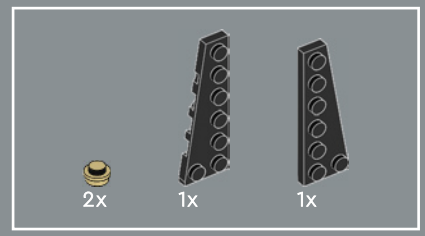


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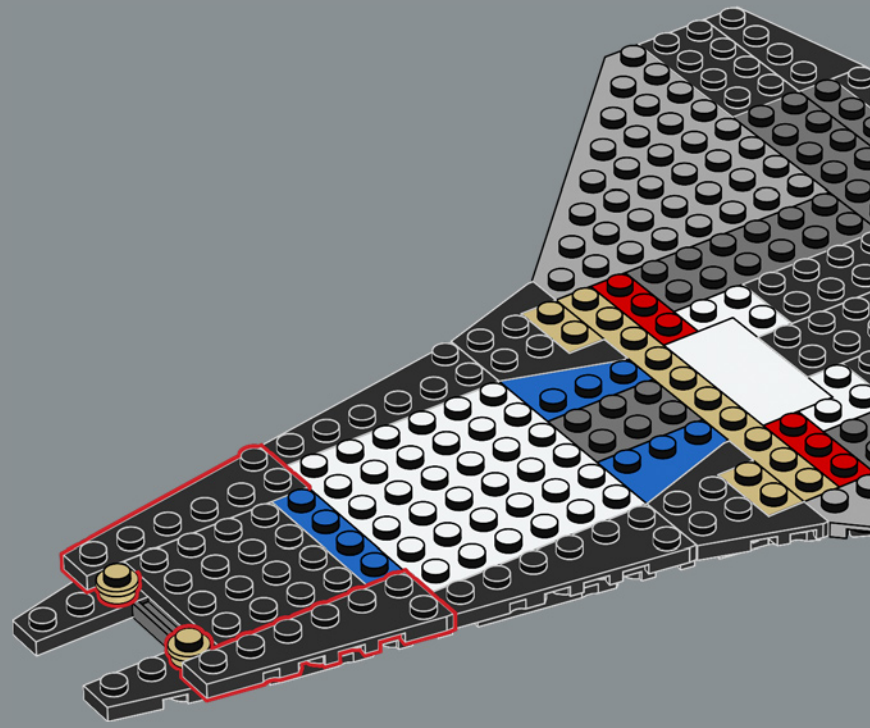

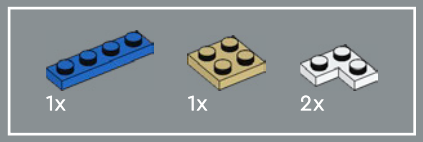


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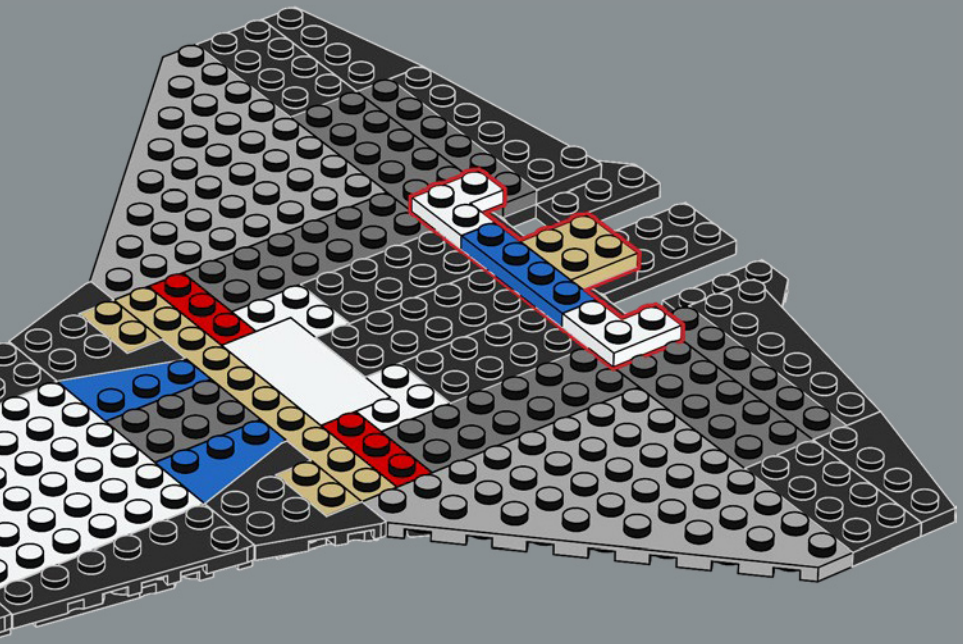

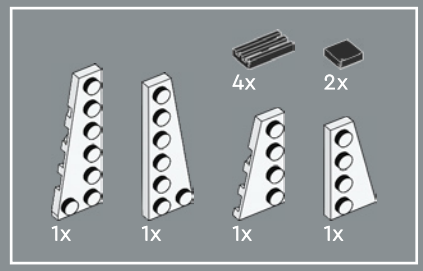


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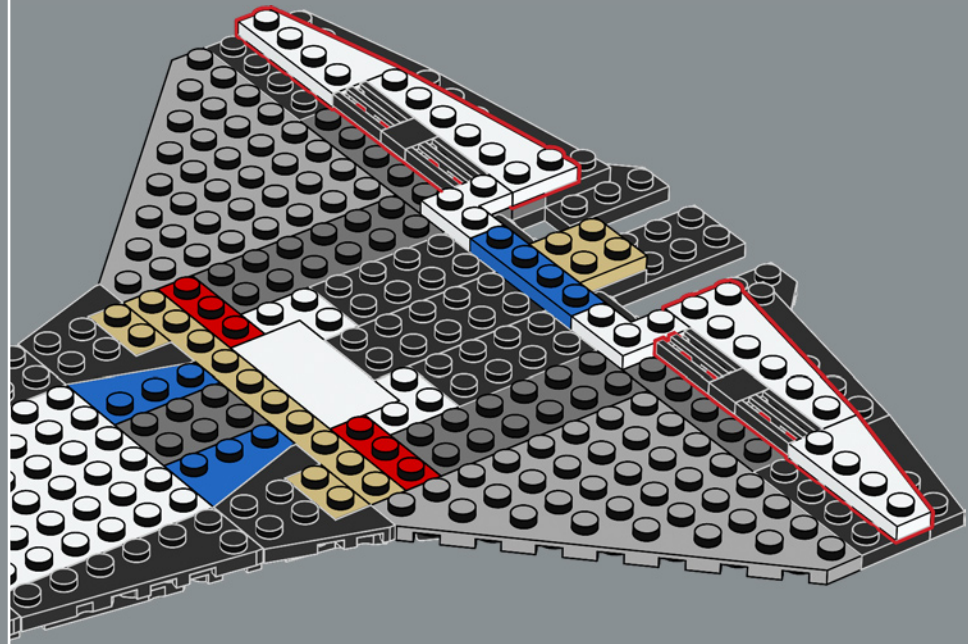

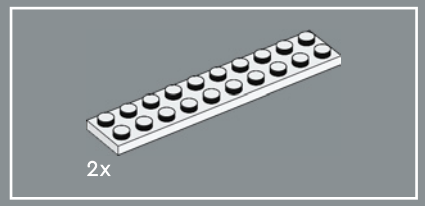


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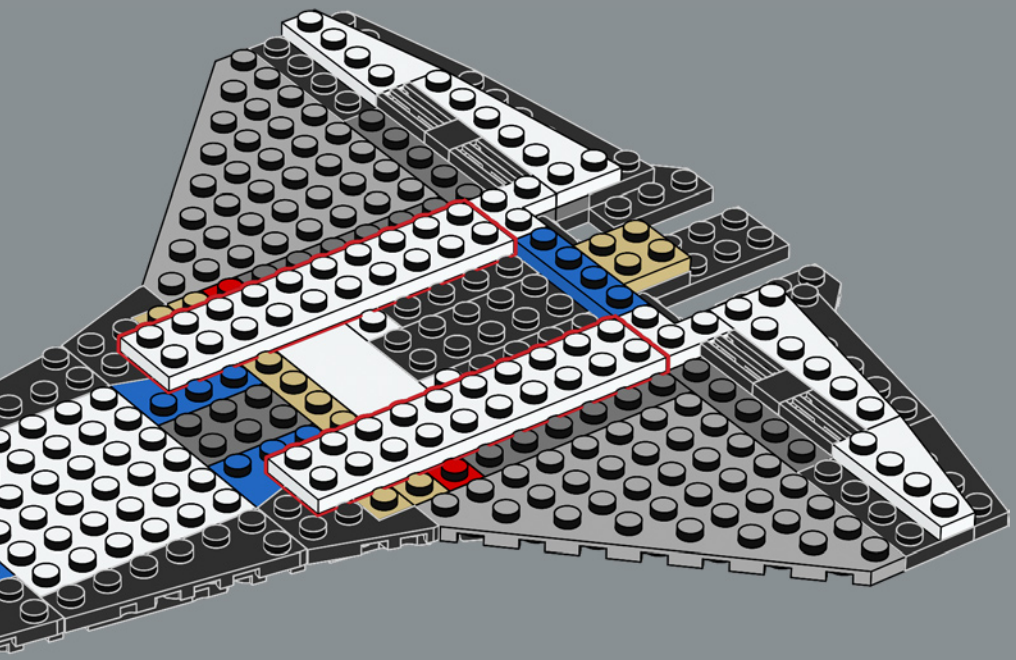

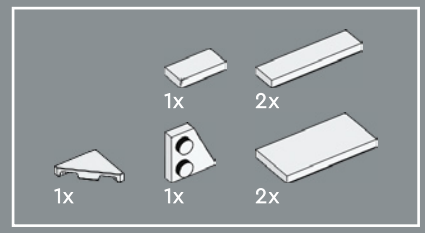


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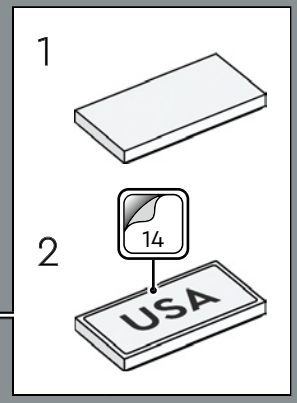


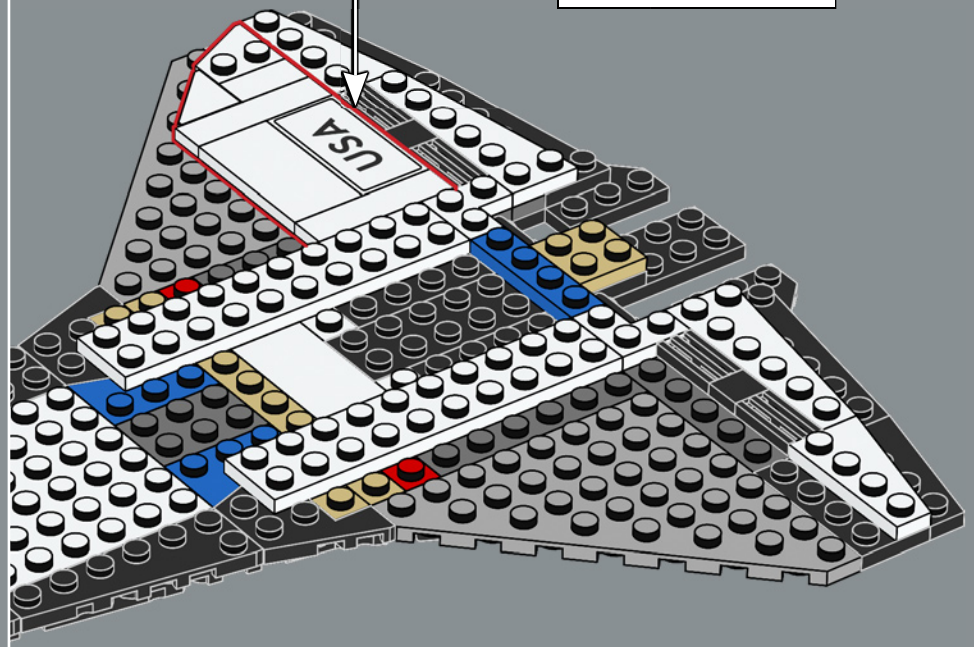

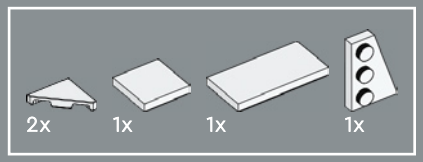


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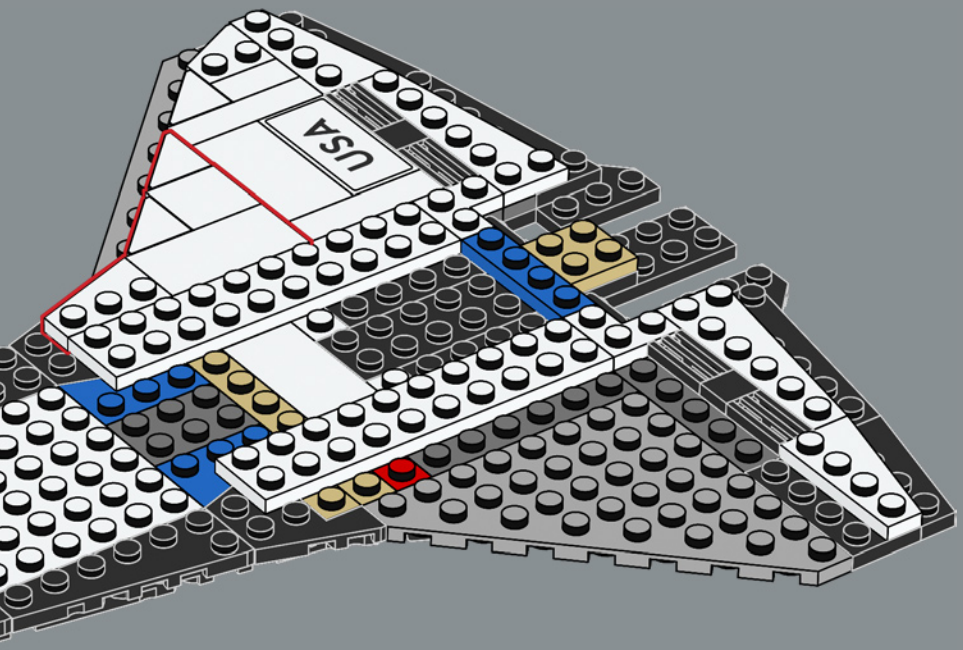


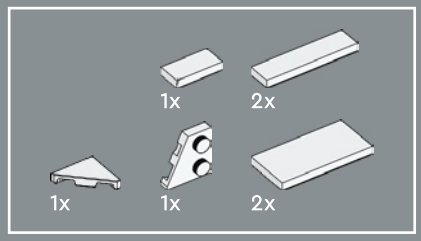


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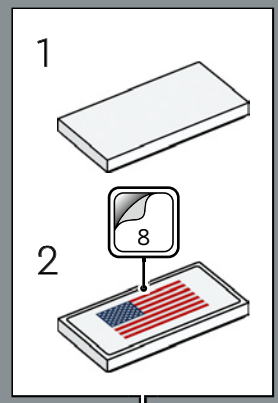


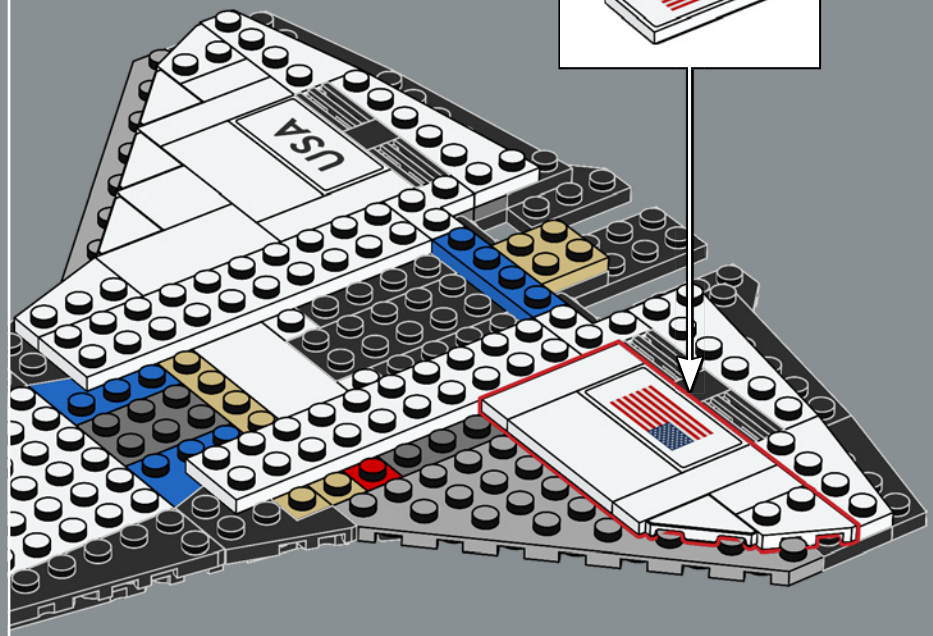

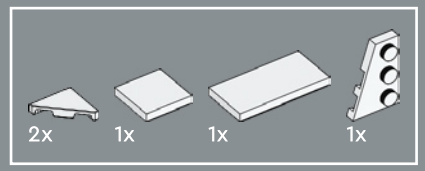


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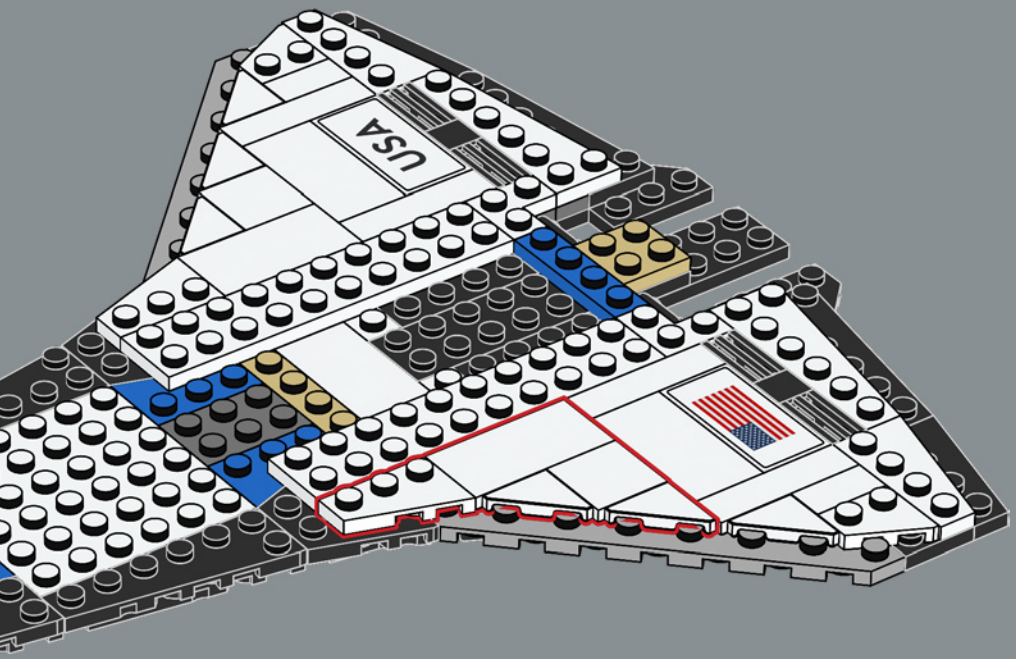


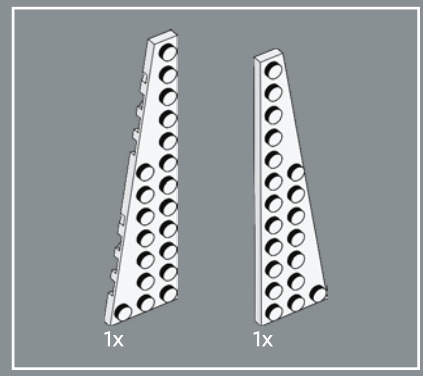


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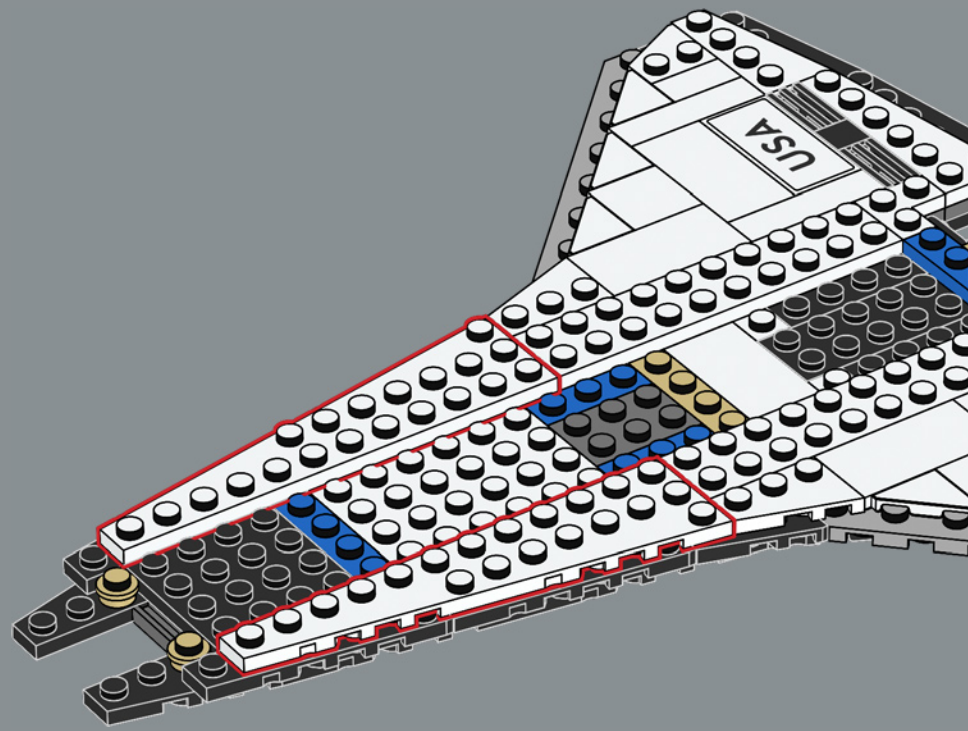

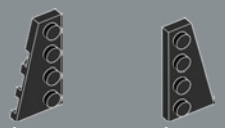


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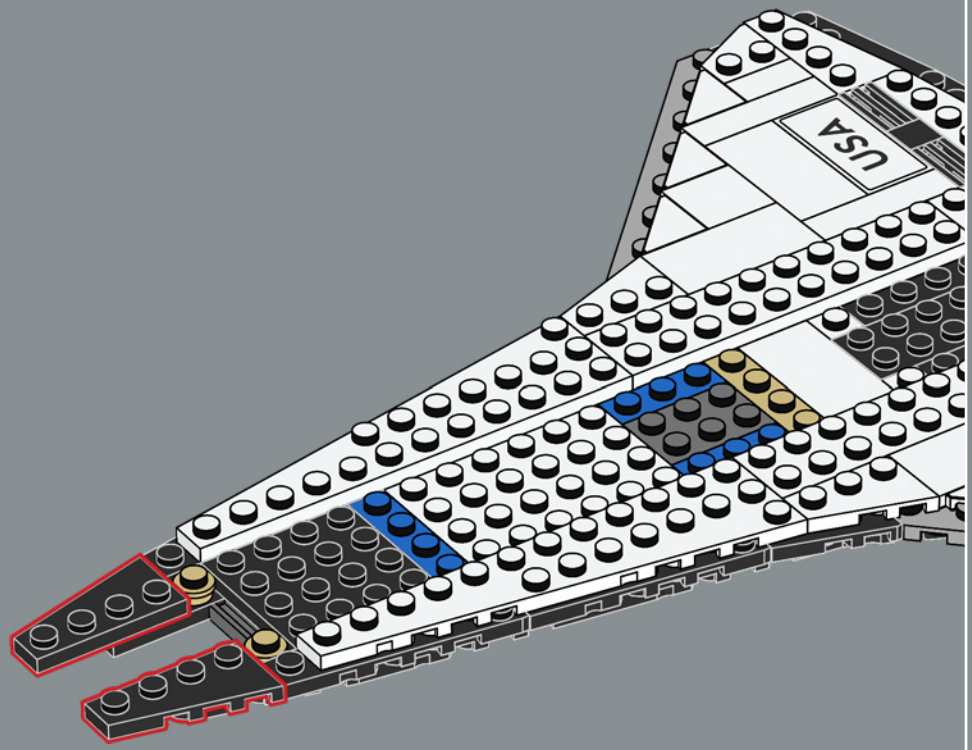


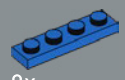


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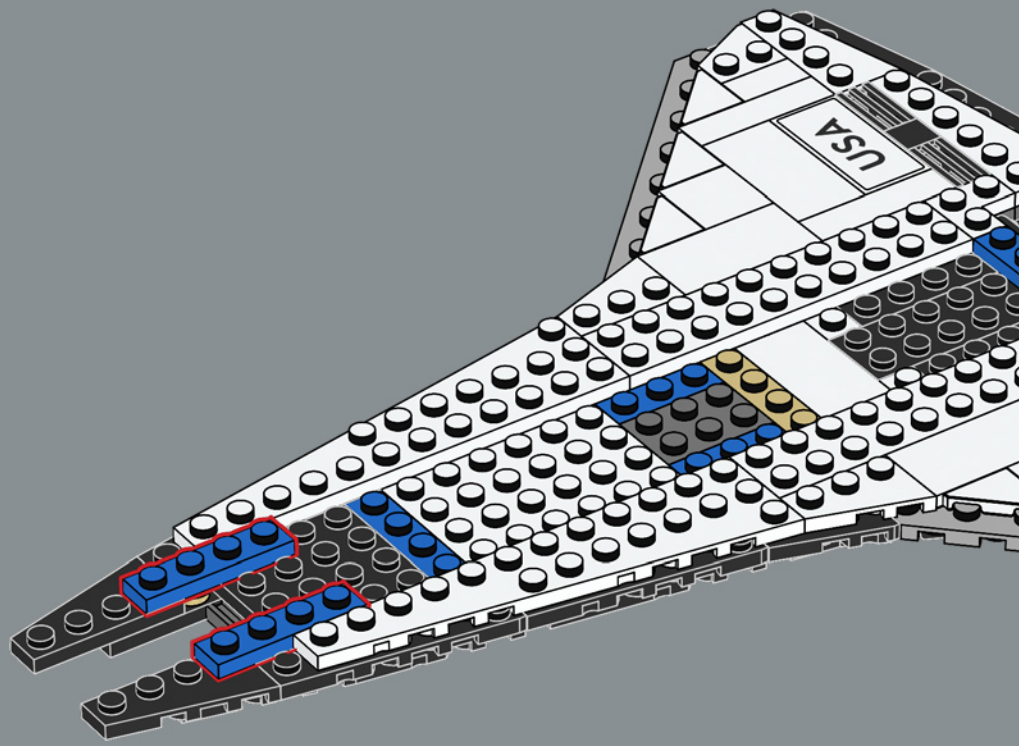


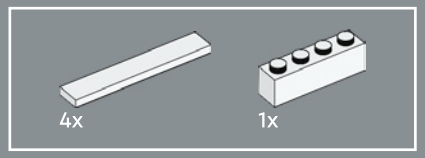


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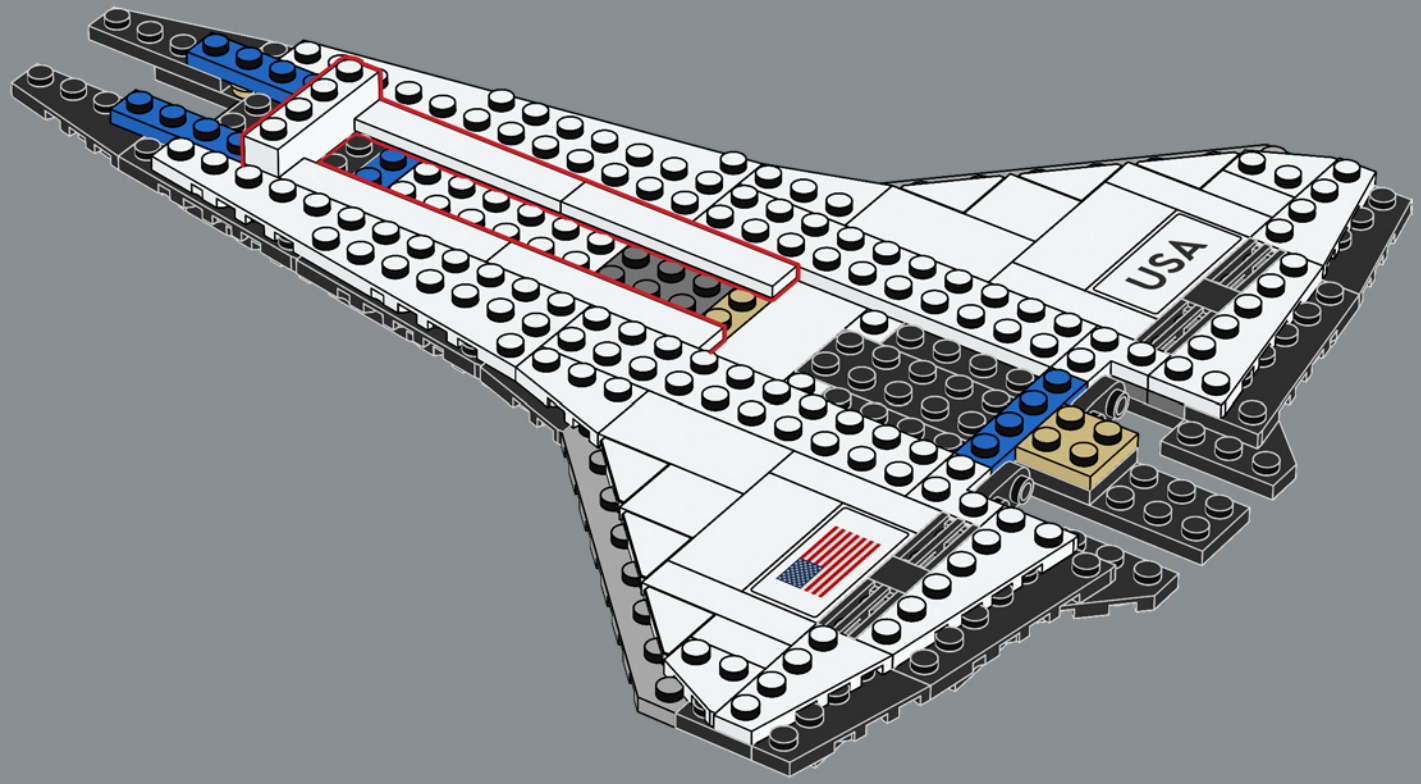

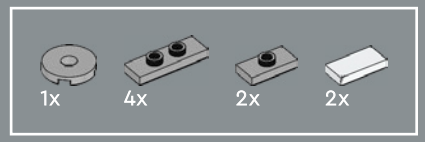


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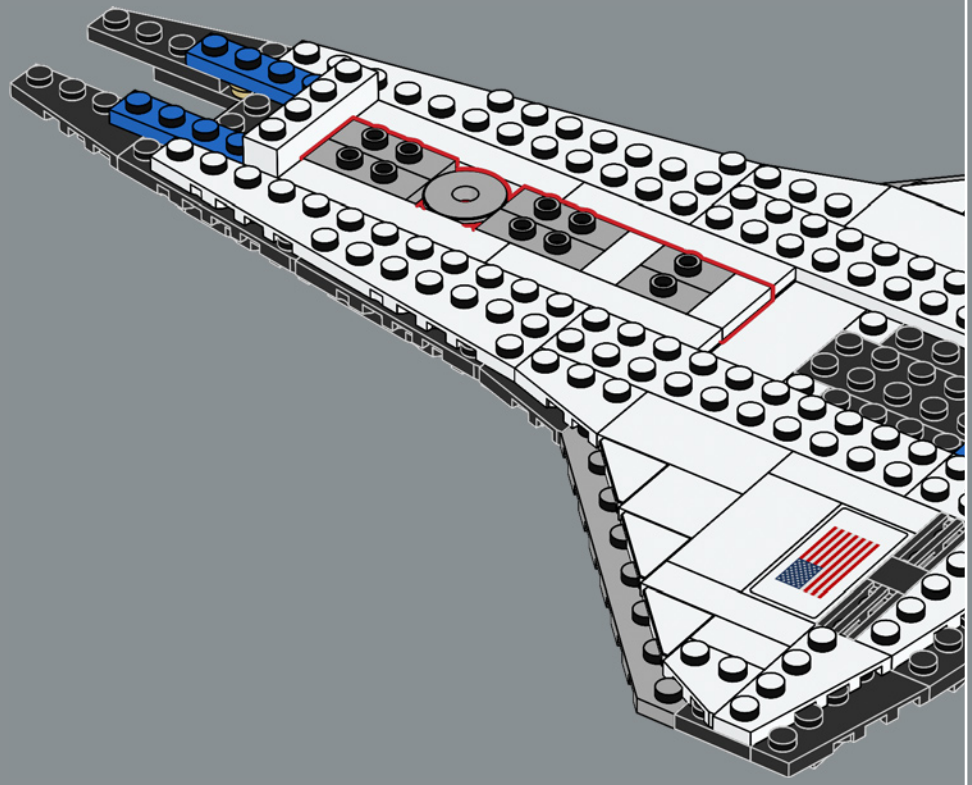

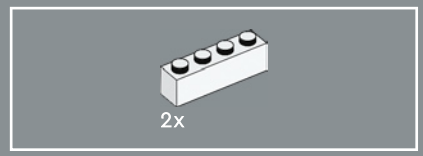


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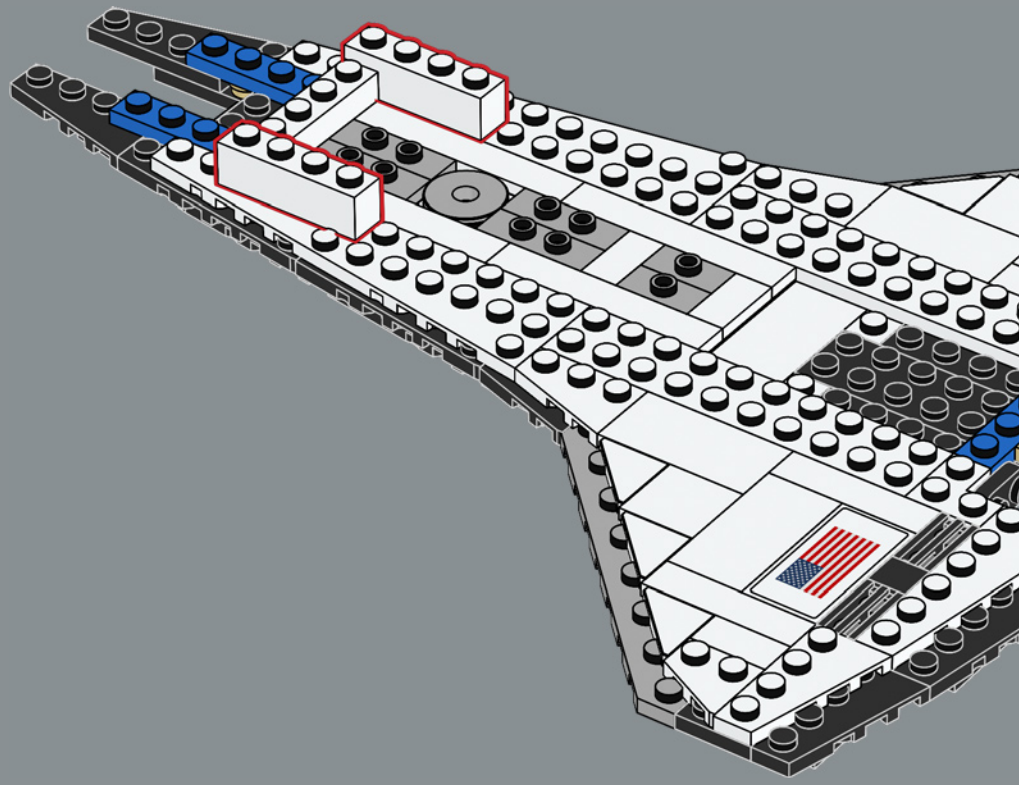

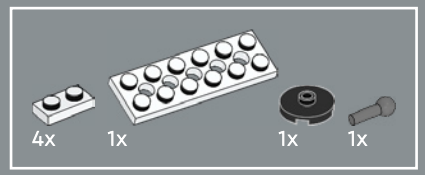


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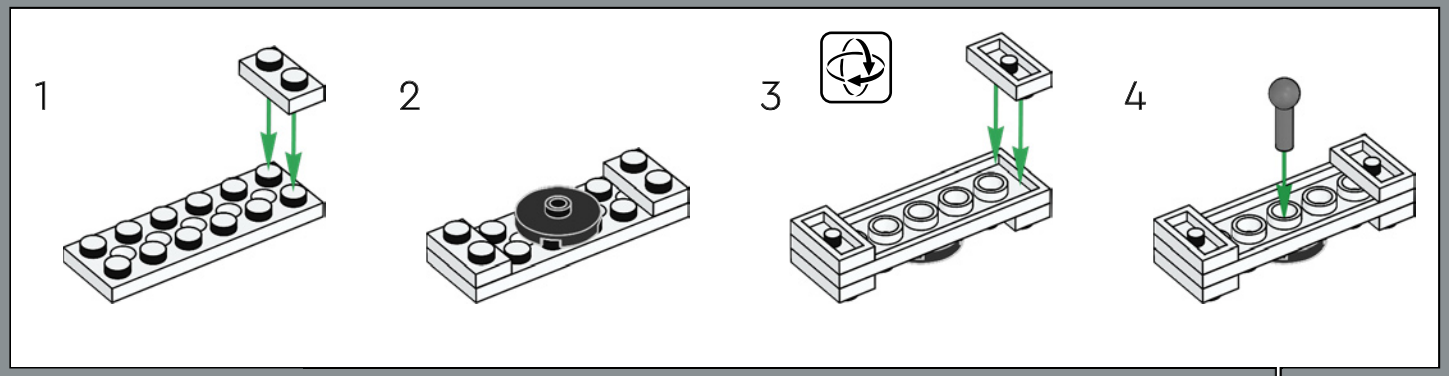


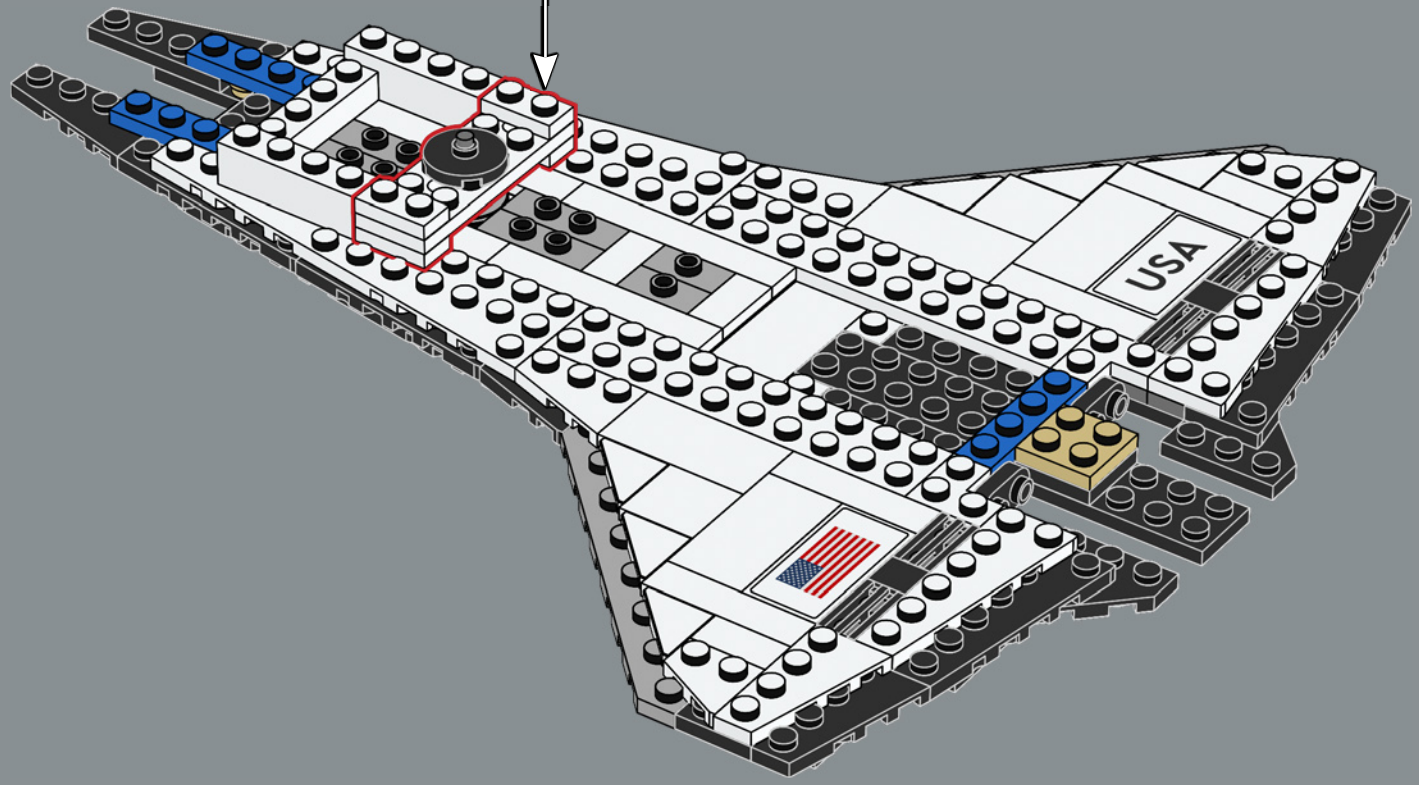

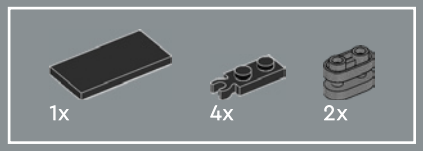


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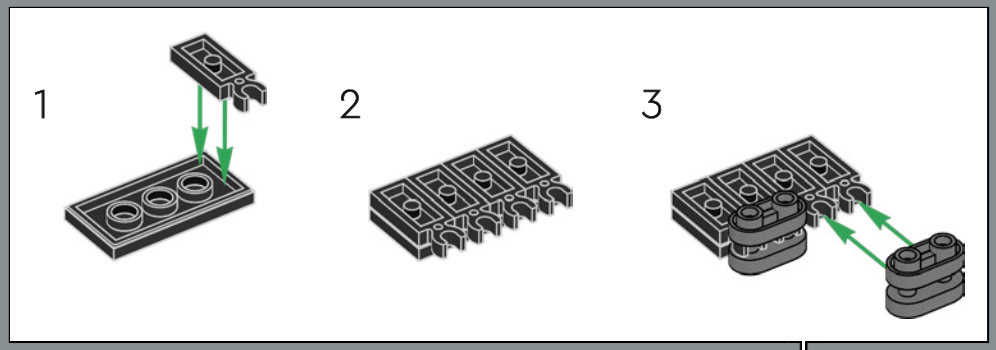


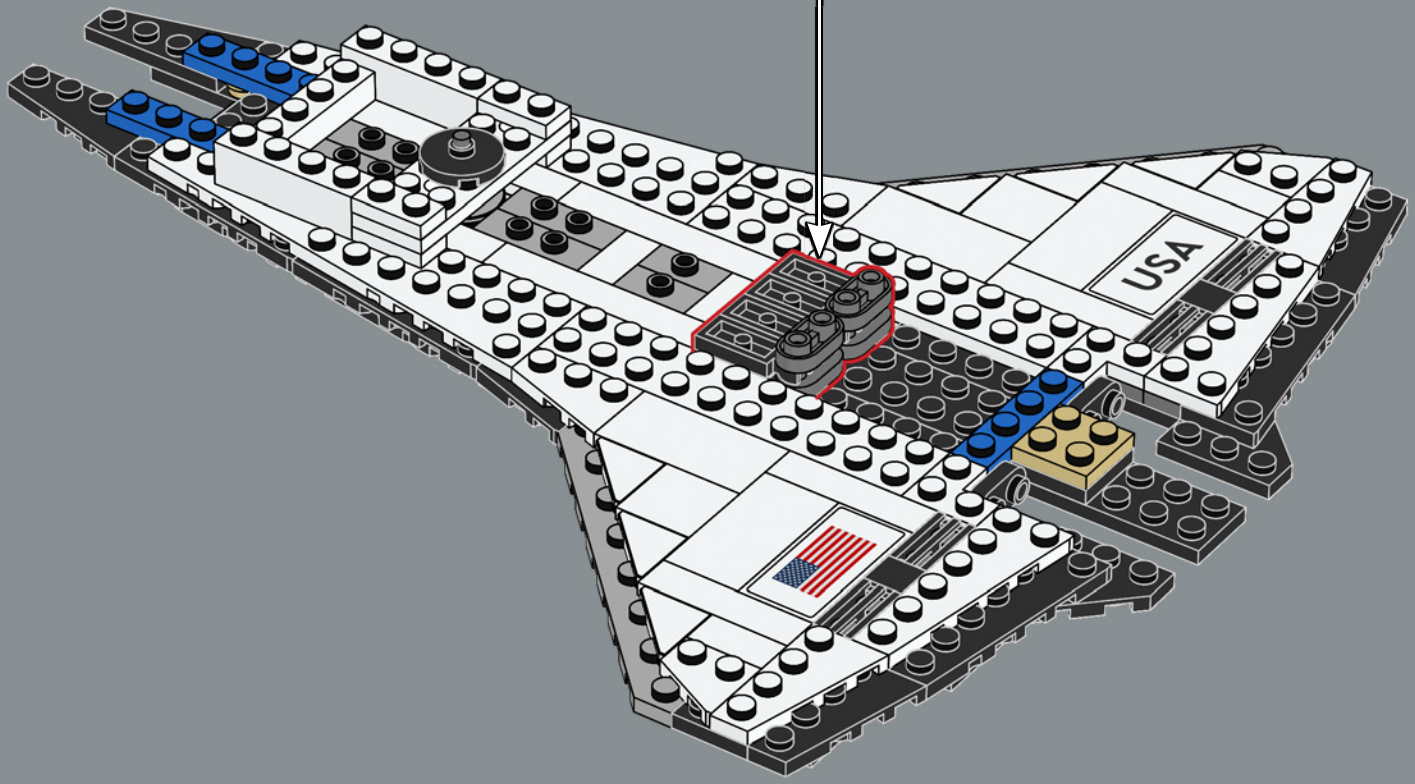

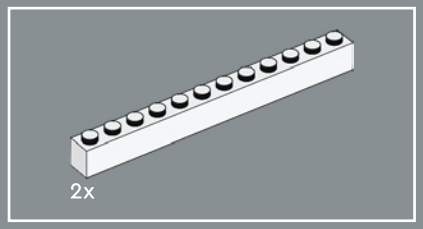


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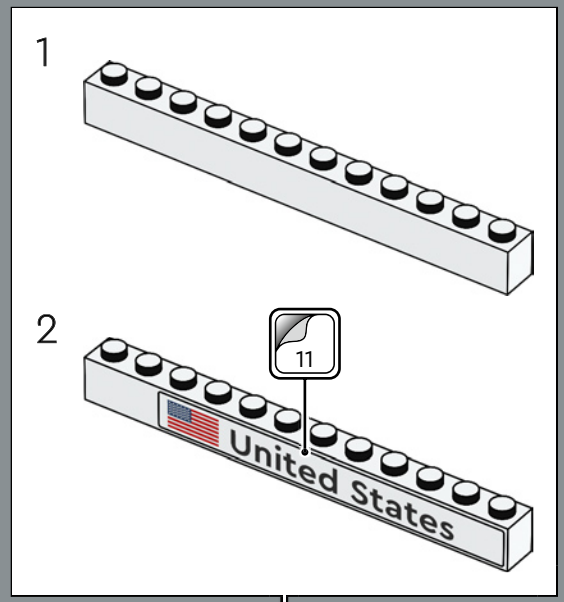


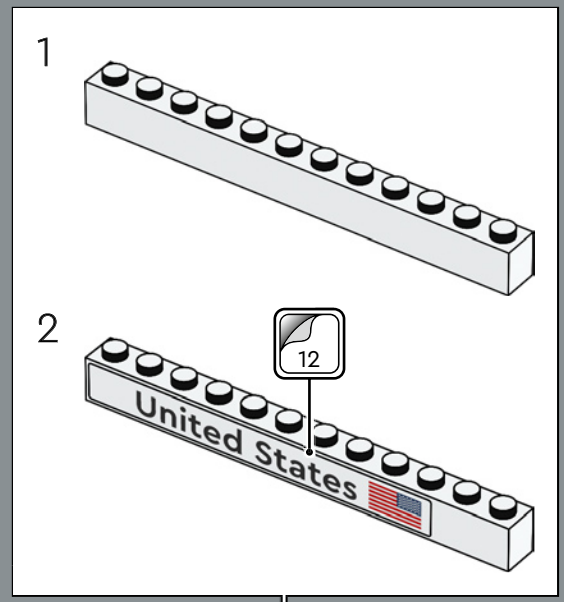


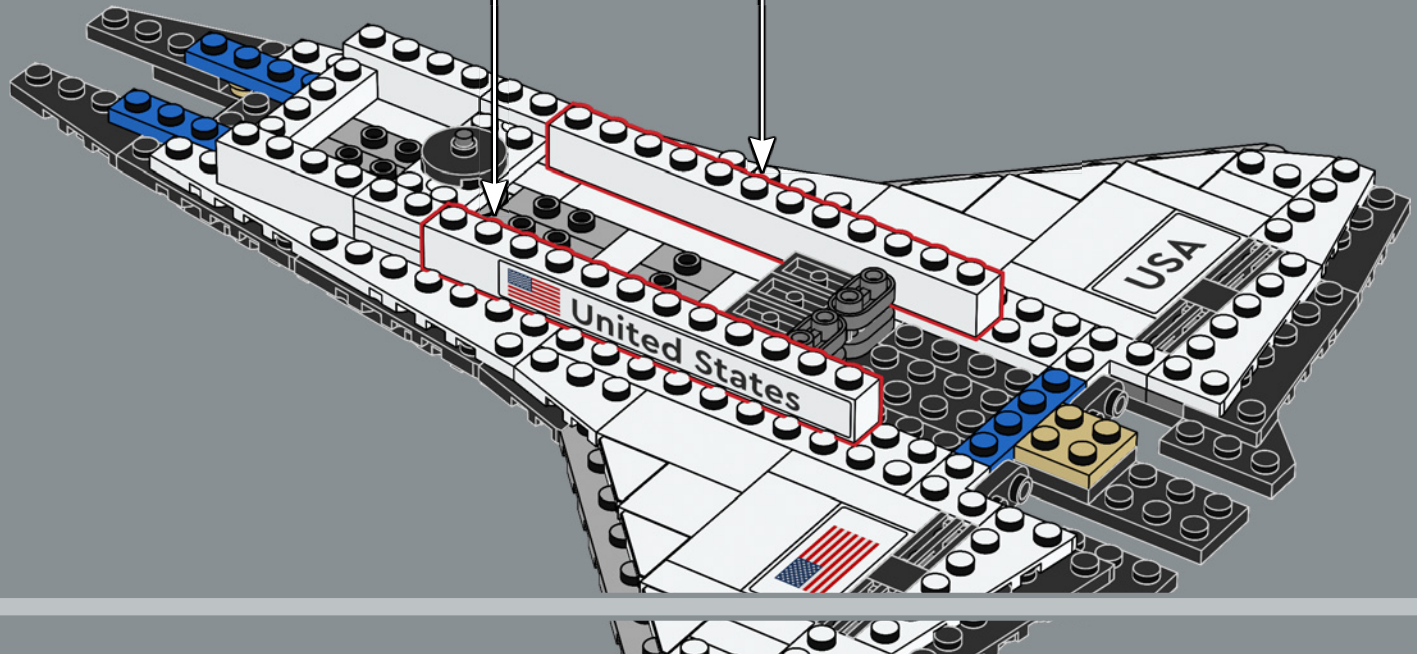

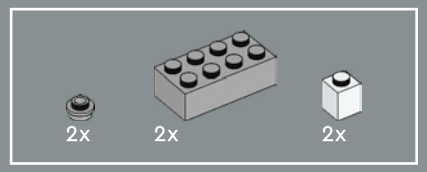


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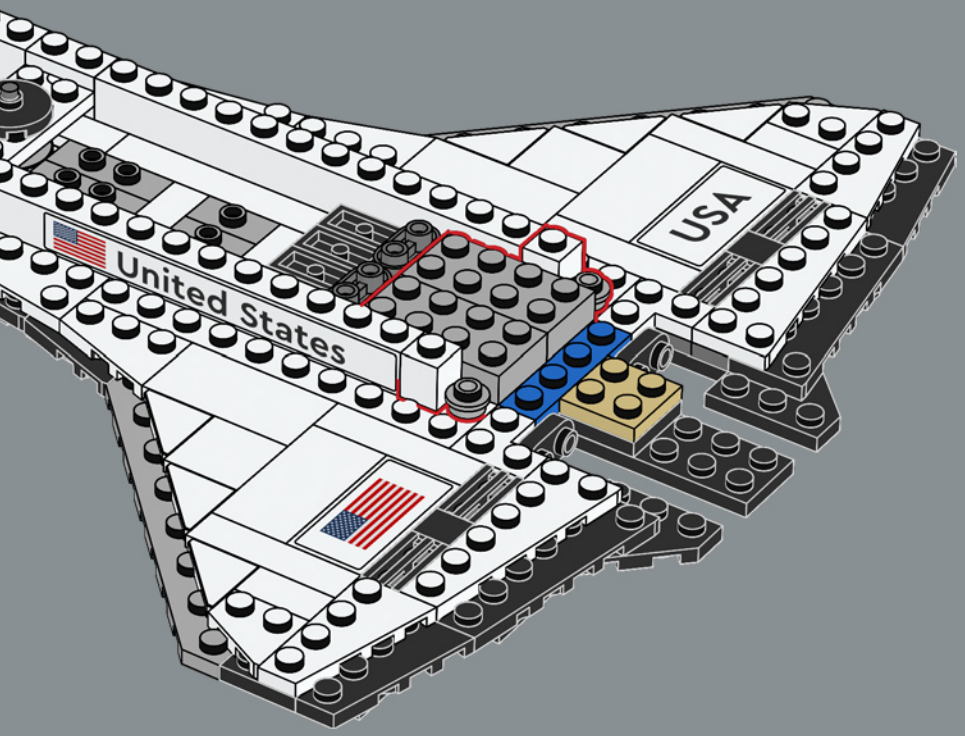



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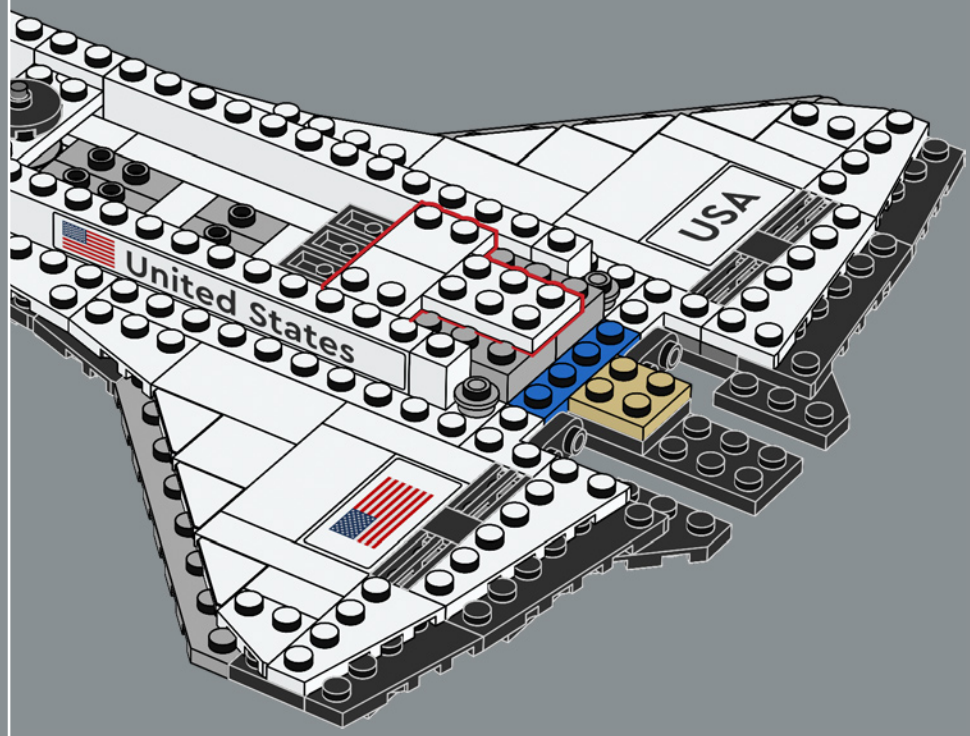


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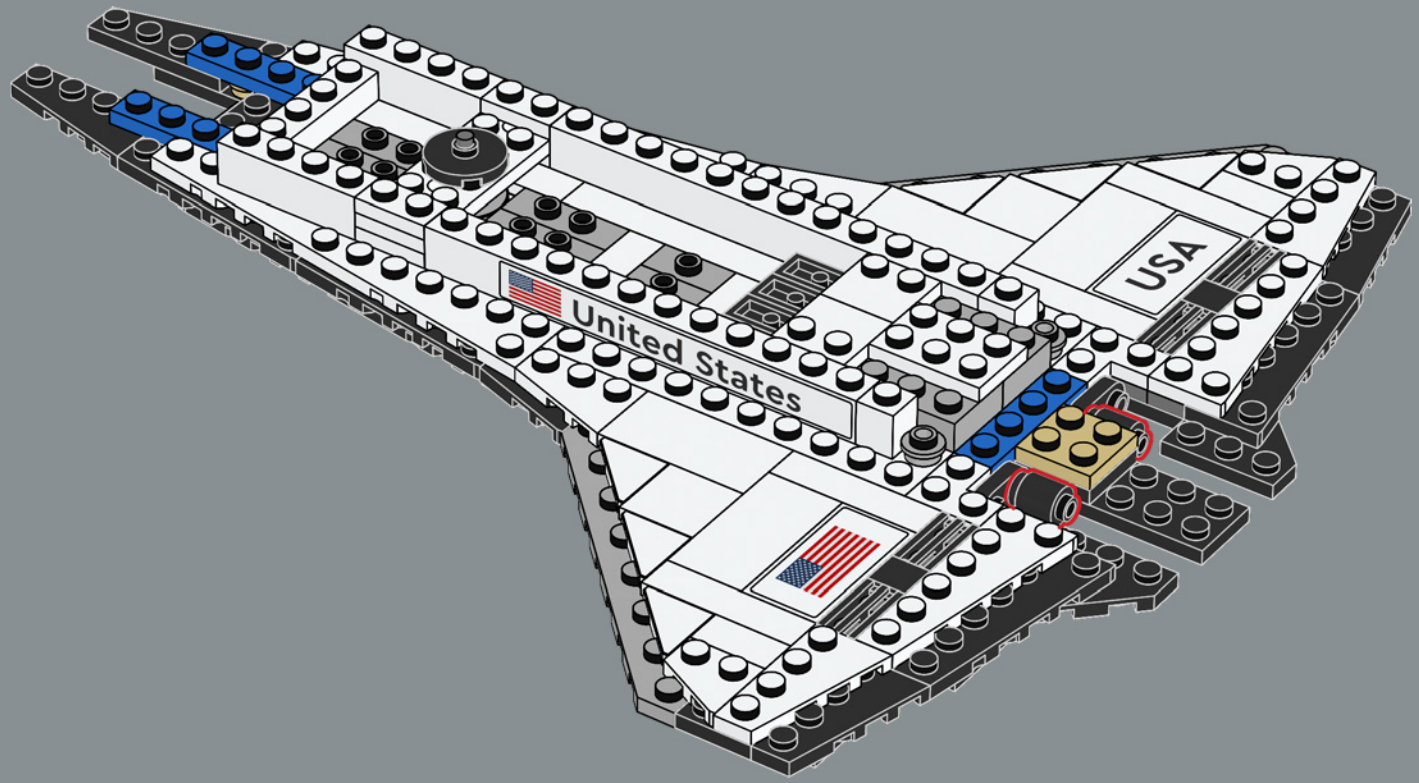

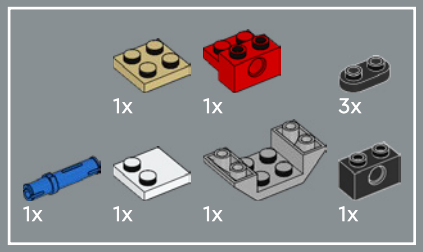


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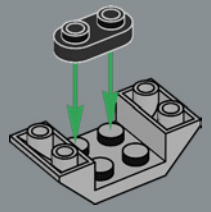

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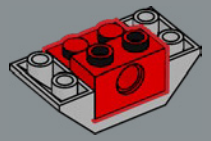

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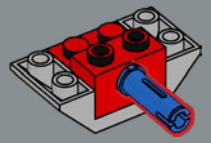

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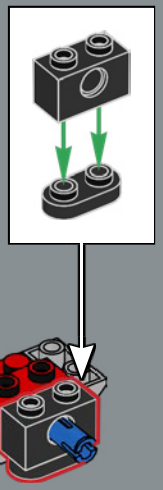

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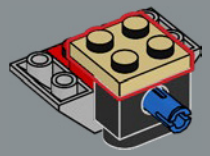

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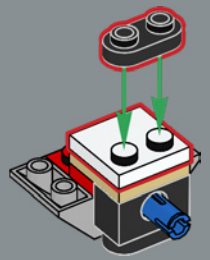

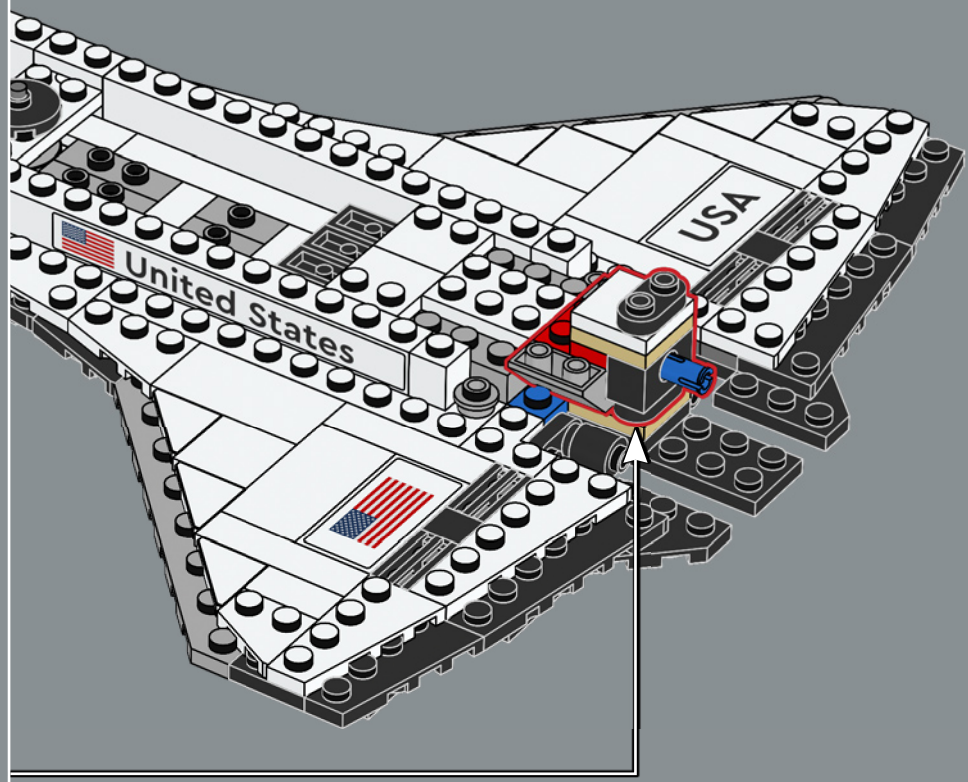


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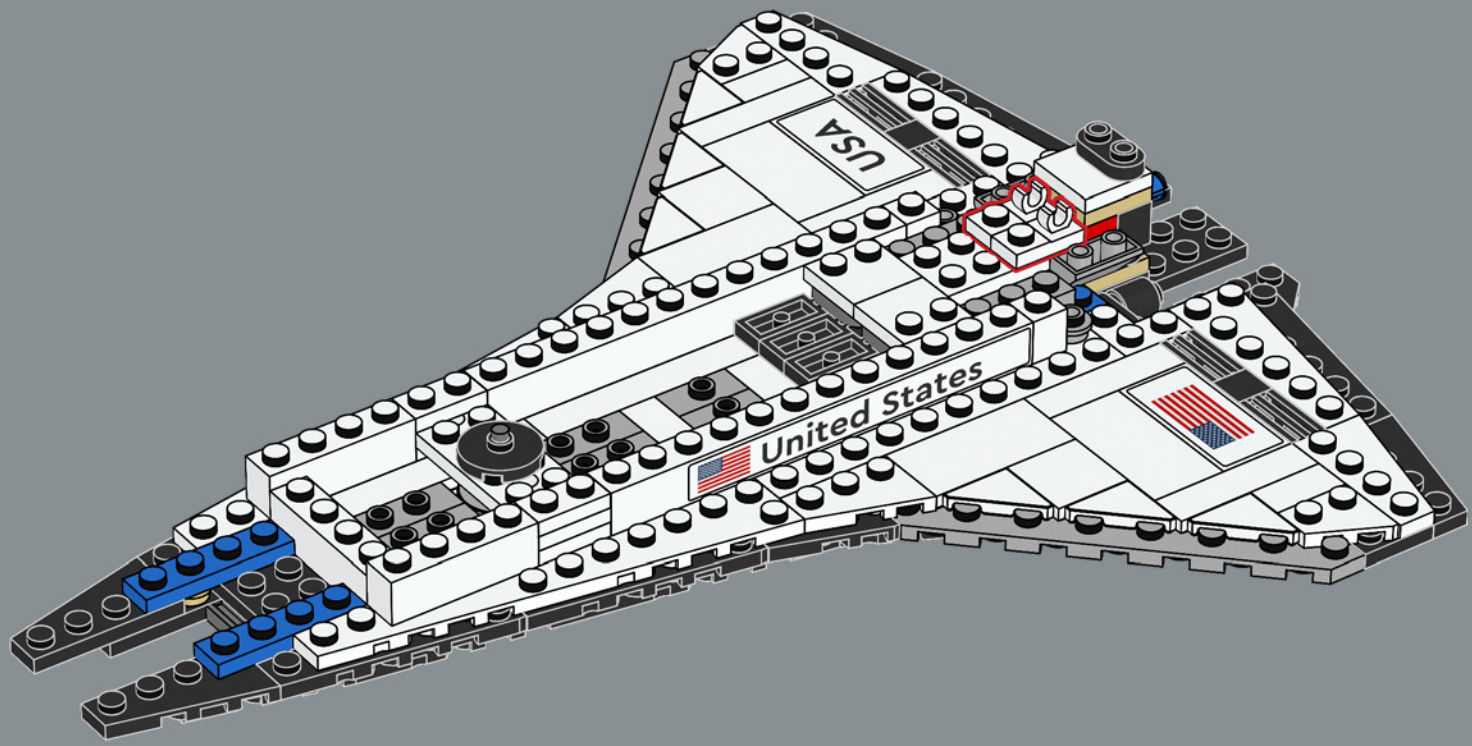

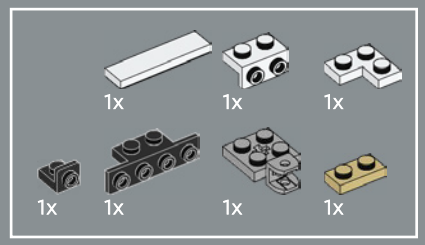
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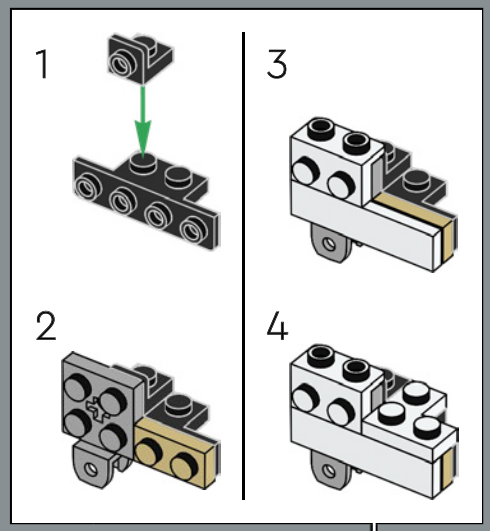
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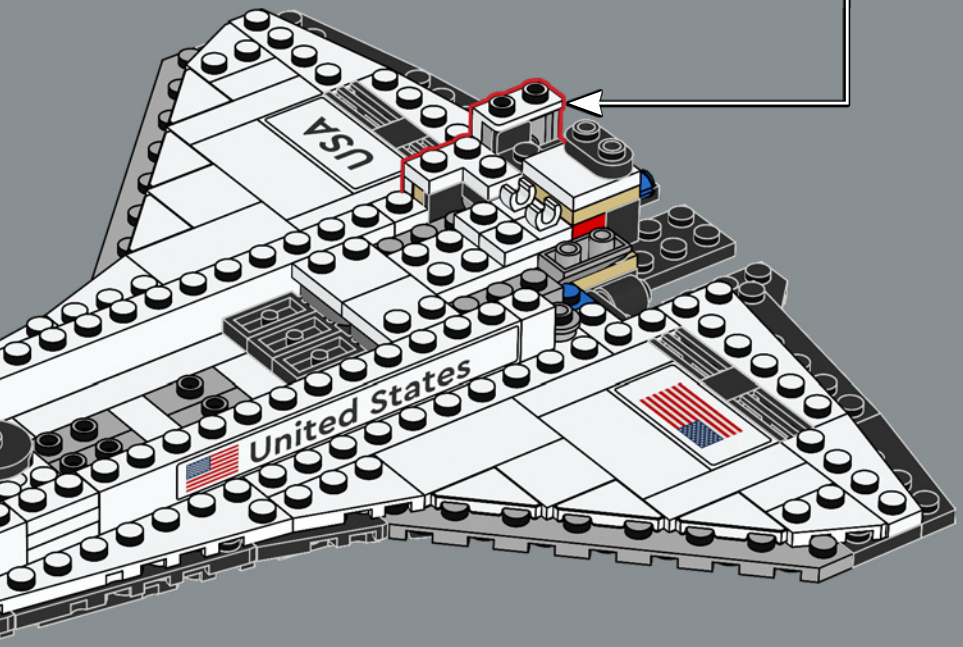
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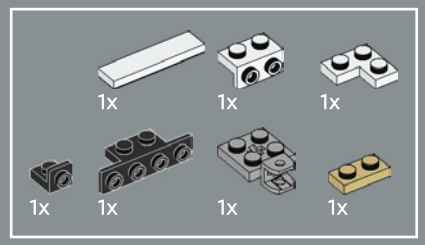
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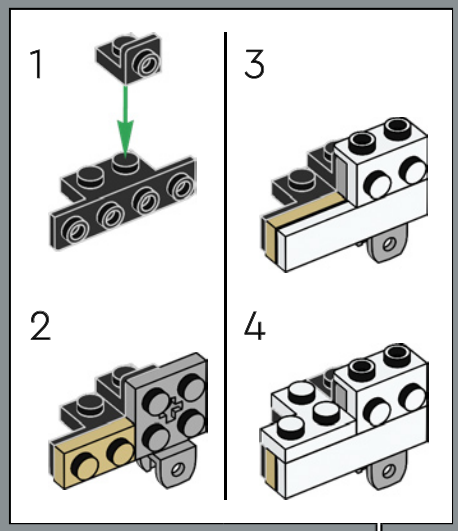
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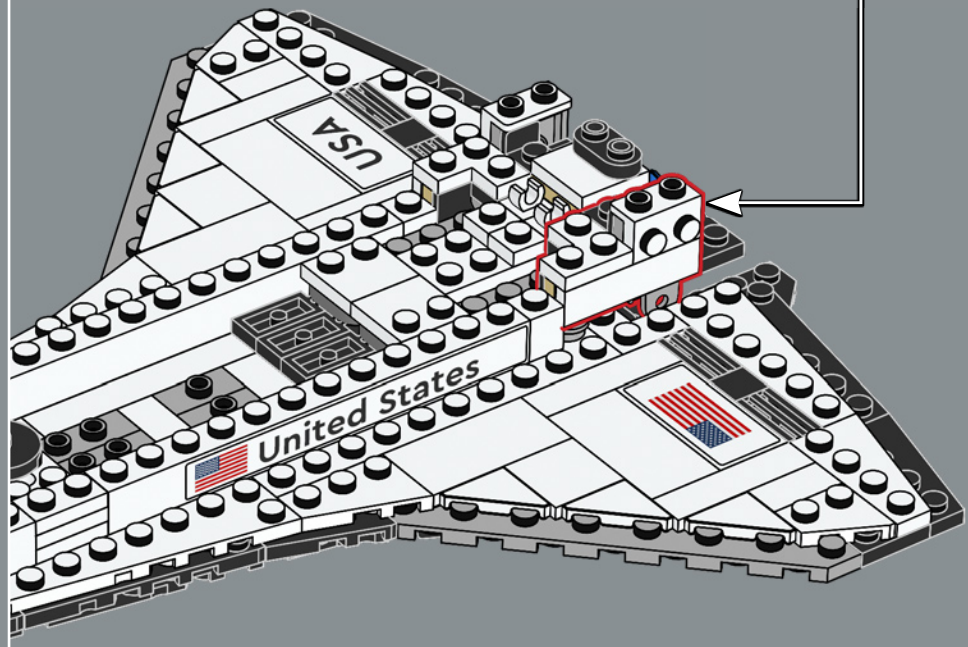
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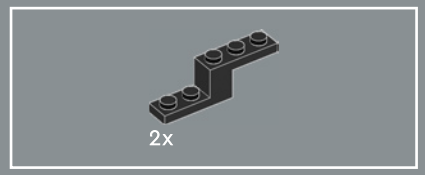


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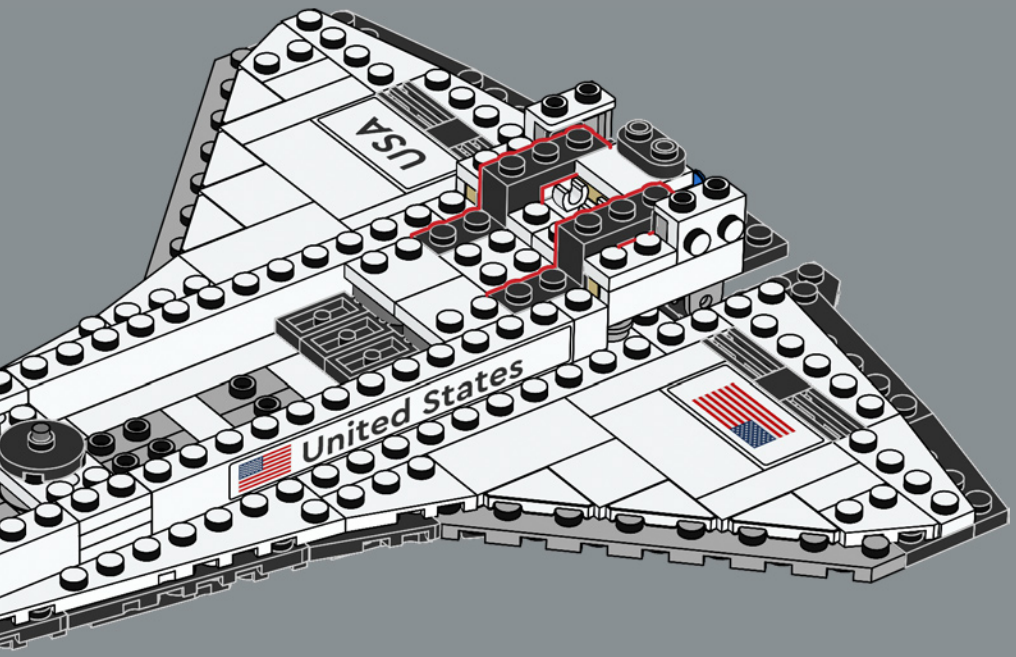


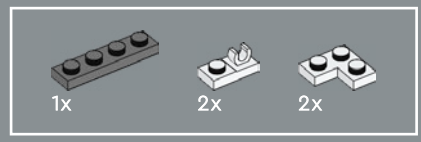


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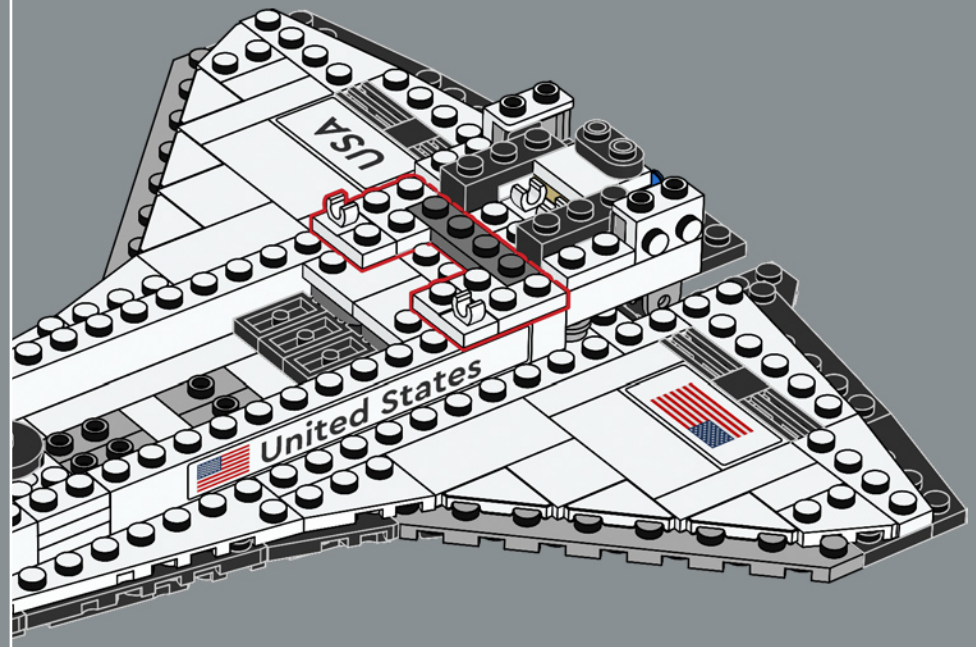

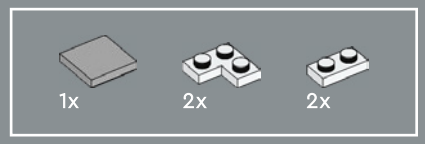


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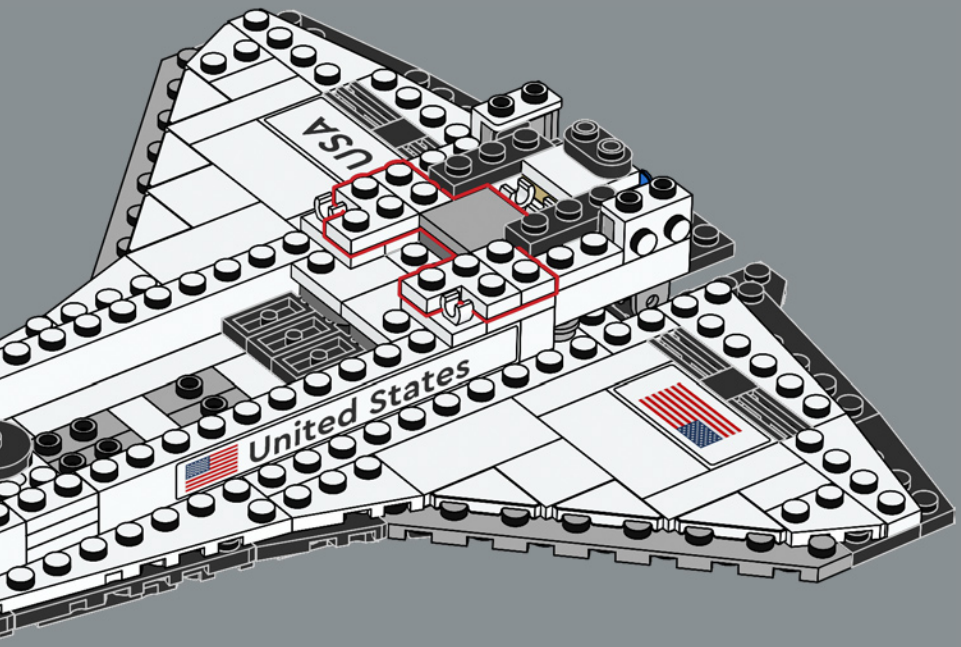


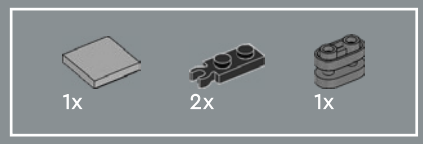


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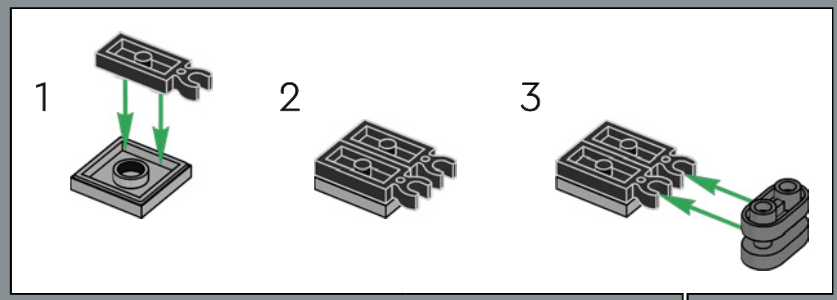


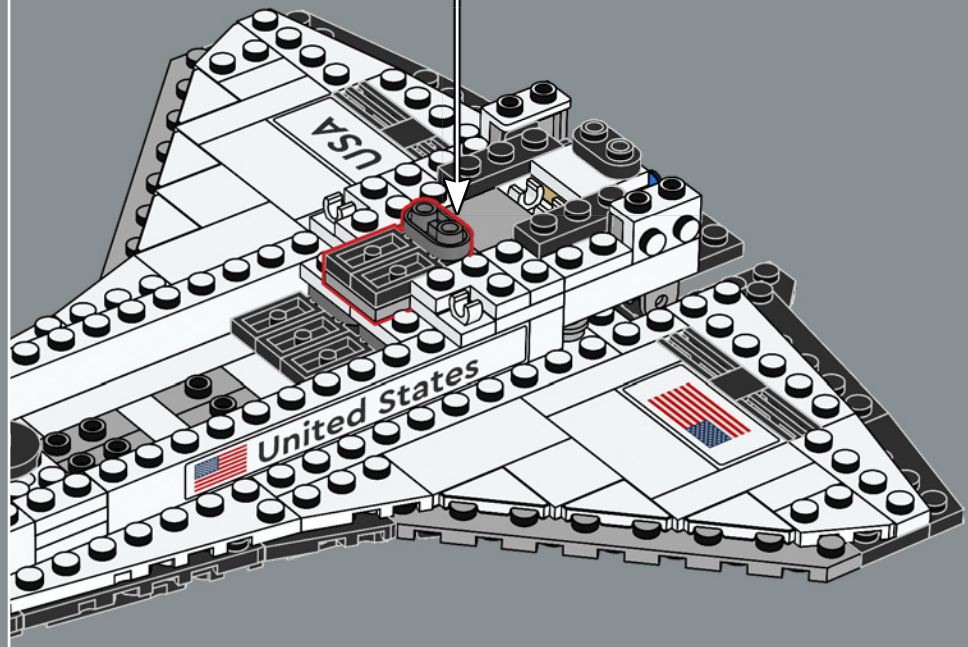

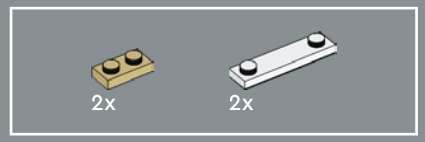


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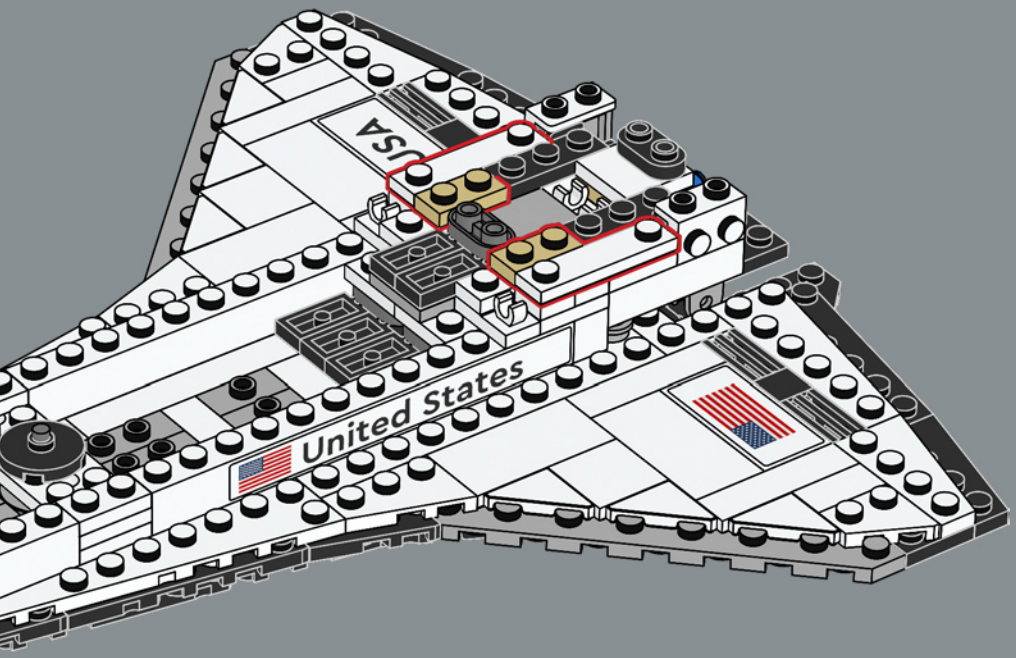



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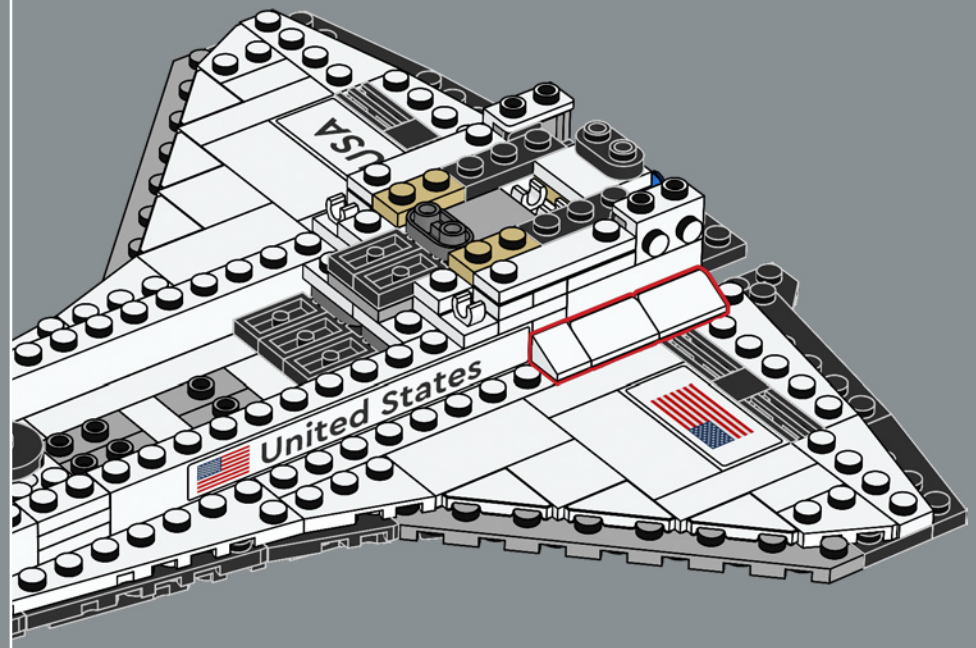

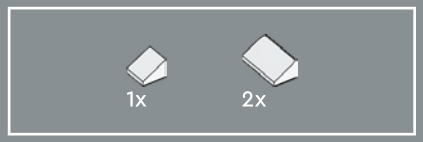


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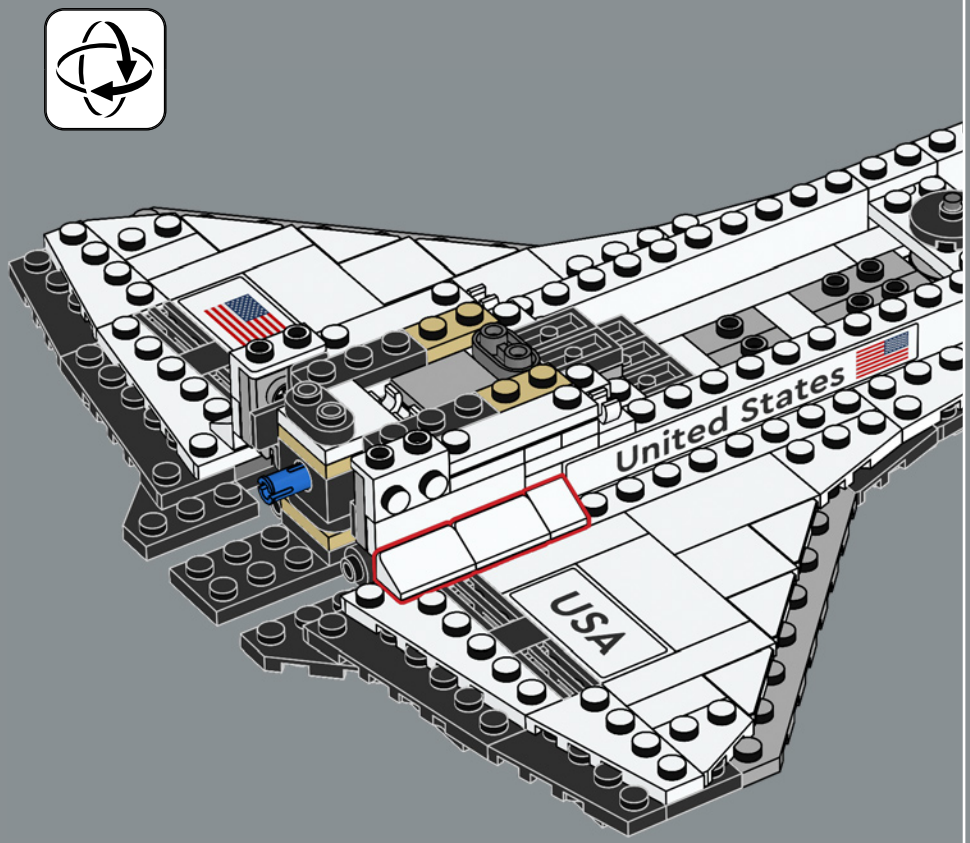


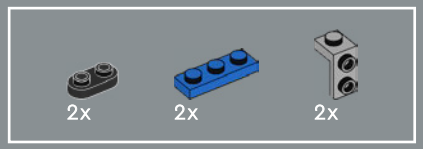


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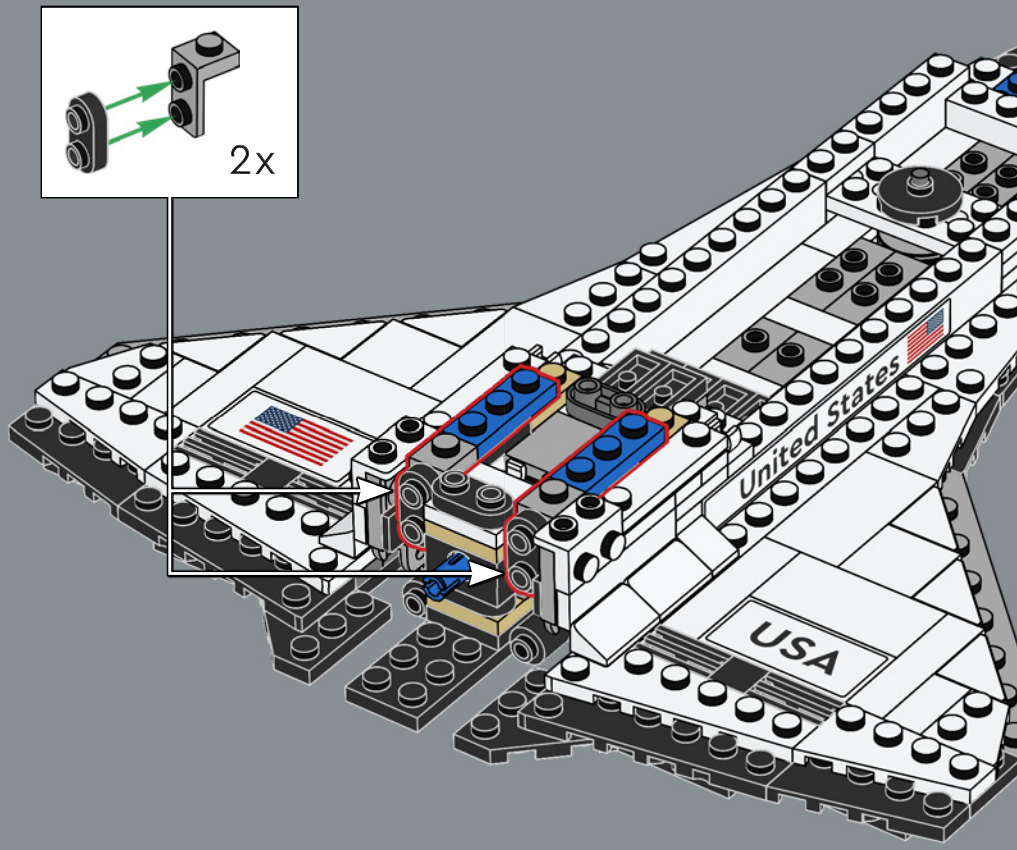

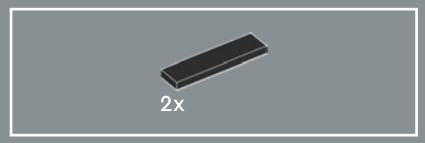


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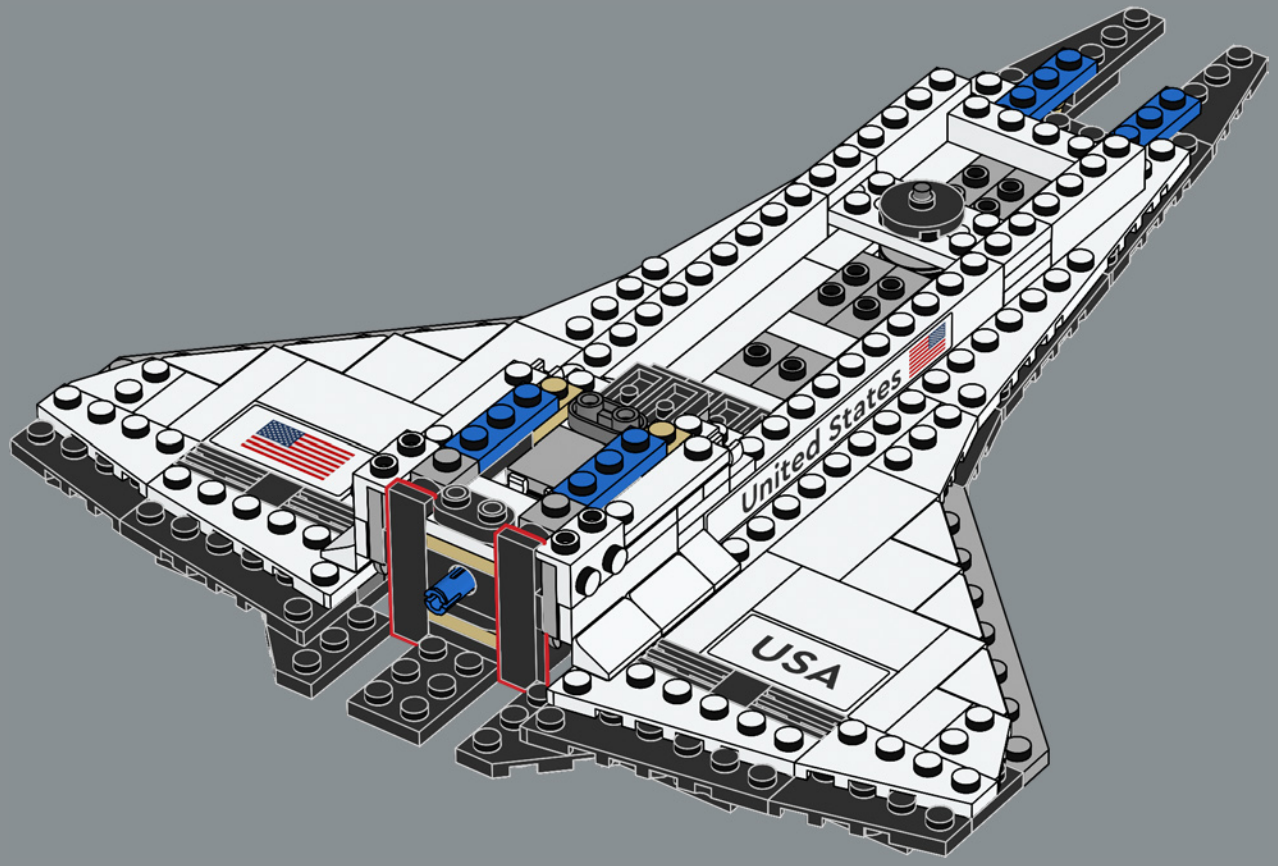

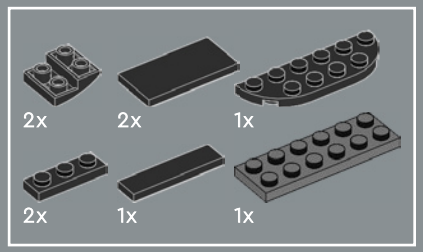


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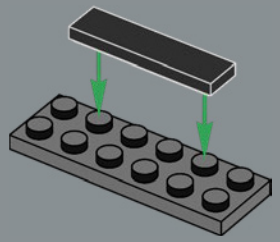

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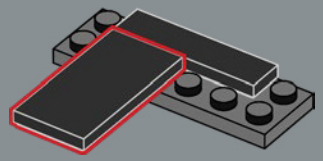

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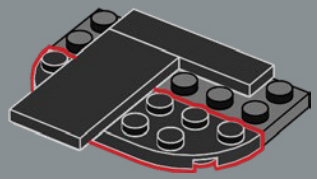

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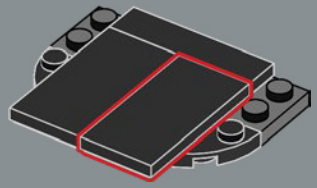

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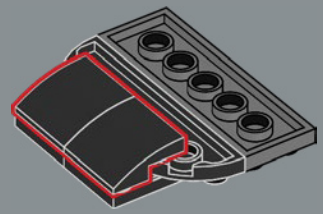

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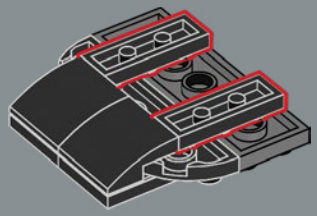

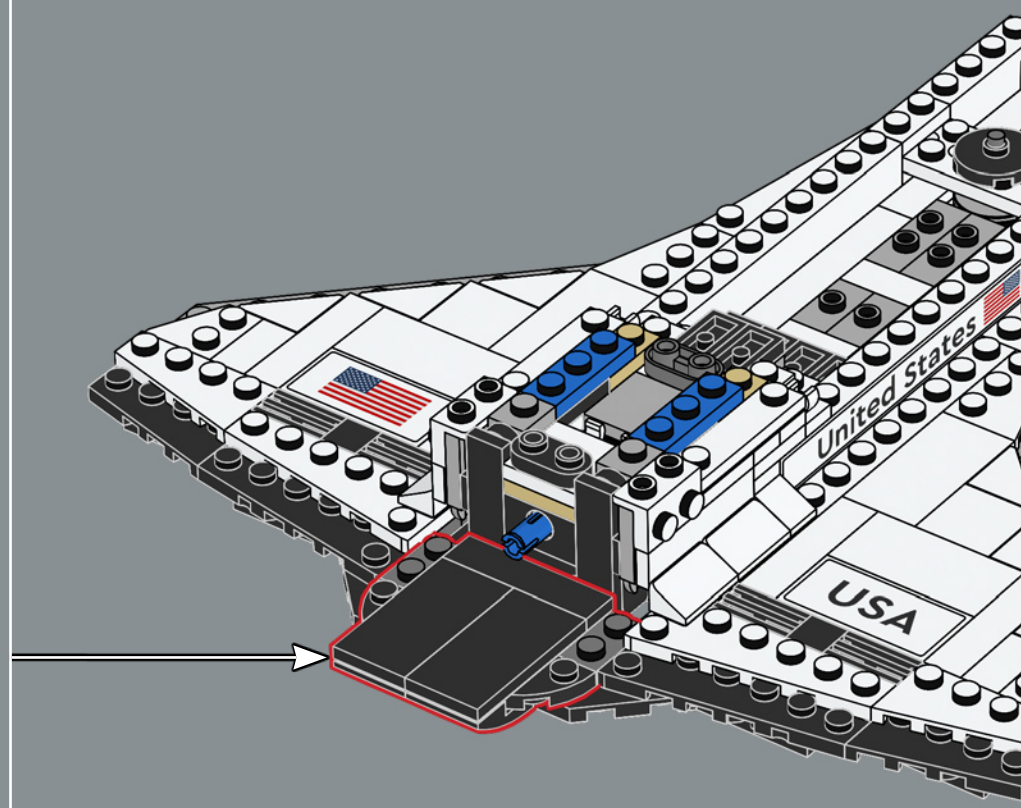

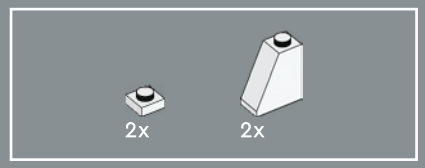


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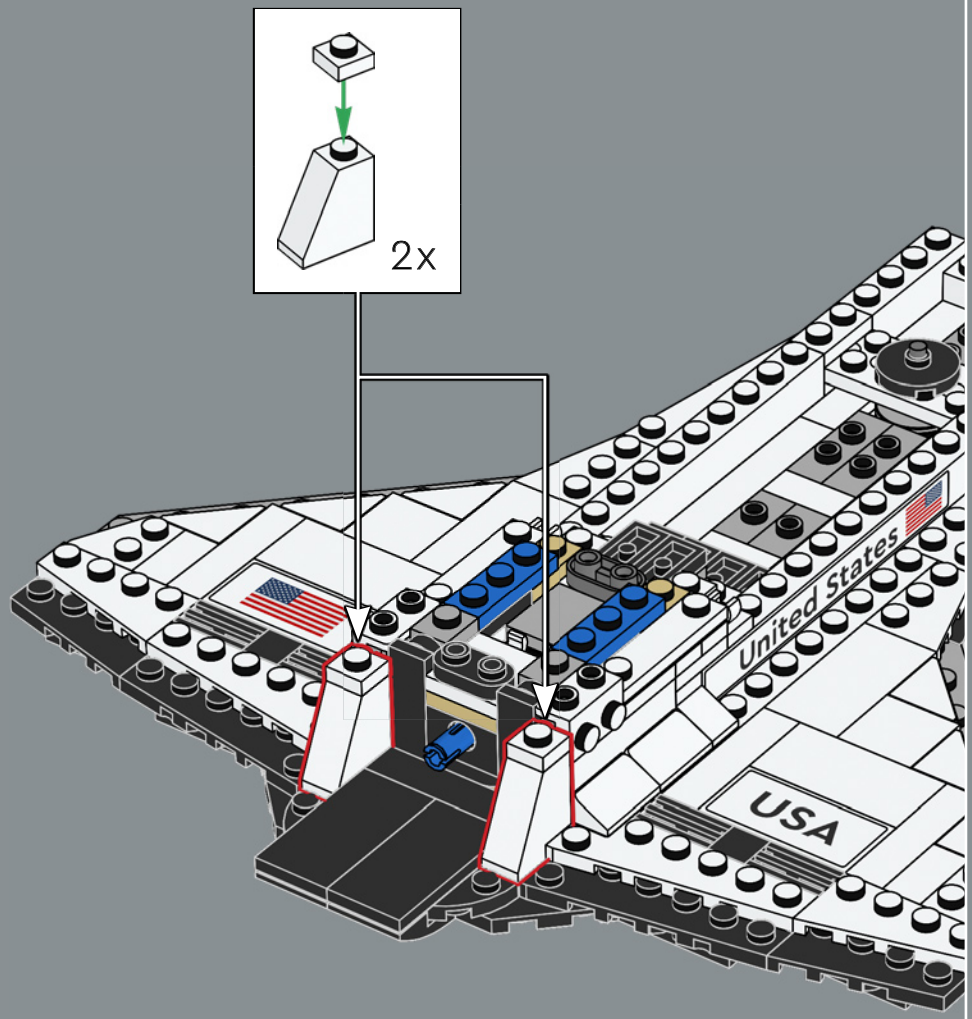


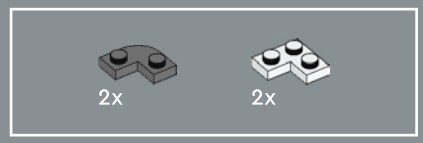


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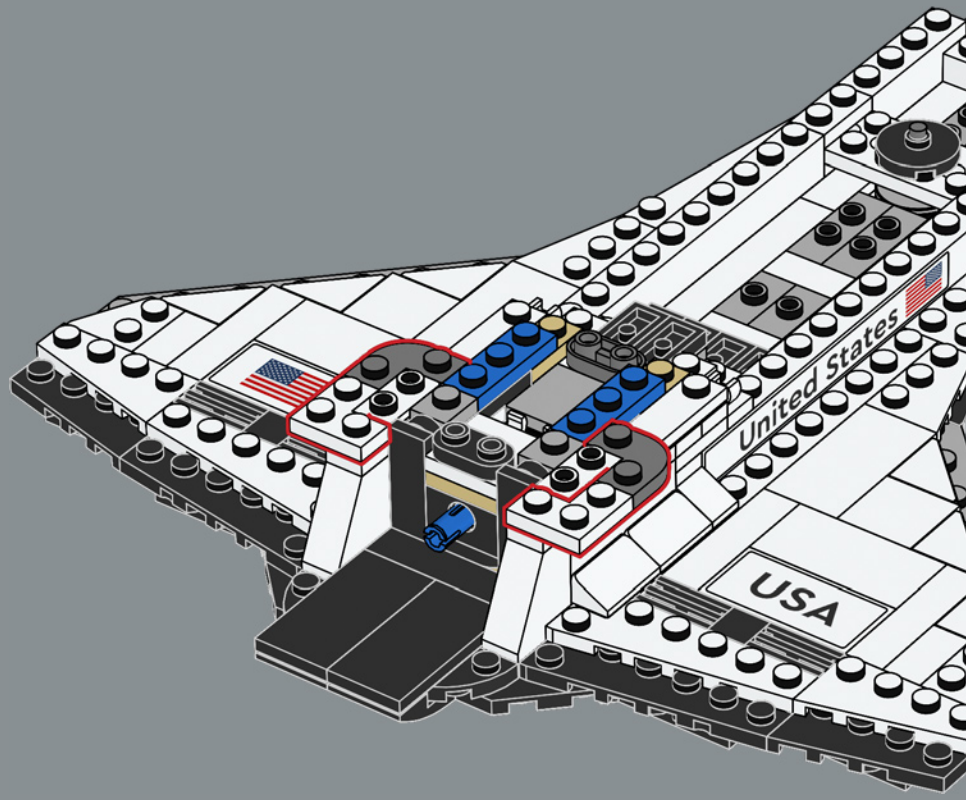

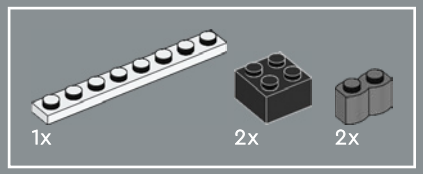


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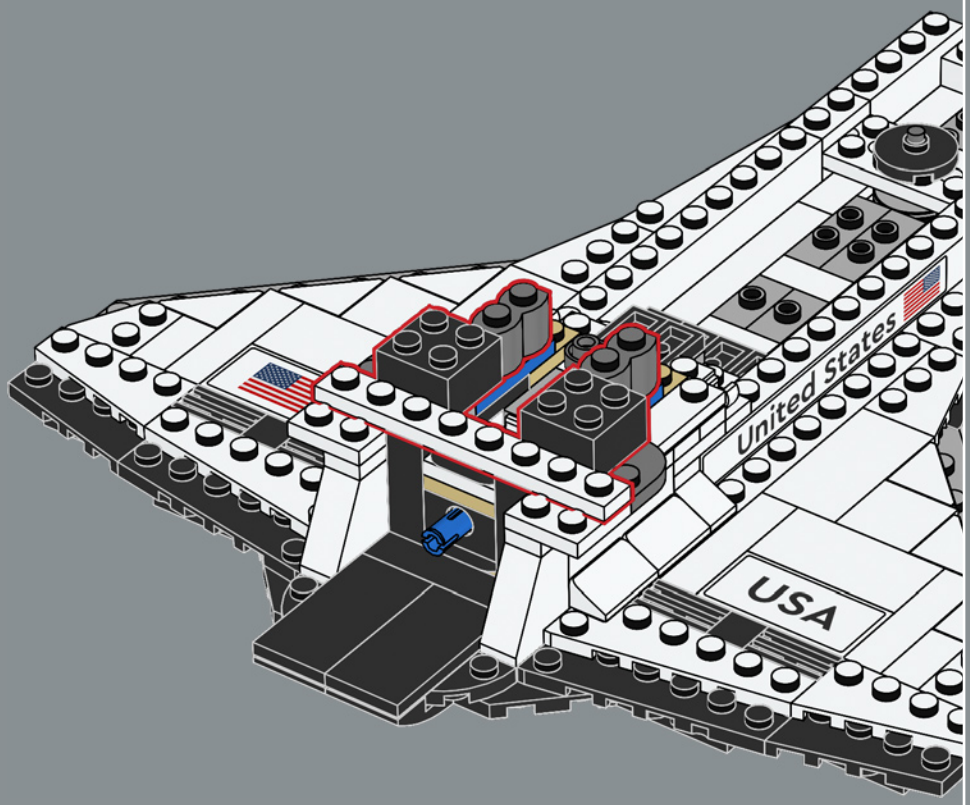


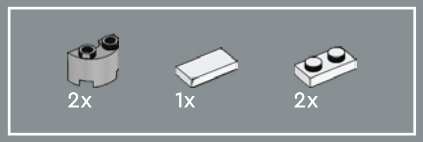


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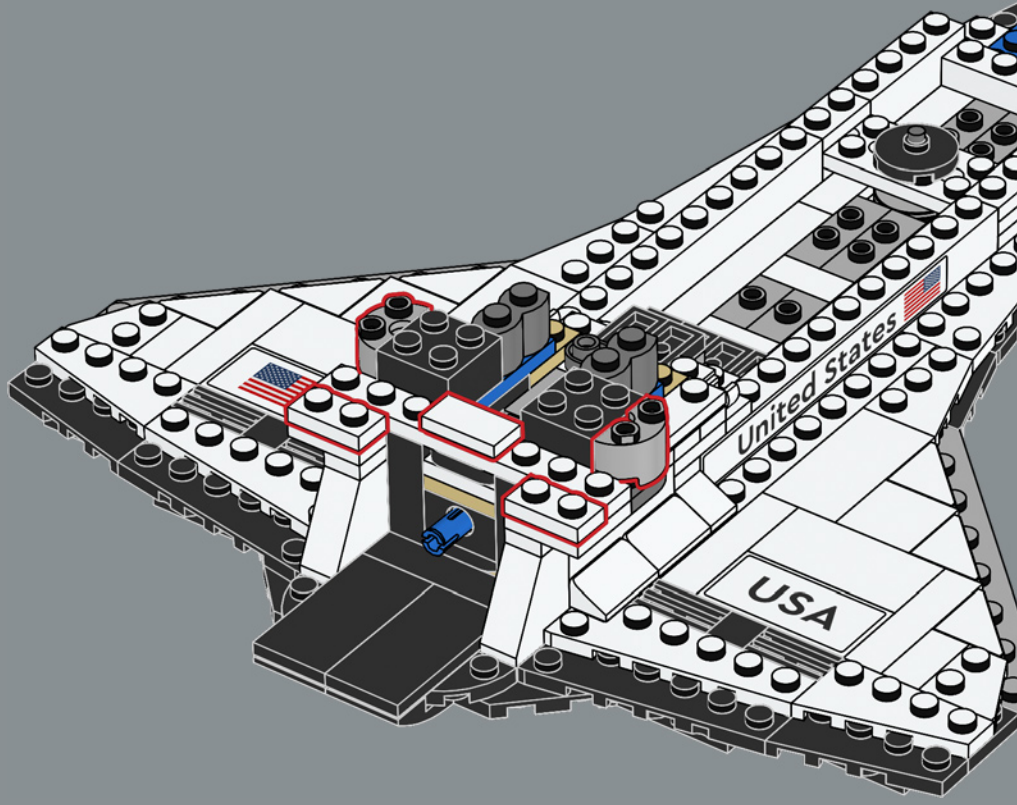


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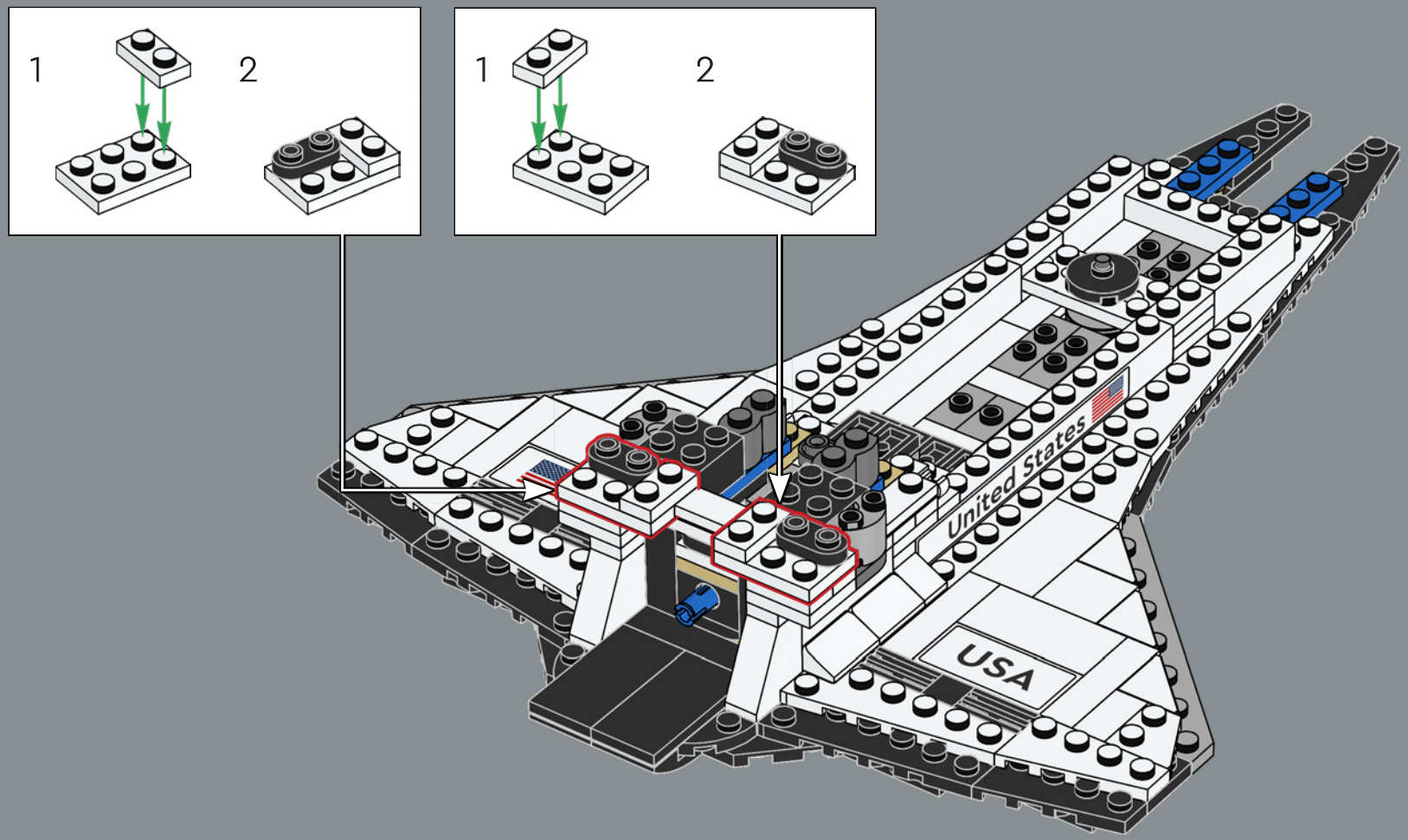

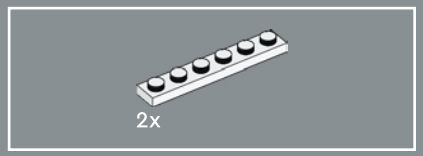


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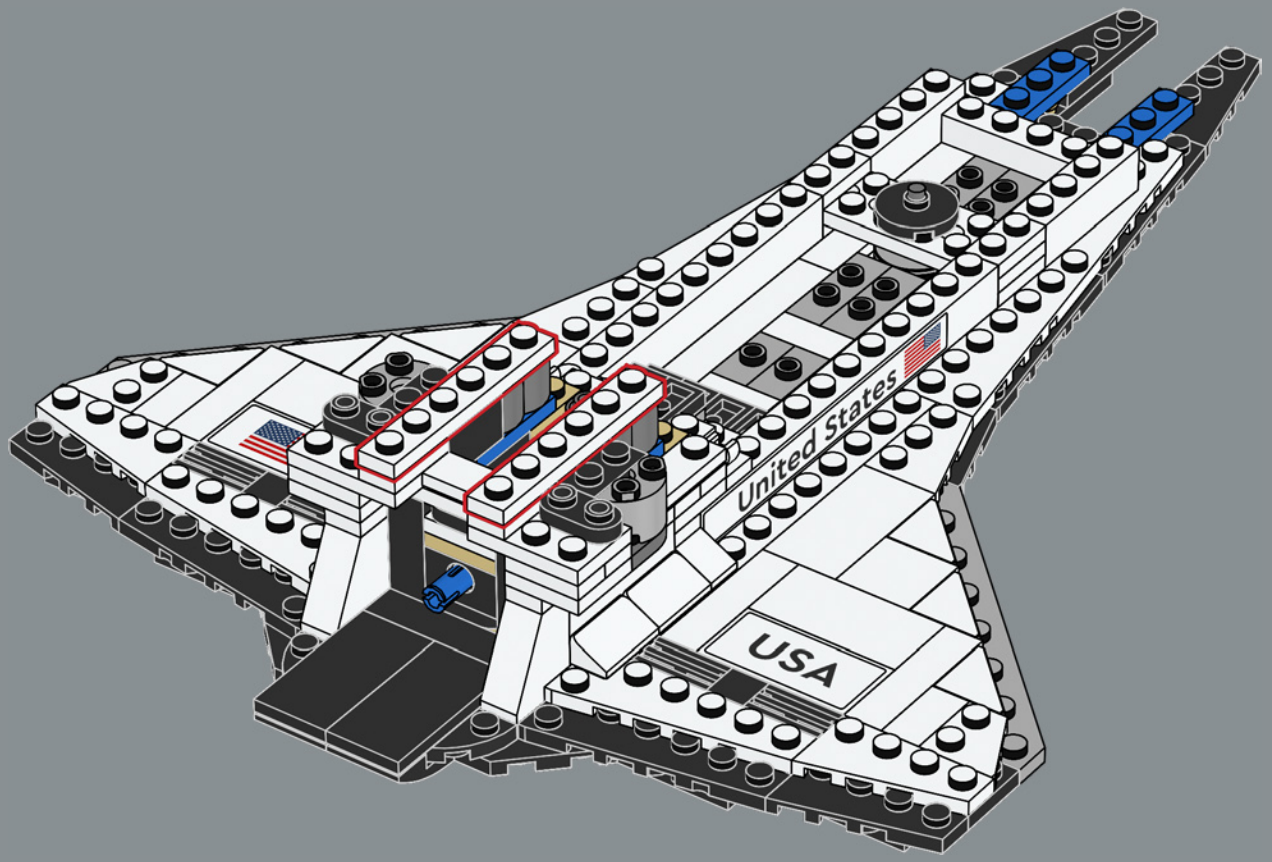

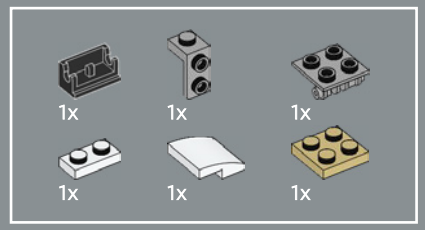


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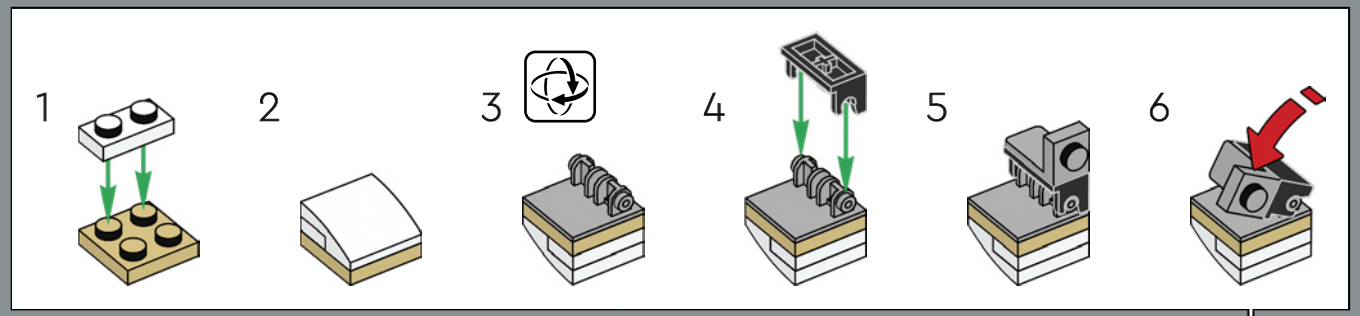


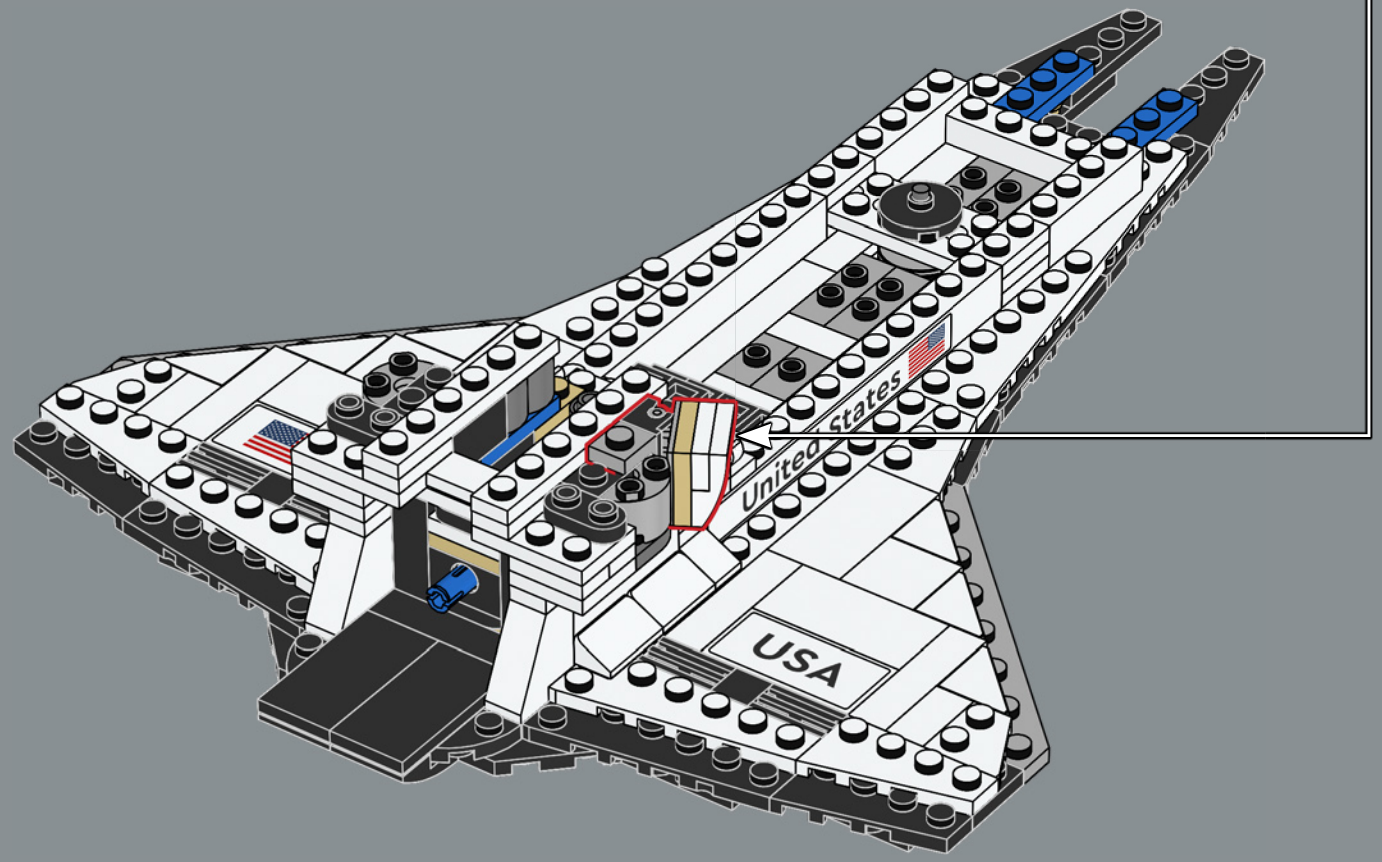

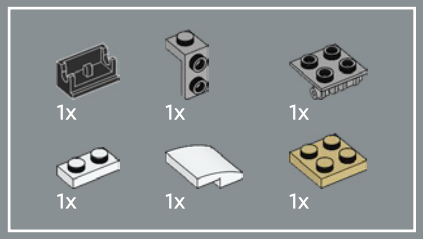


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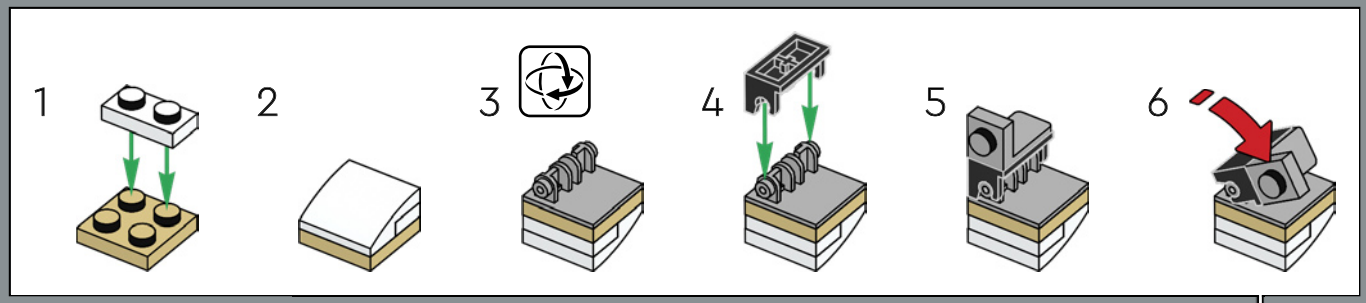


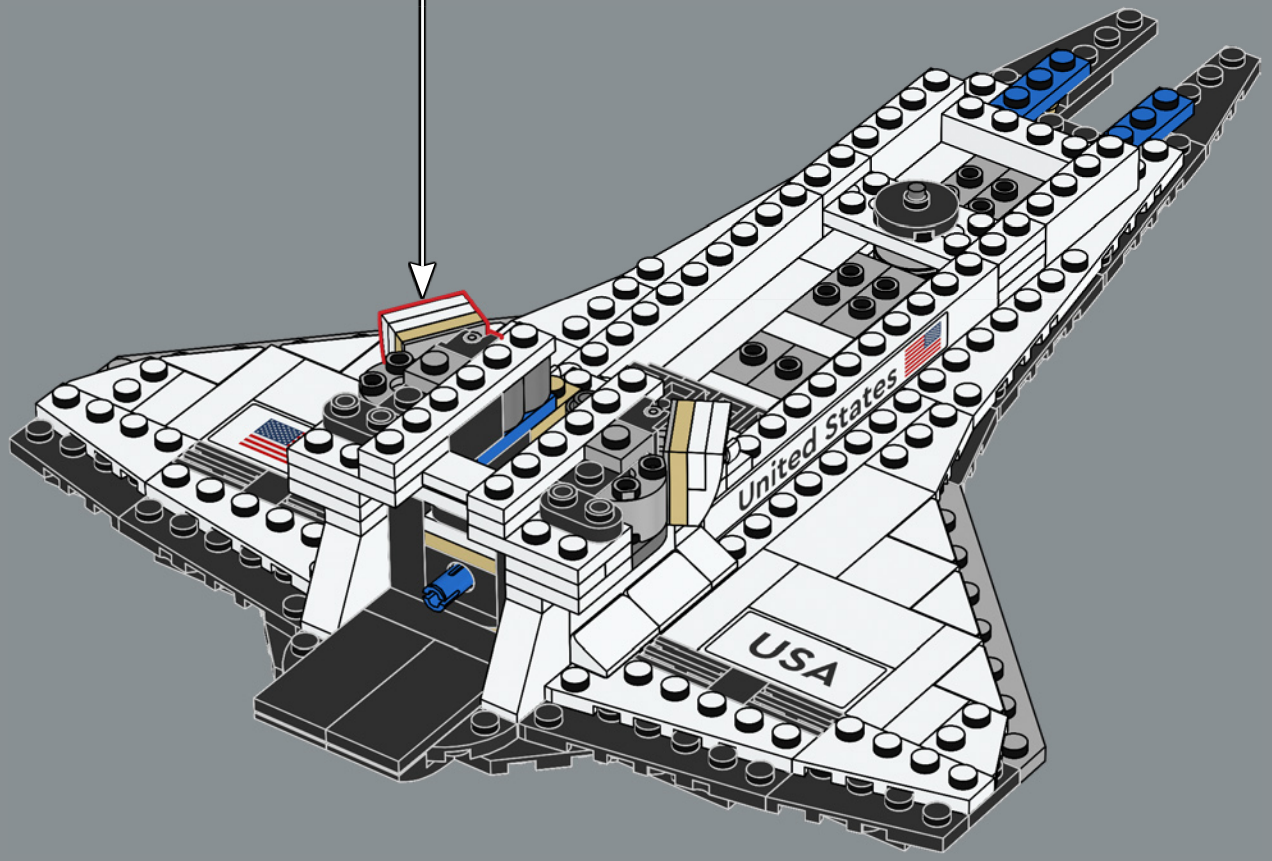

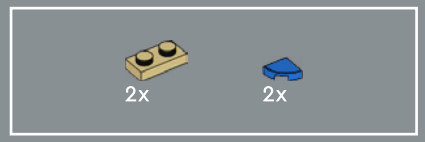


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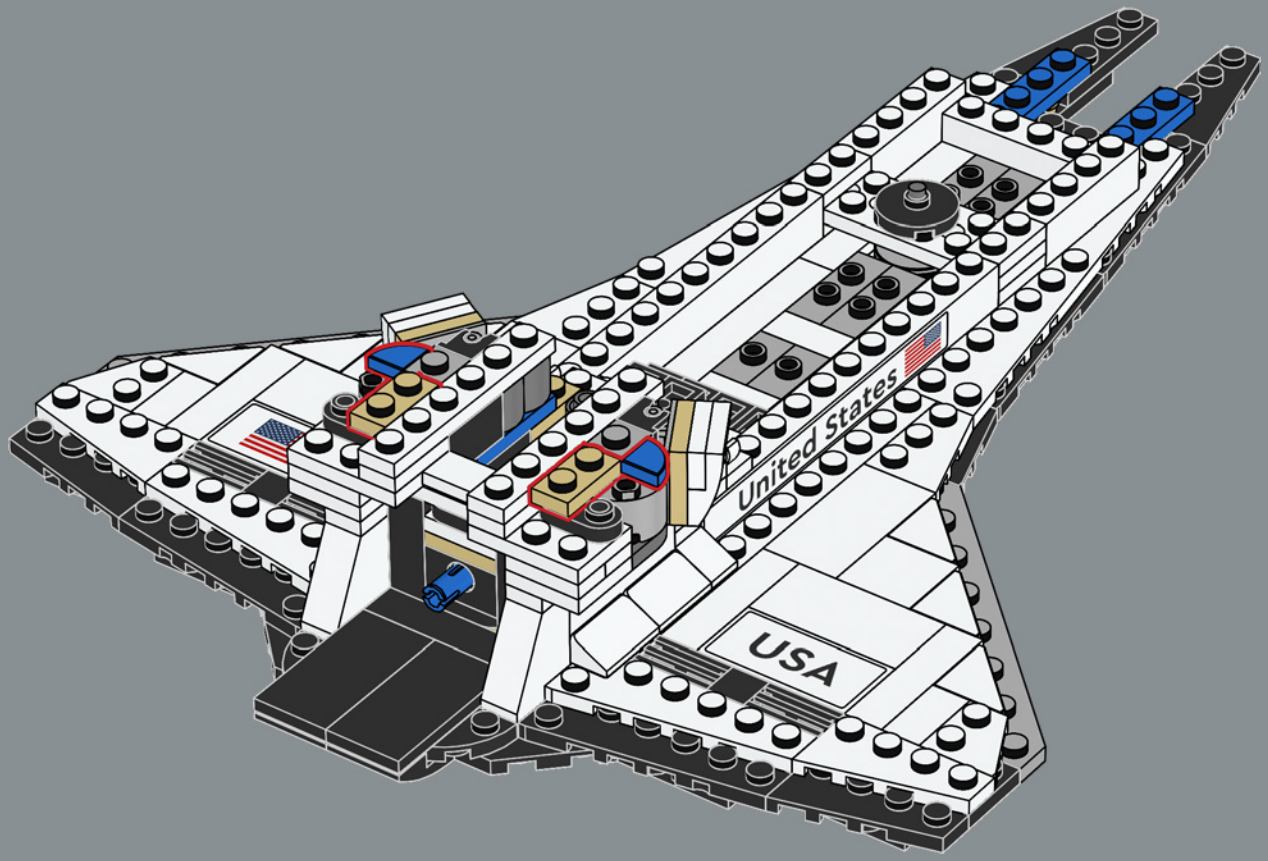

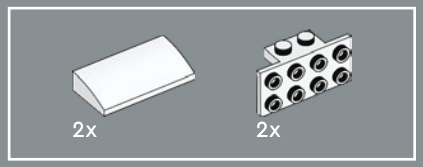


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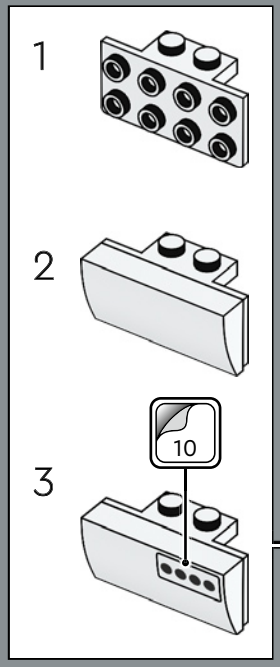


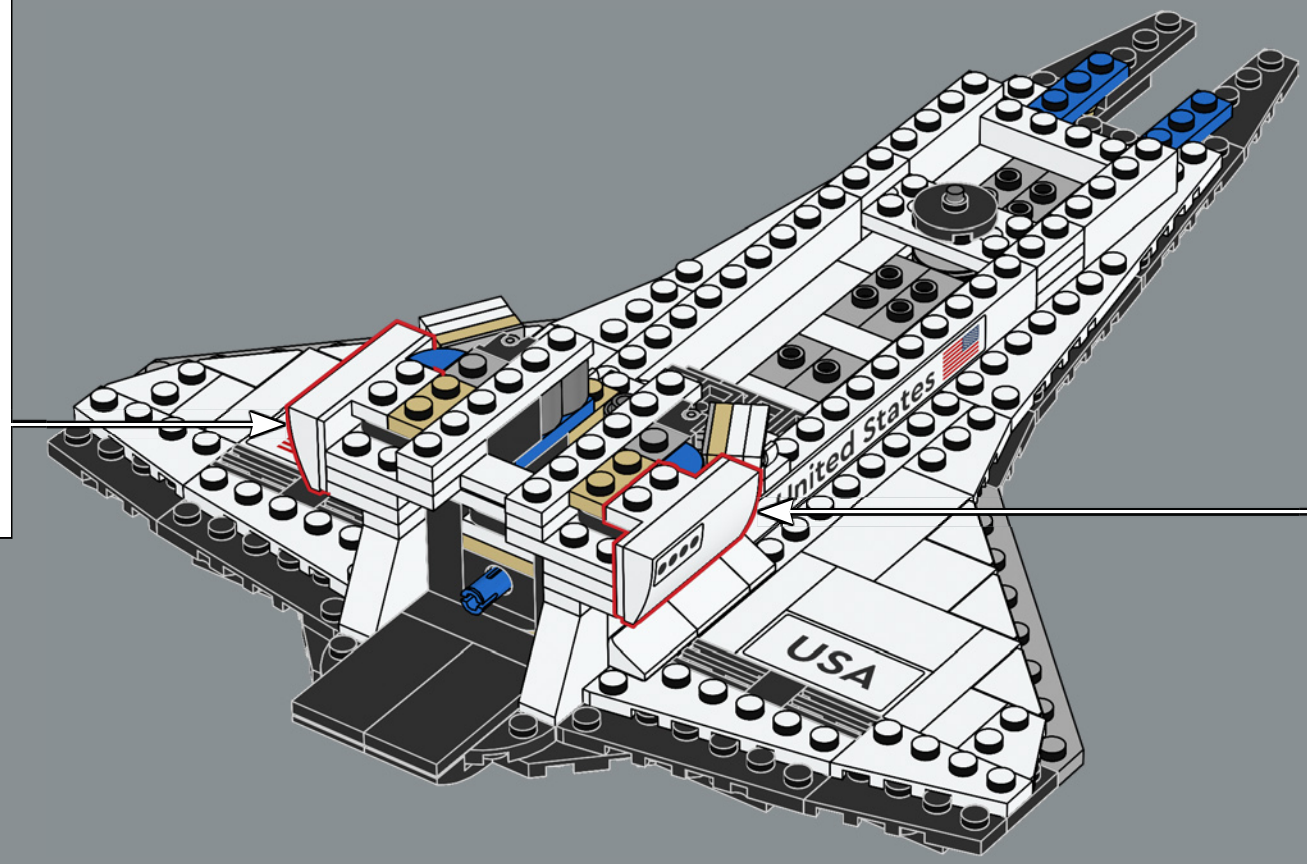


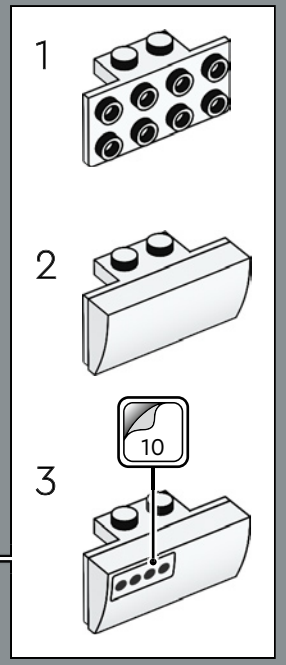

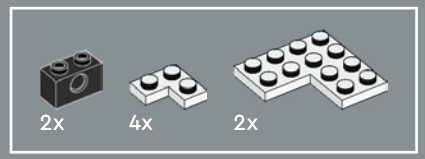


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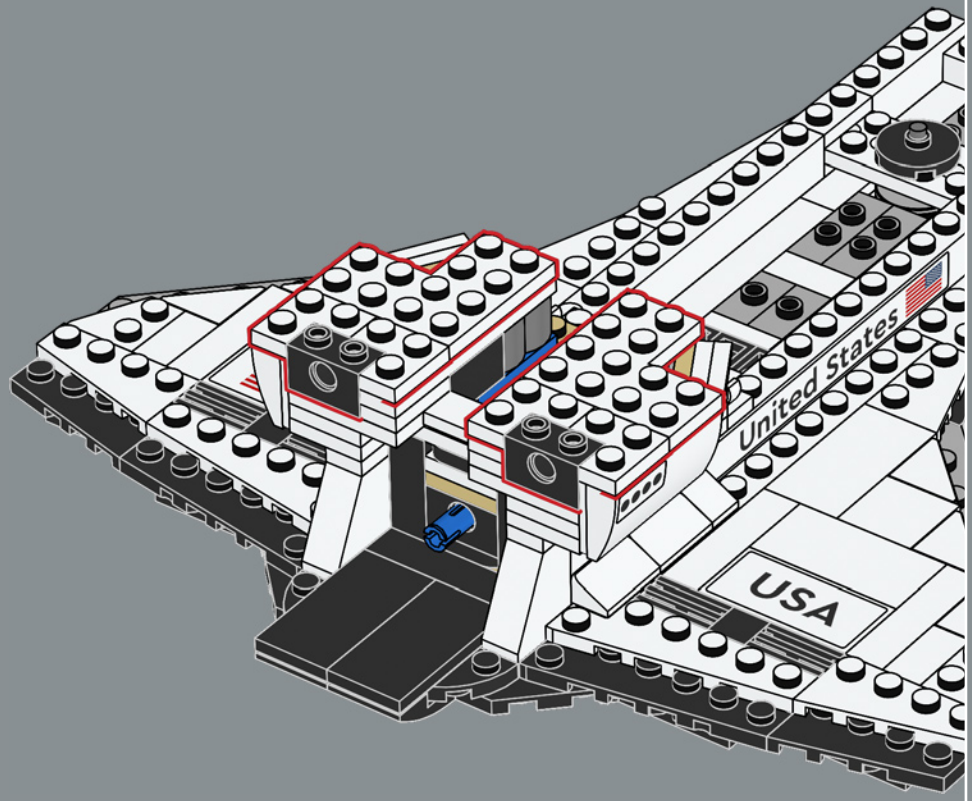


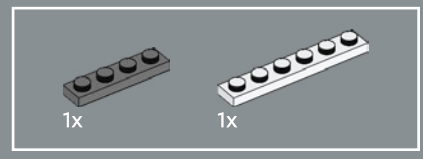


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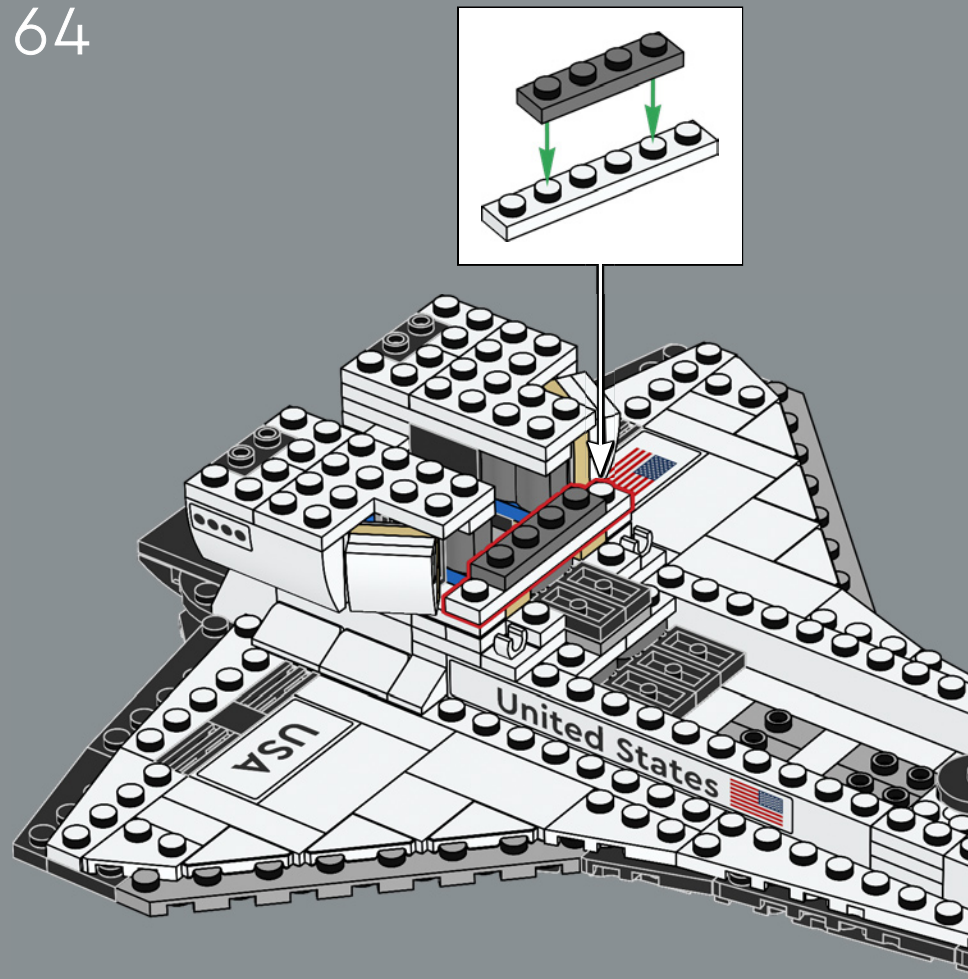


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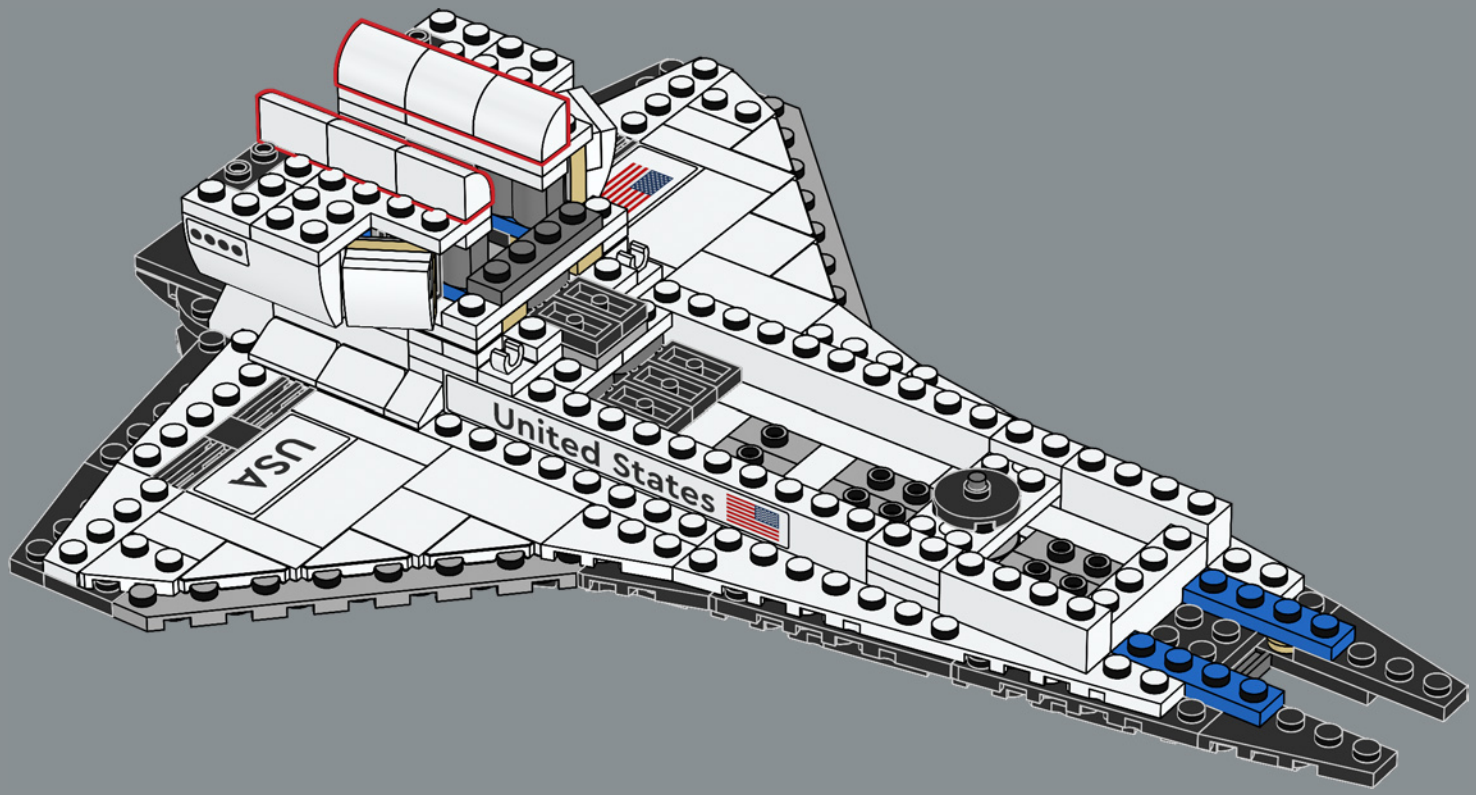

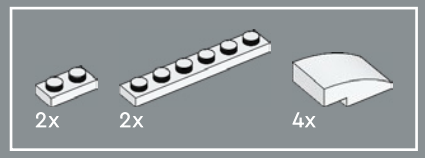


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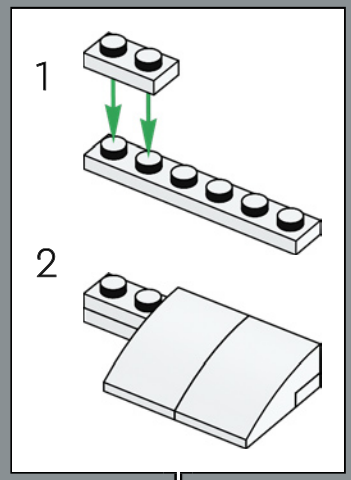


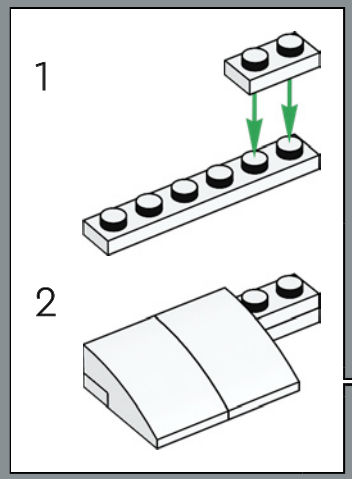


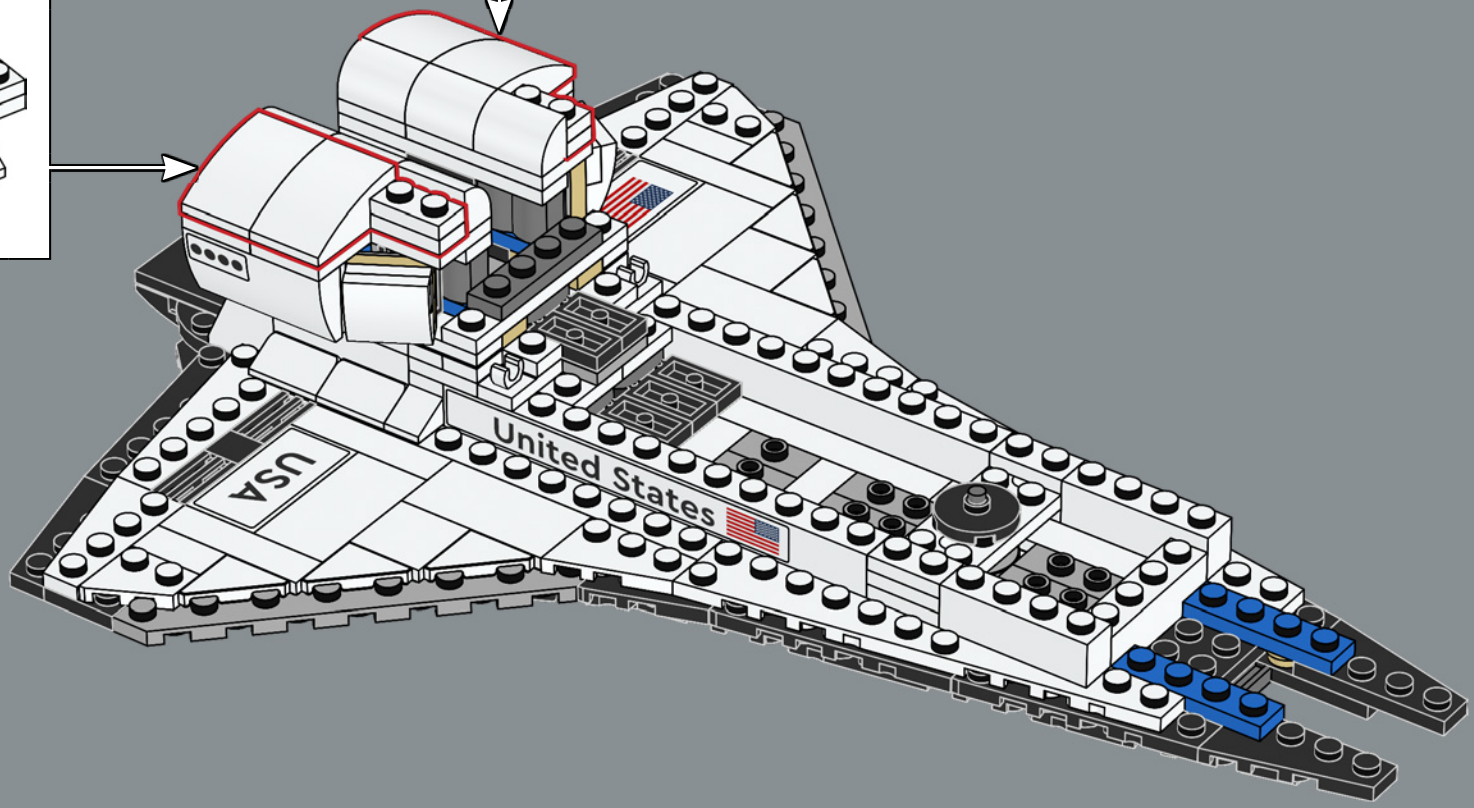

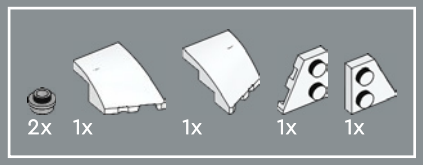


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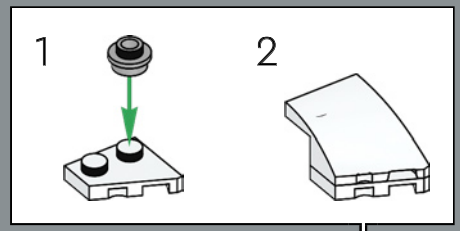


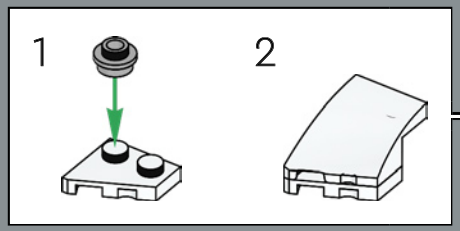


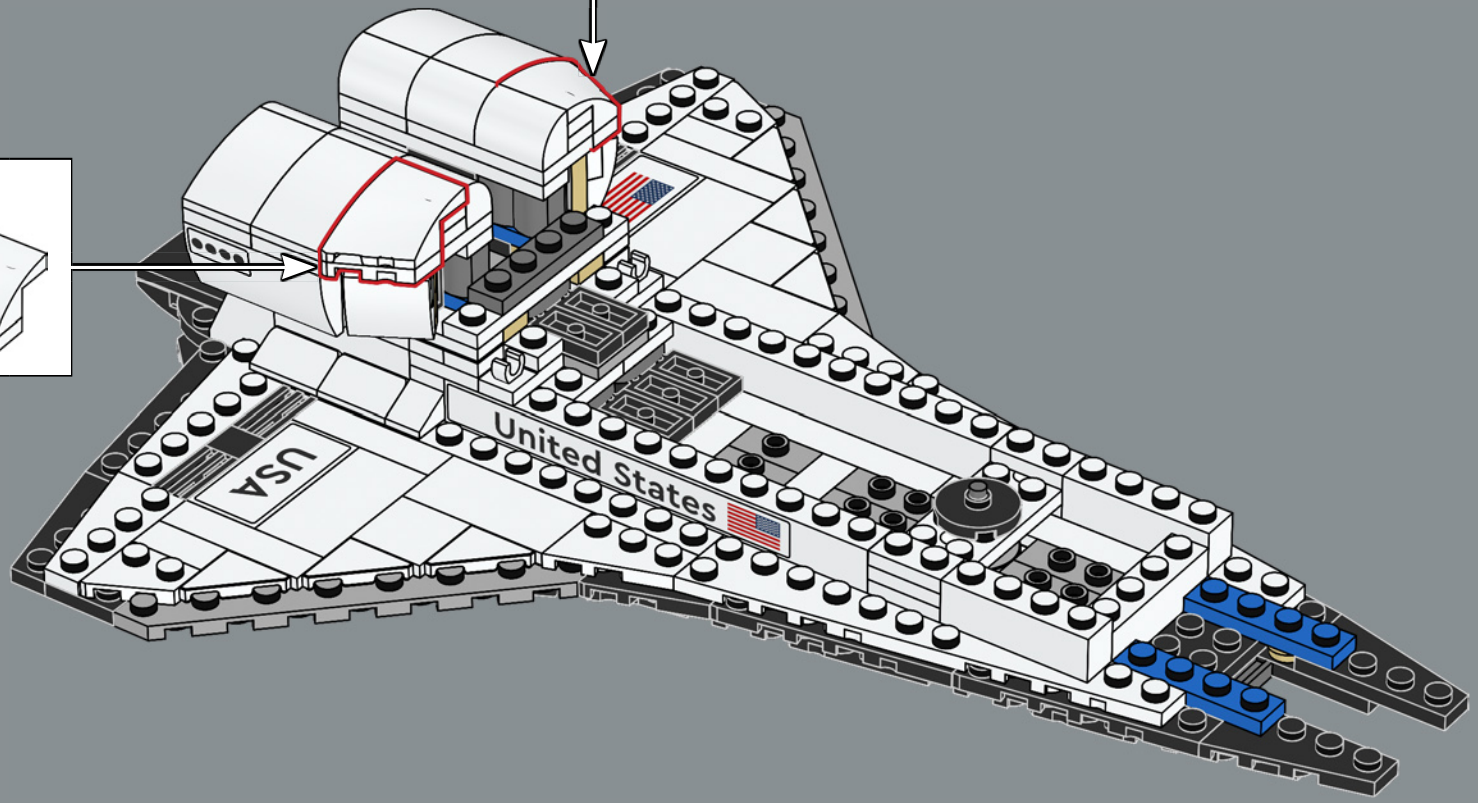


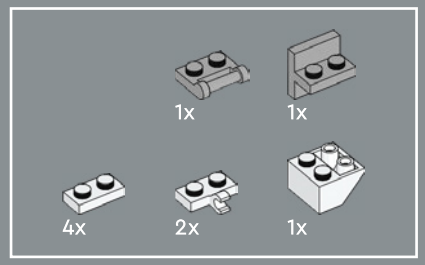


68

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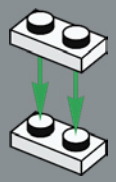

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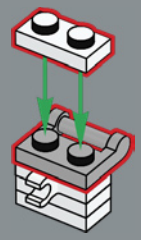

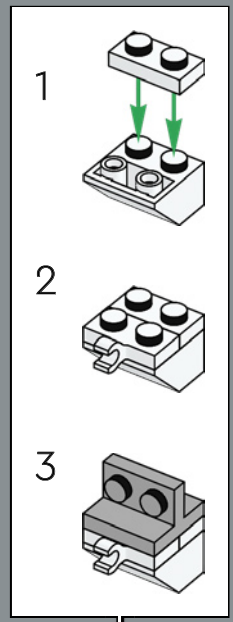


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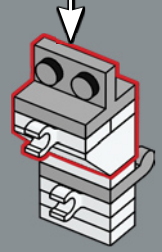

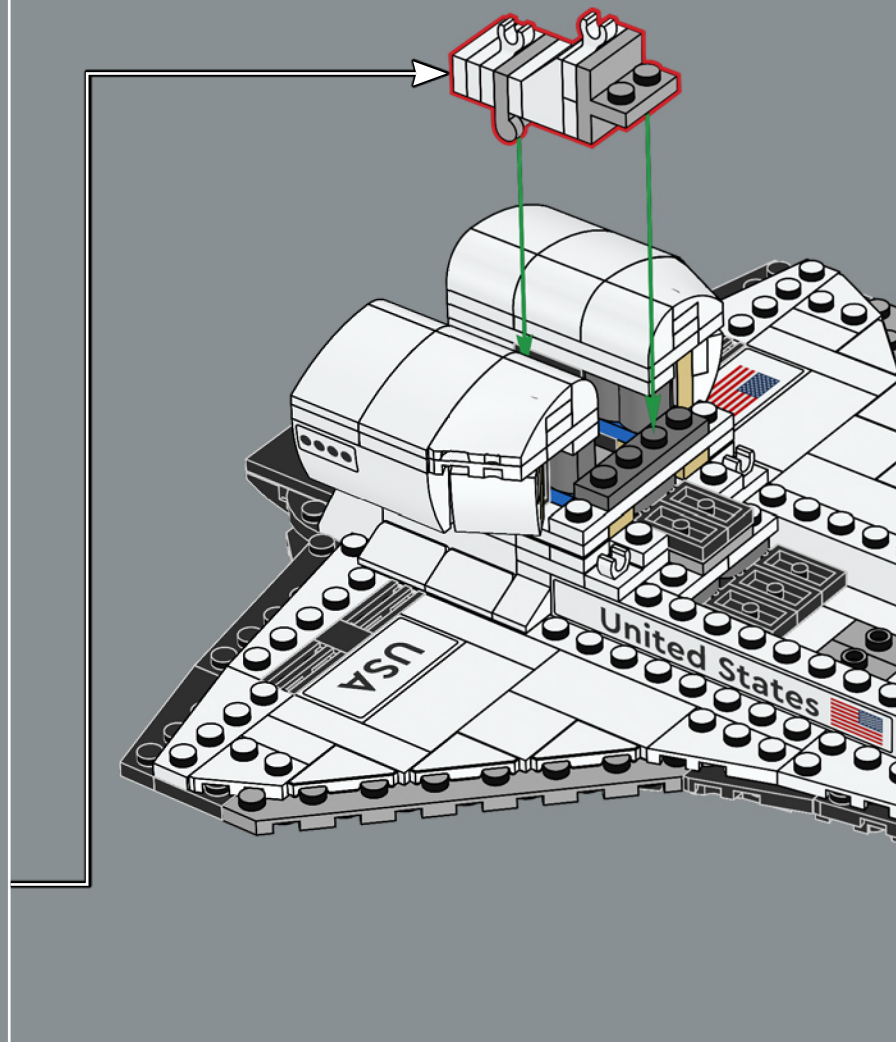

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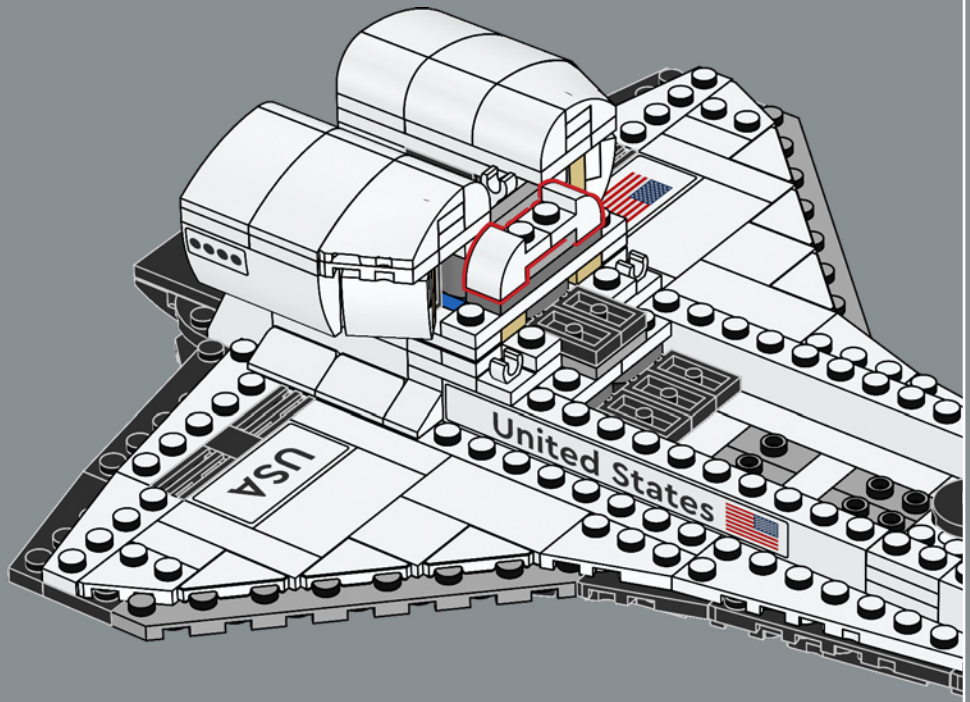


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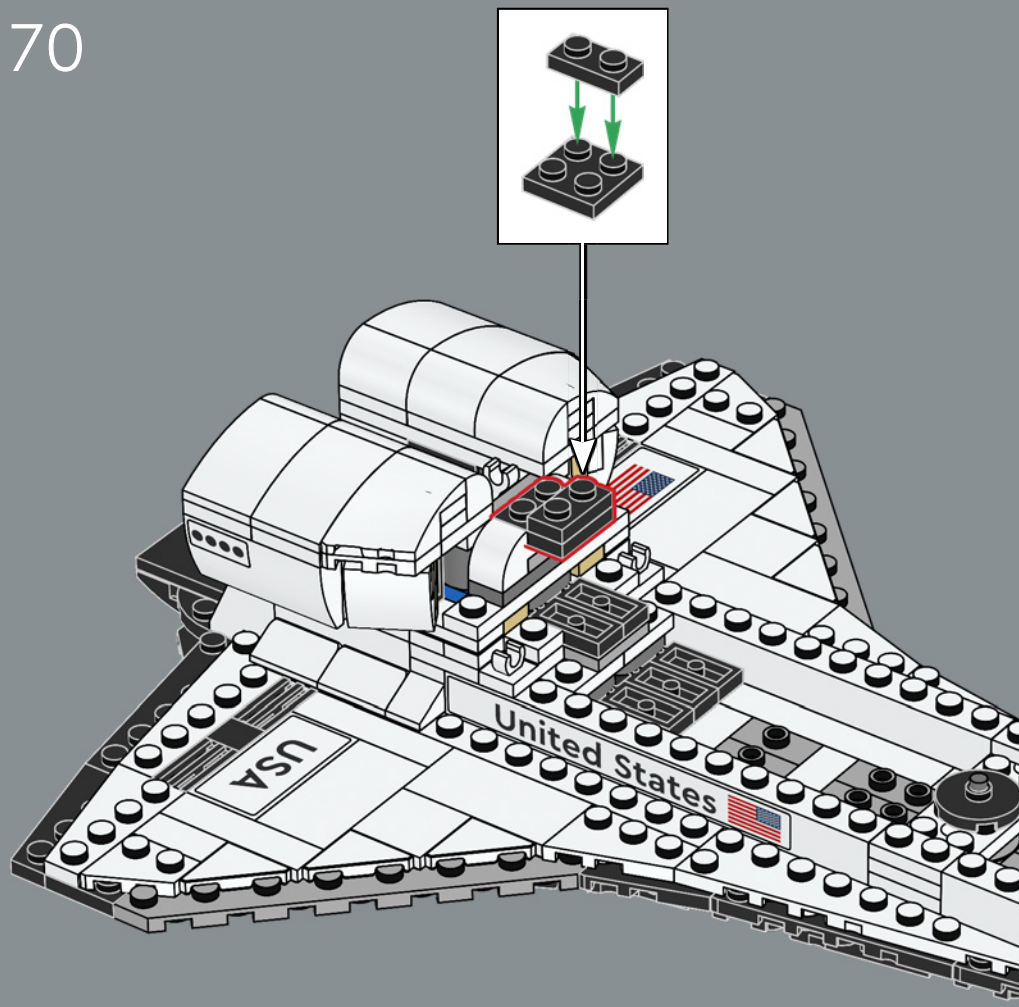


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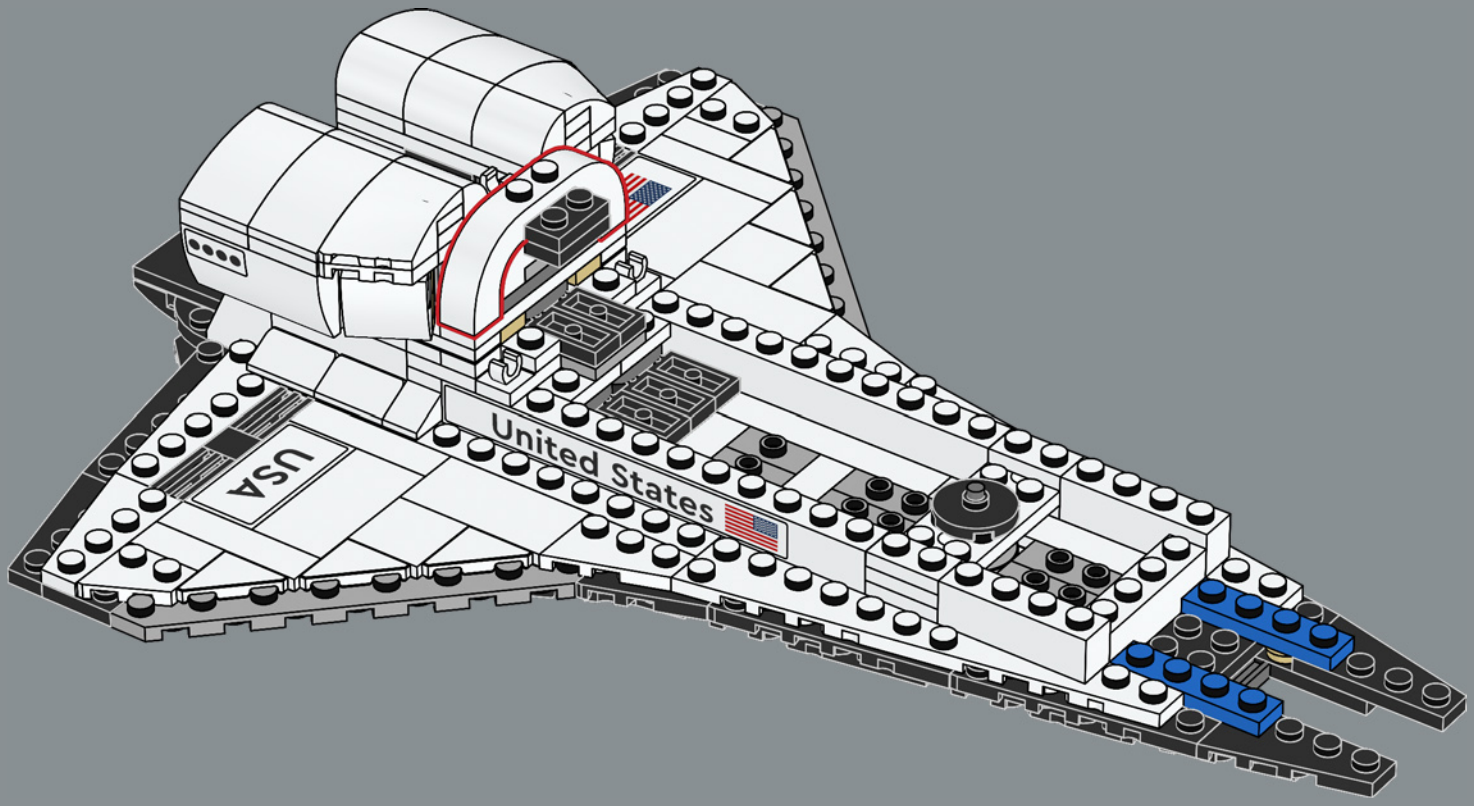

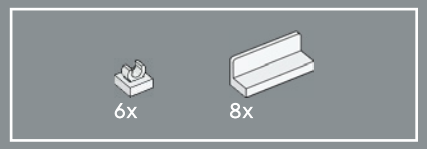


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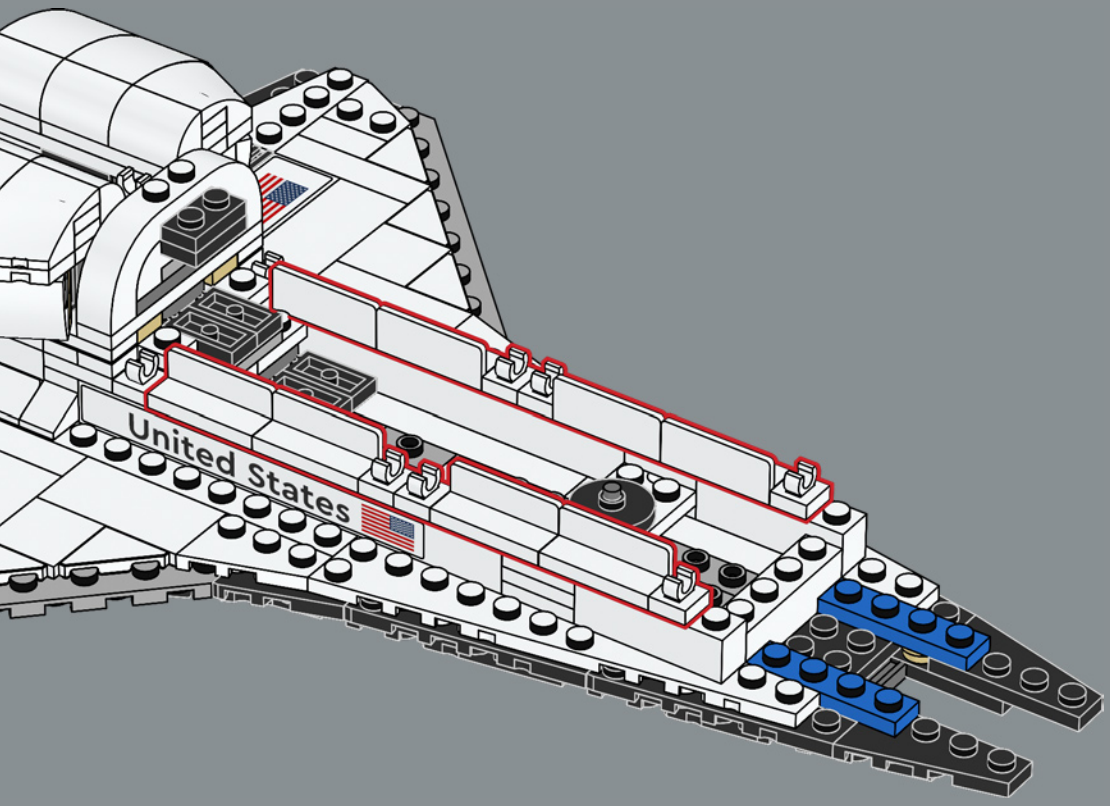


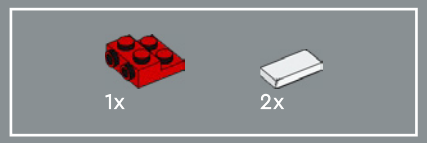


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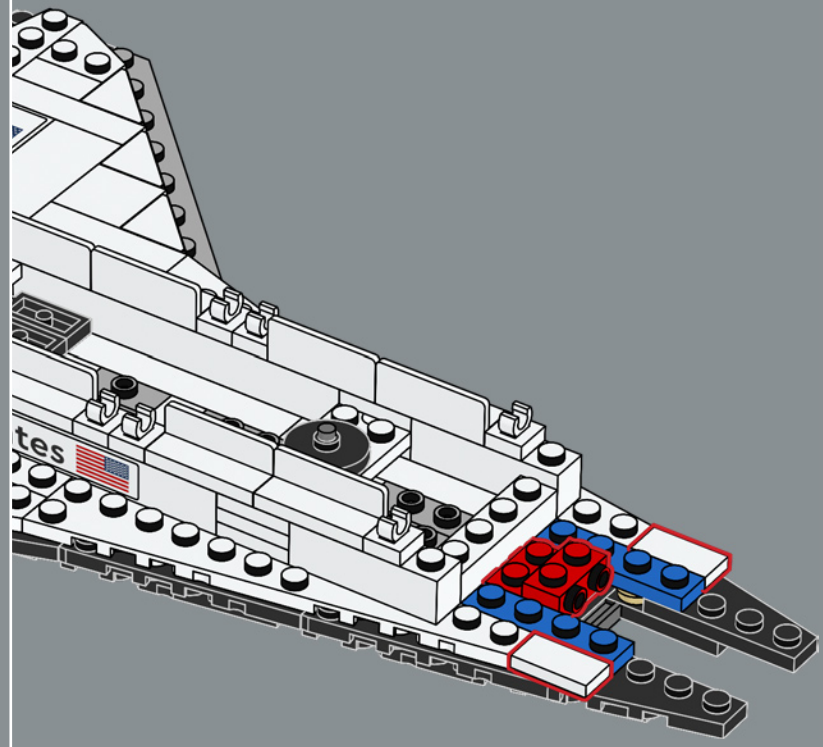


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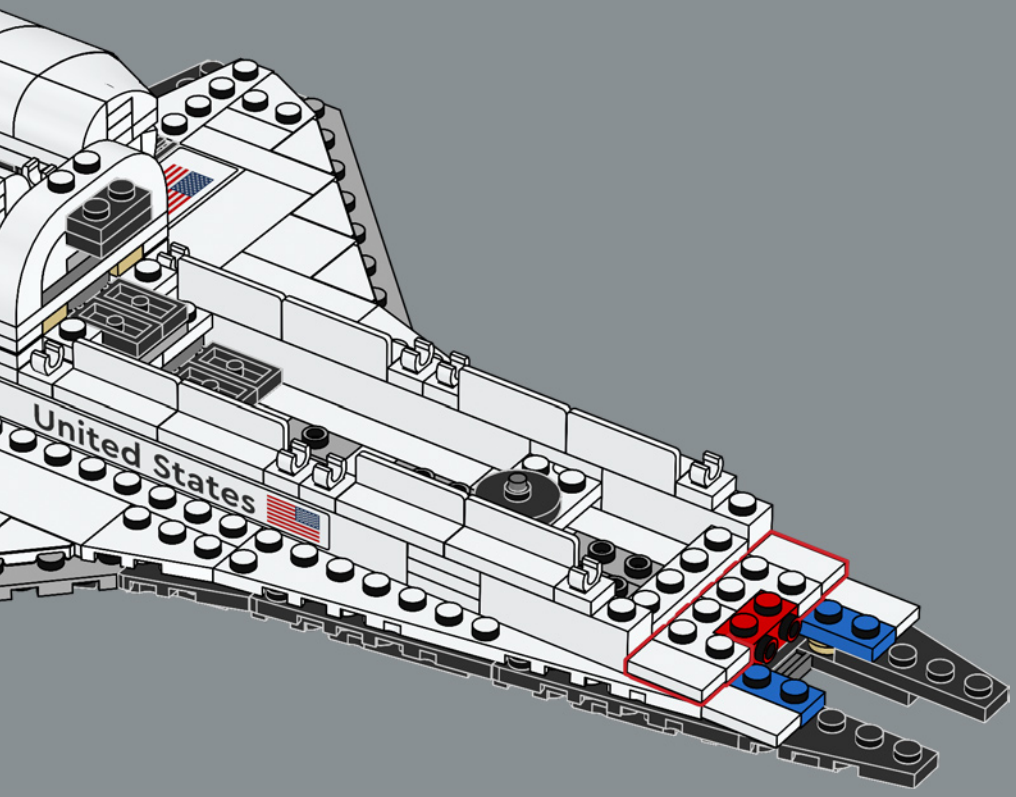


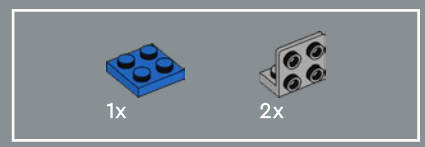


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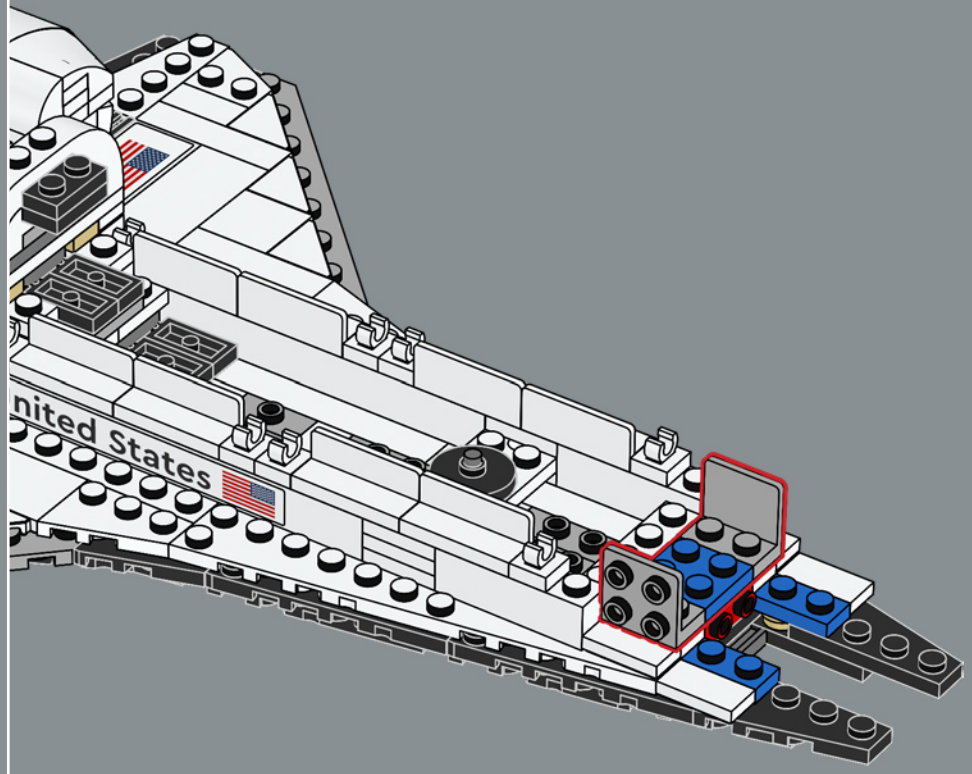

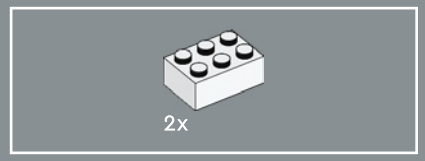


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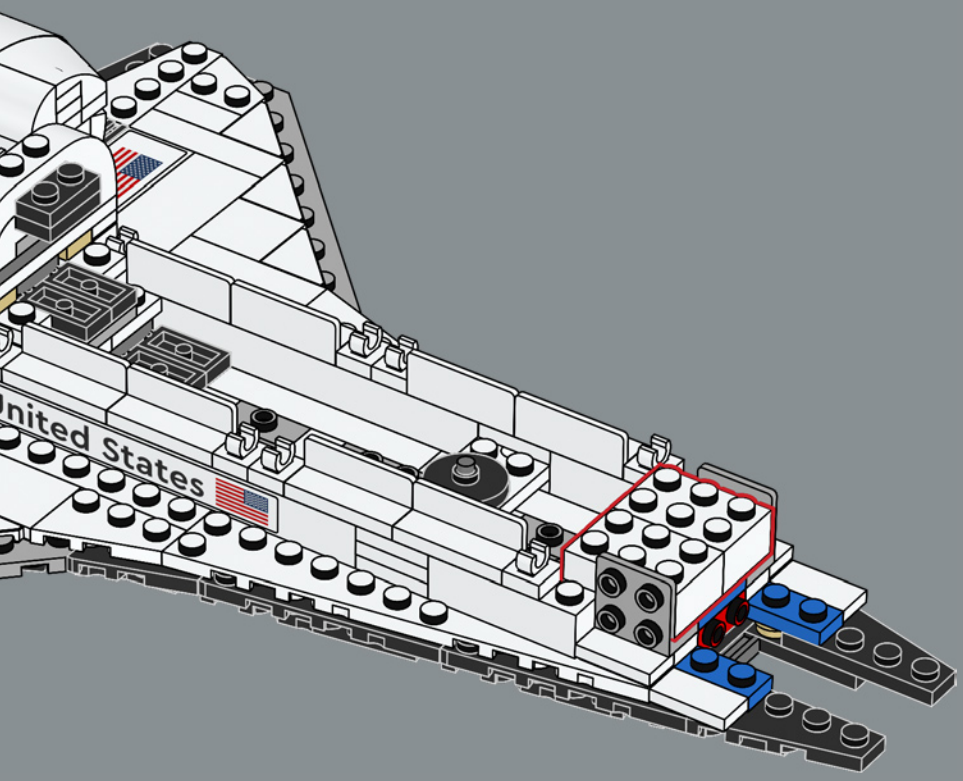


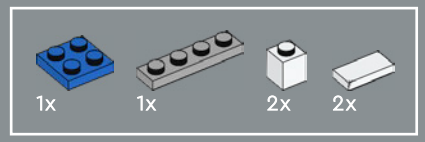


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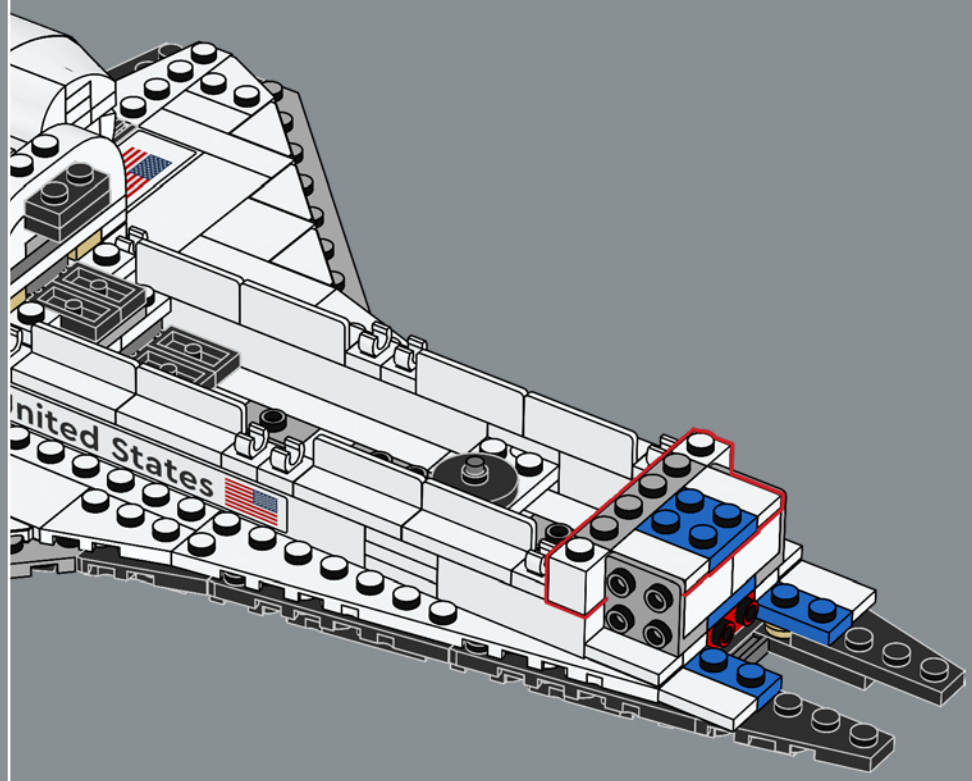

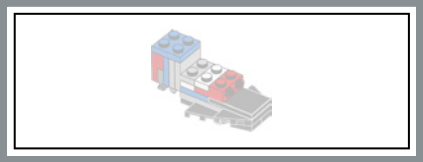

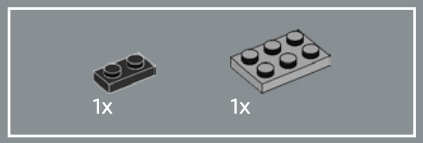


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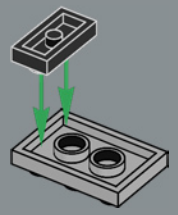

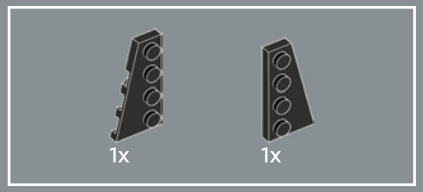


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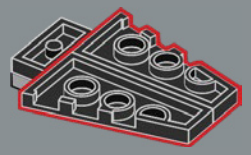

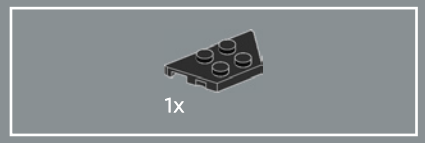


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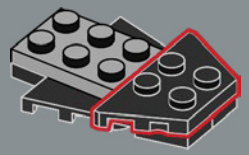

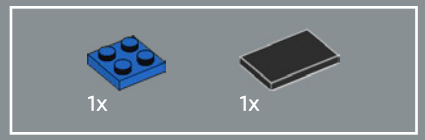


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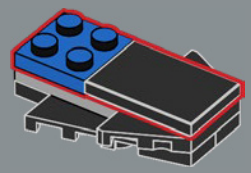


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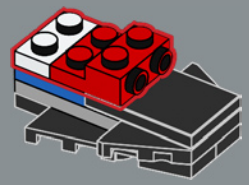

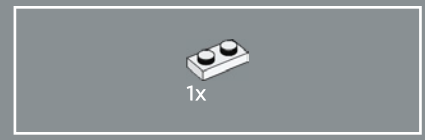


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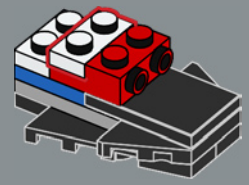

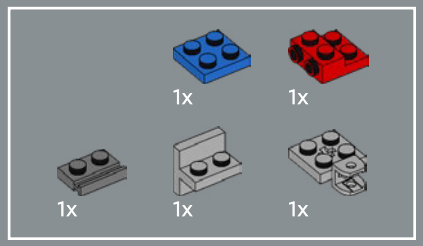


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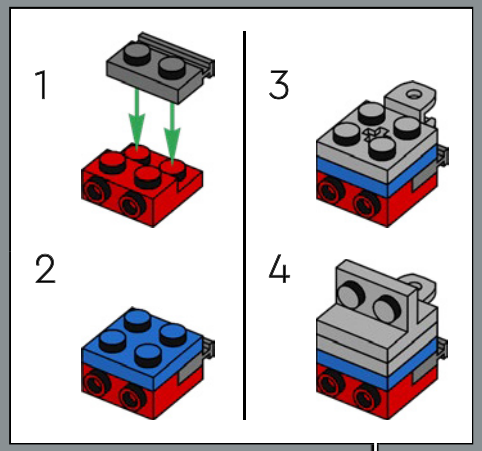


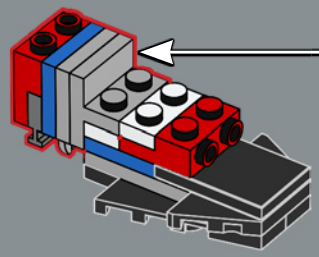

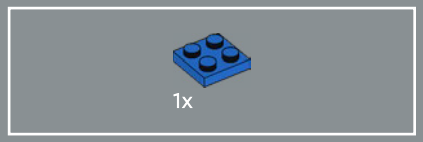


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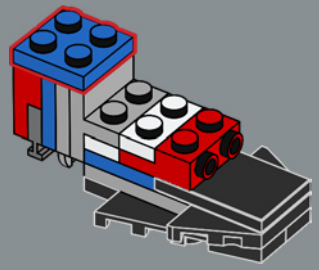

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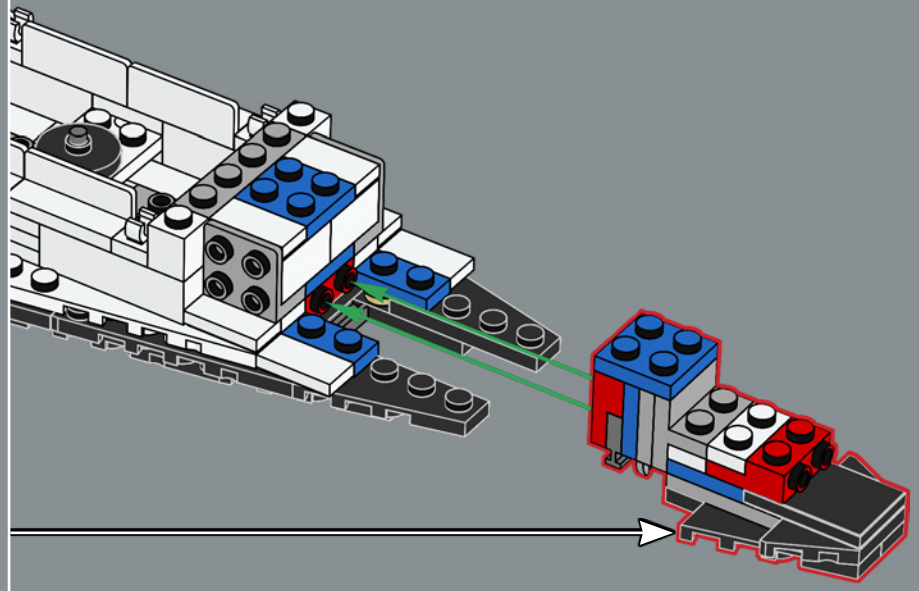

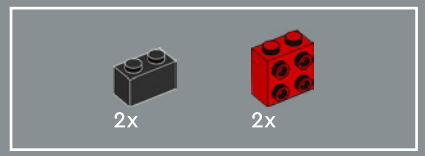


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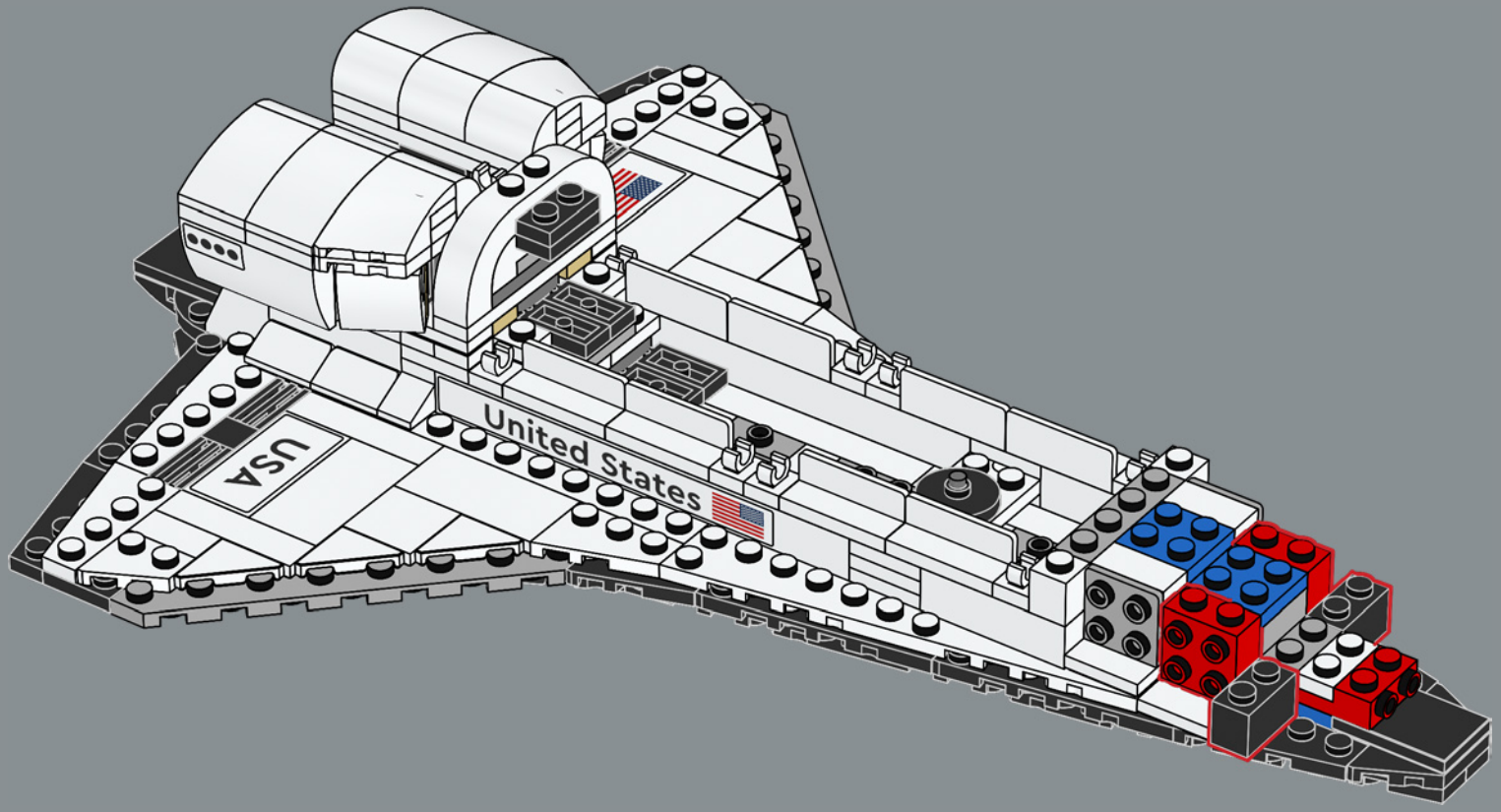


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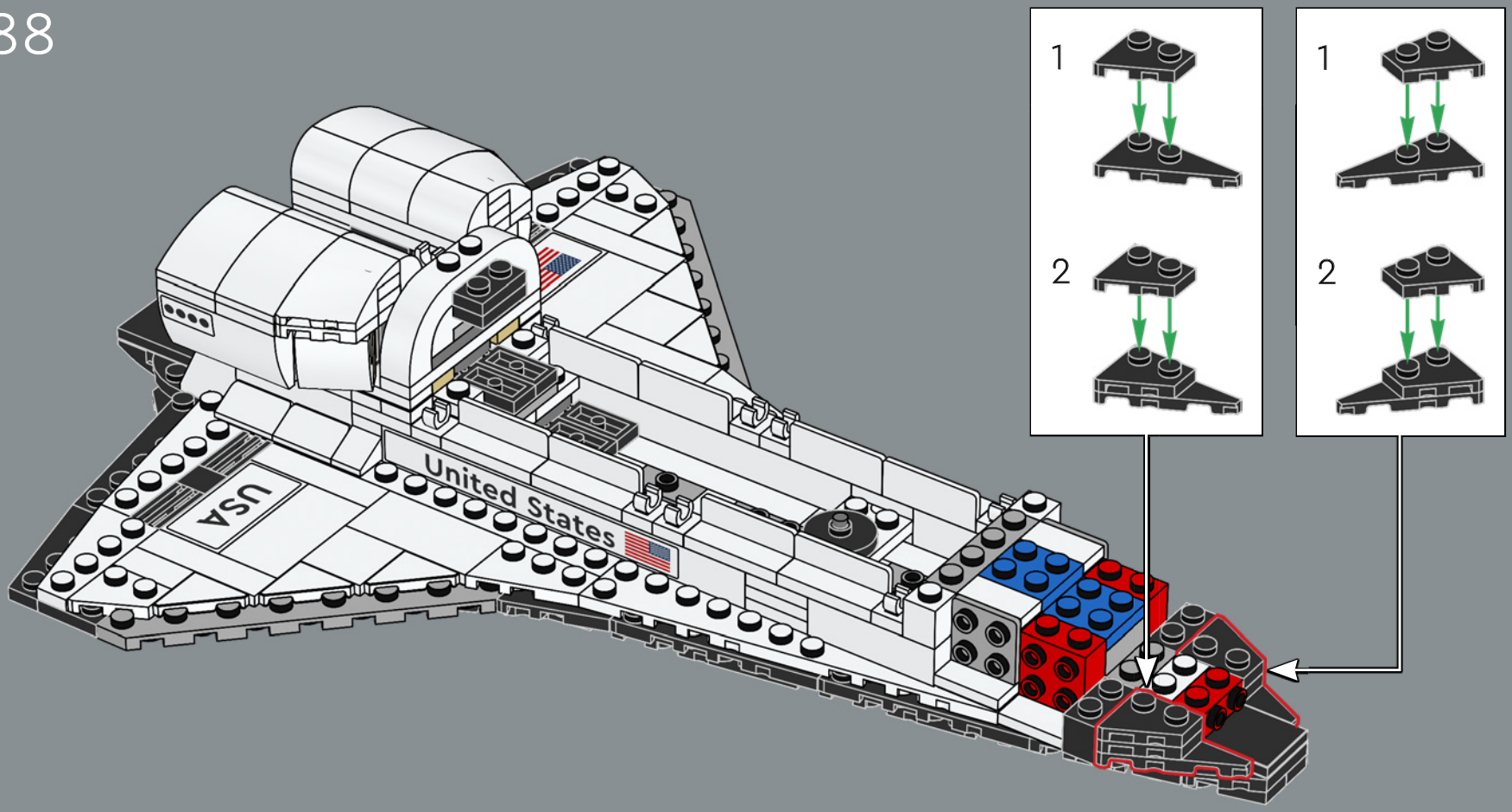

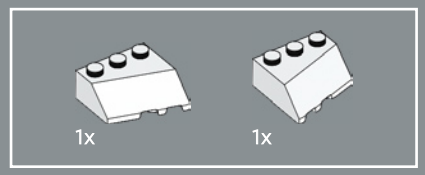


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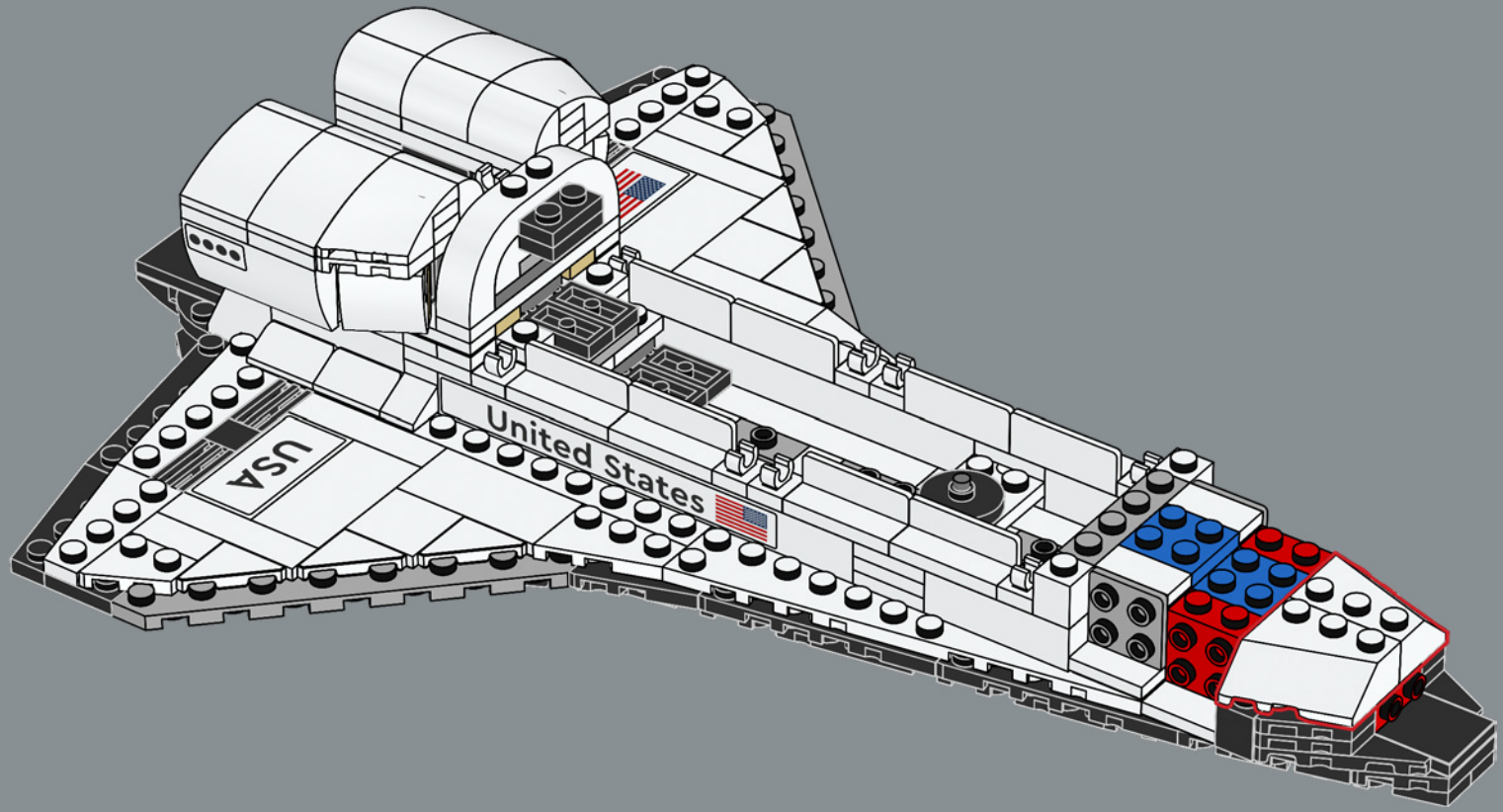

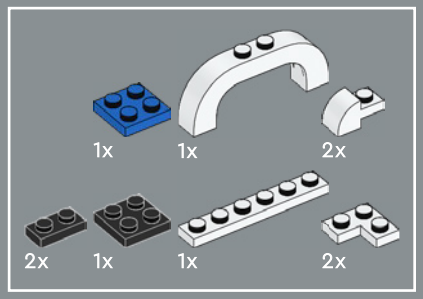


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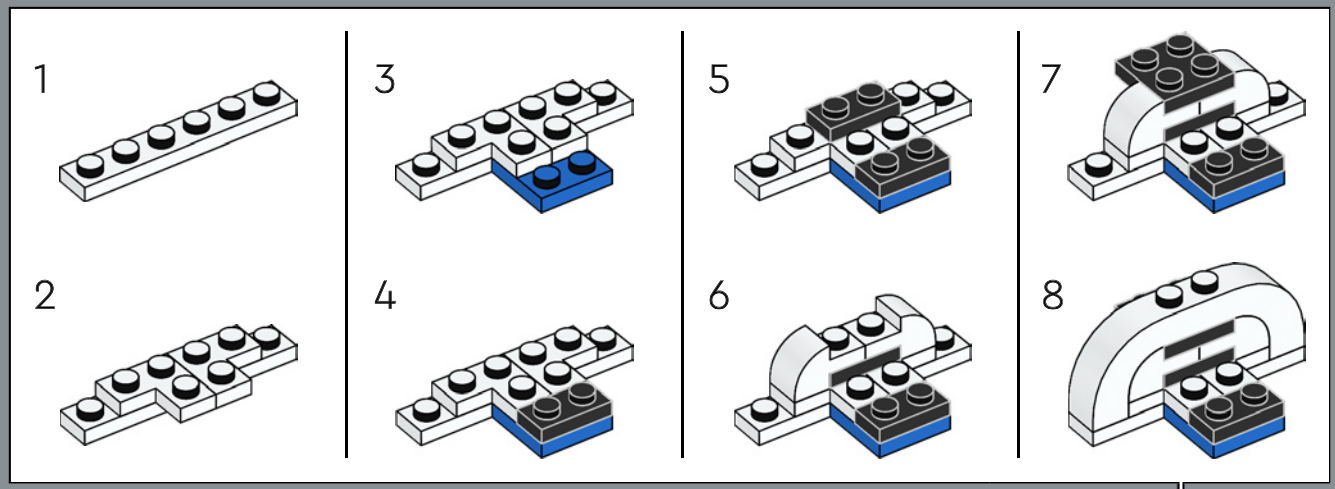


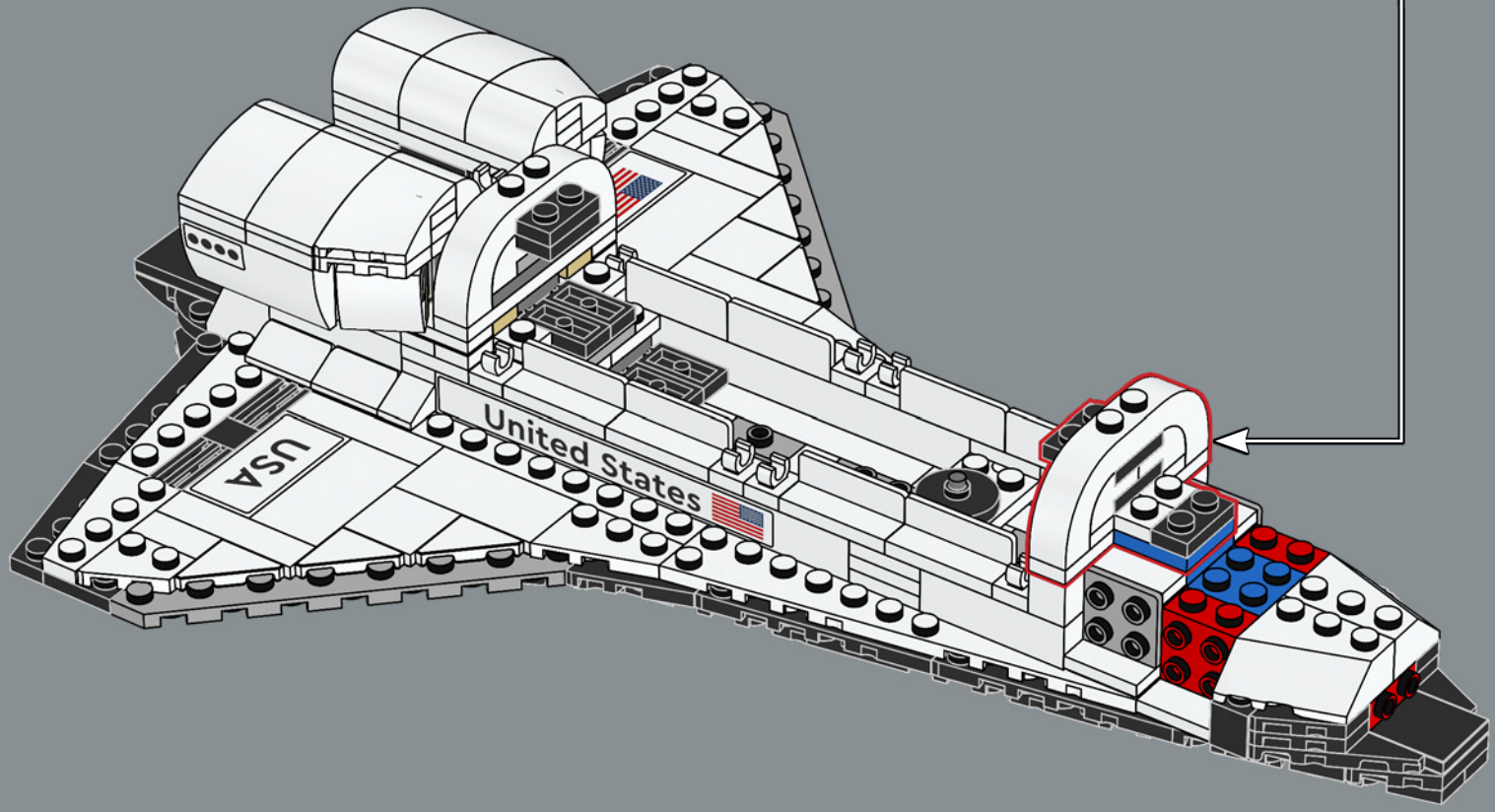

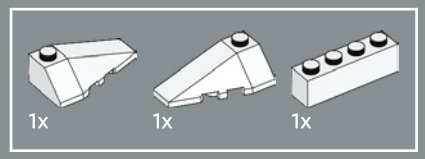


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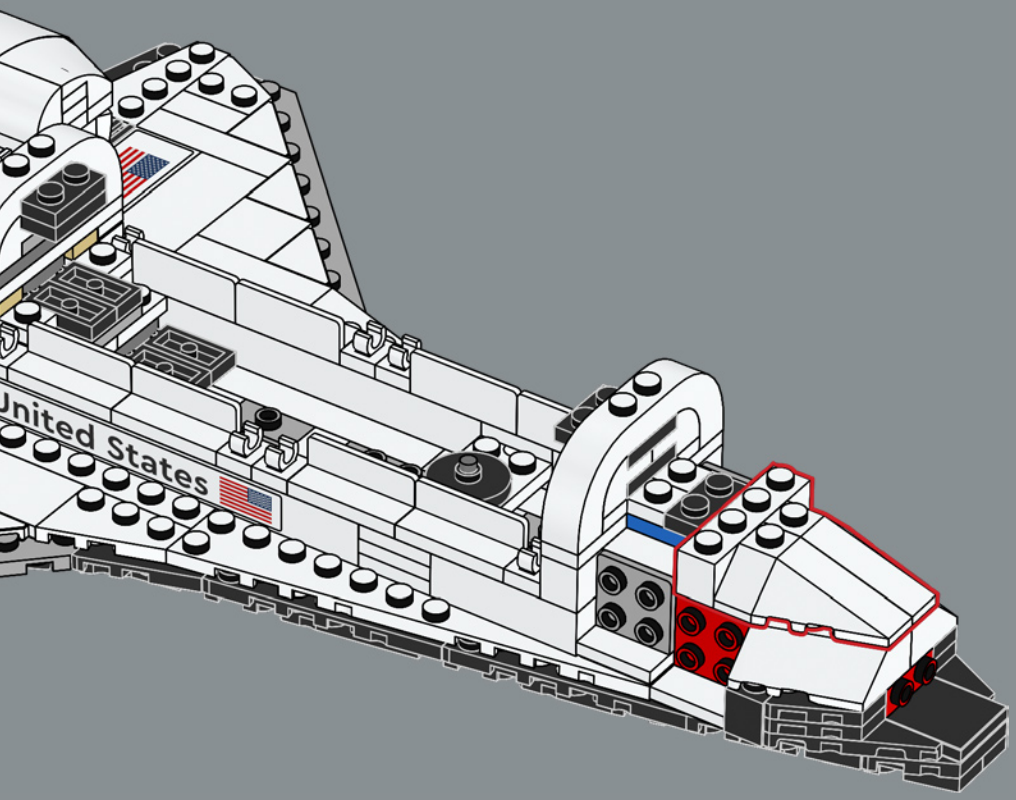


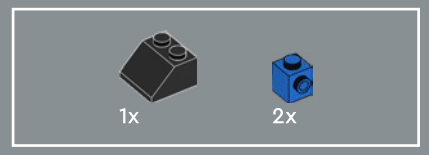


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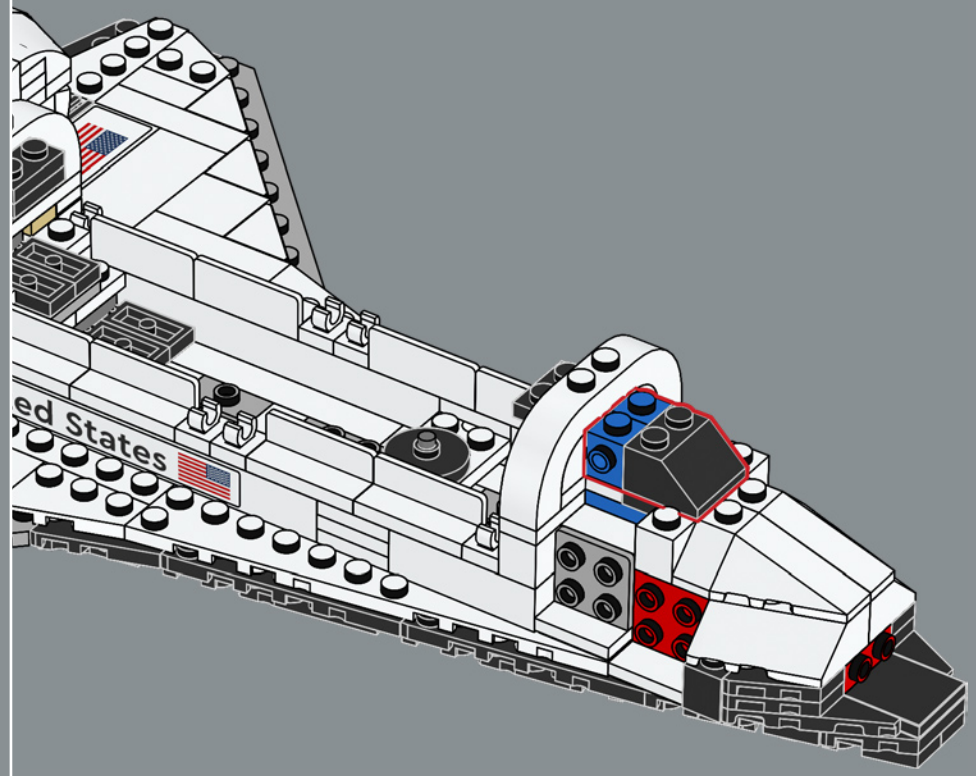

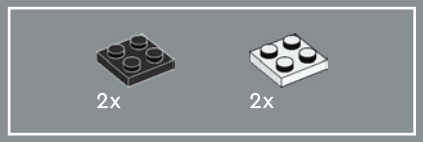


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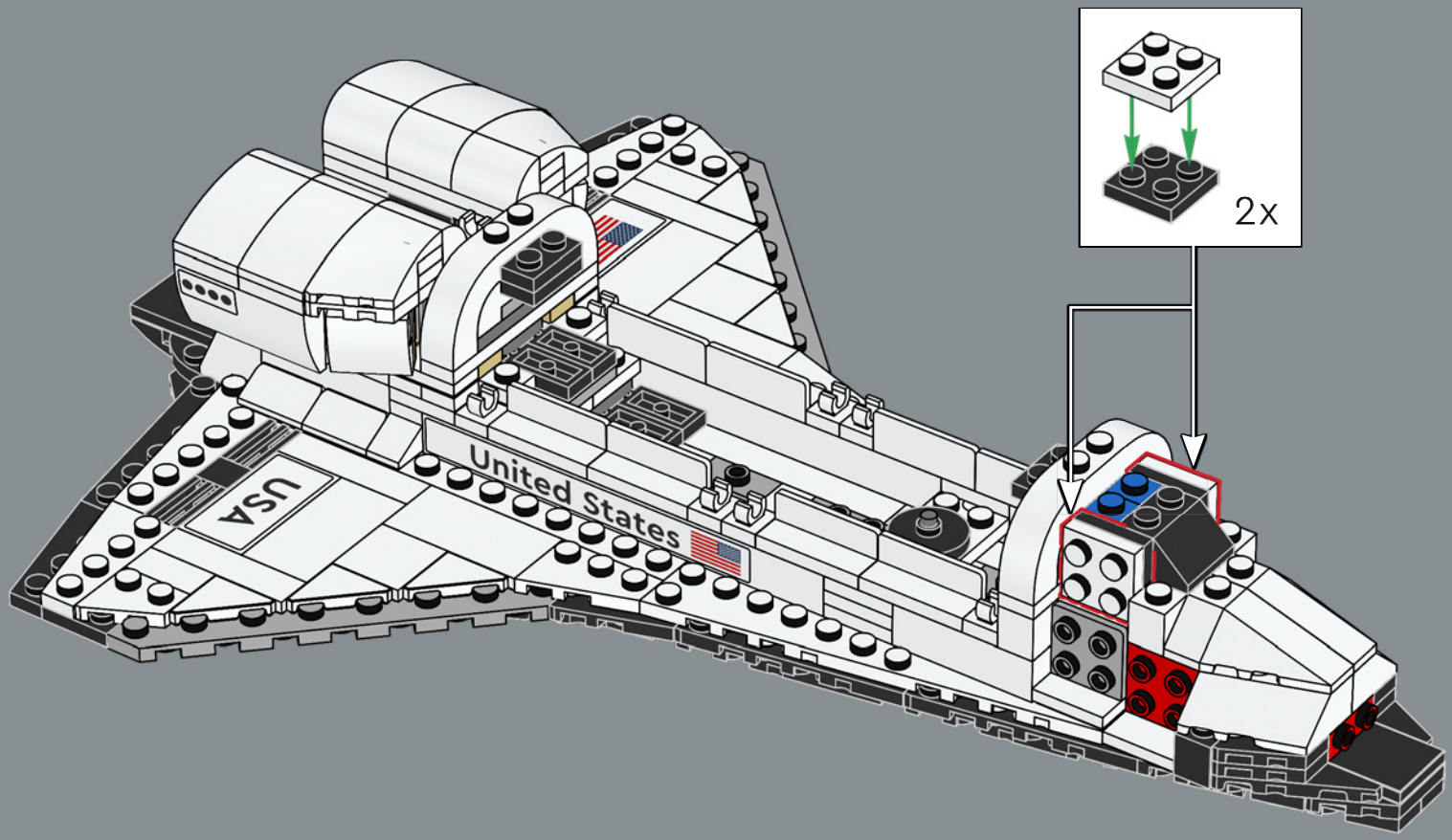

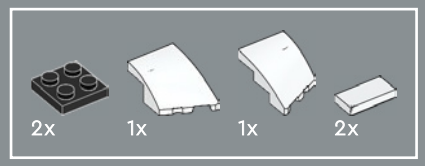


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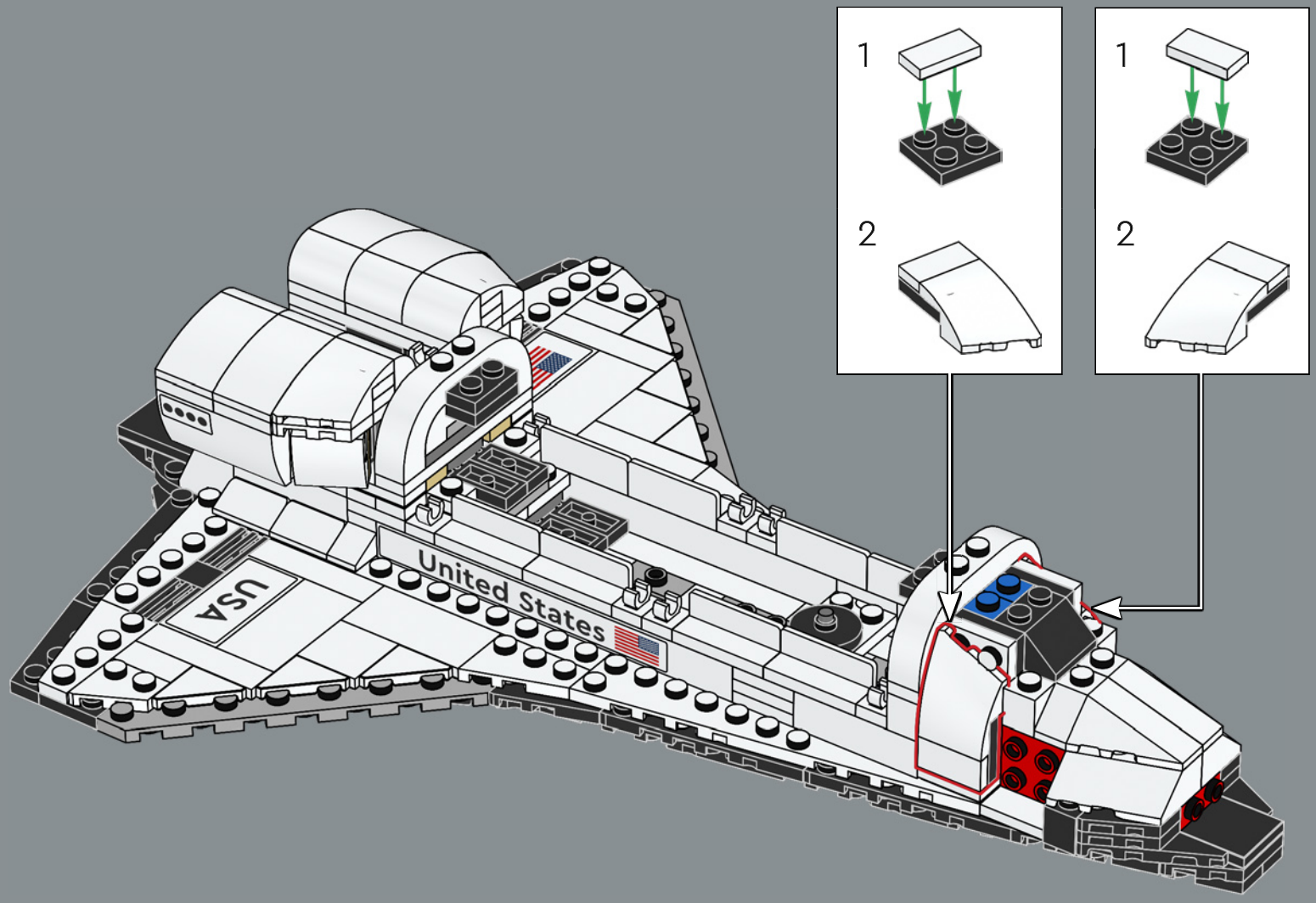

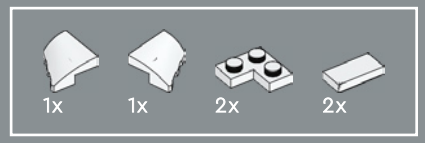


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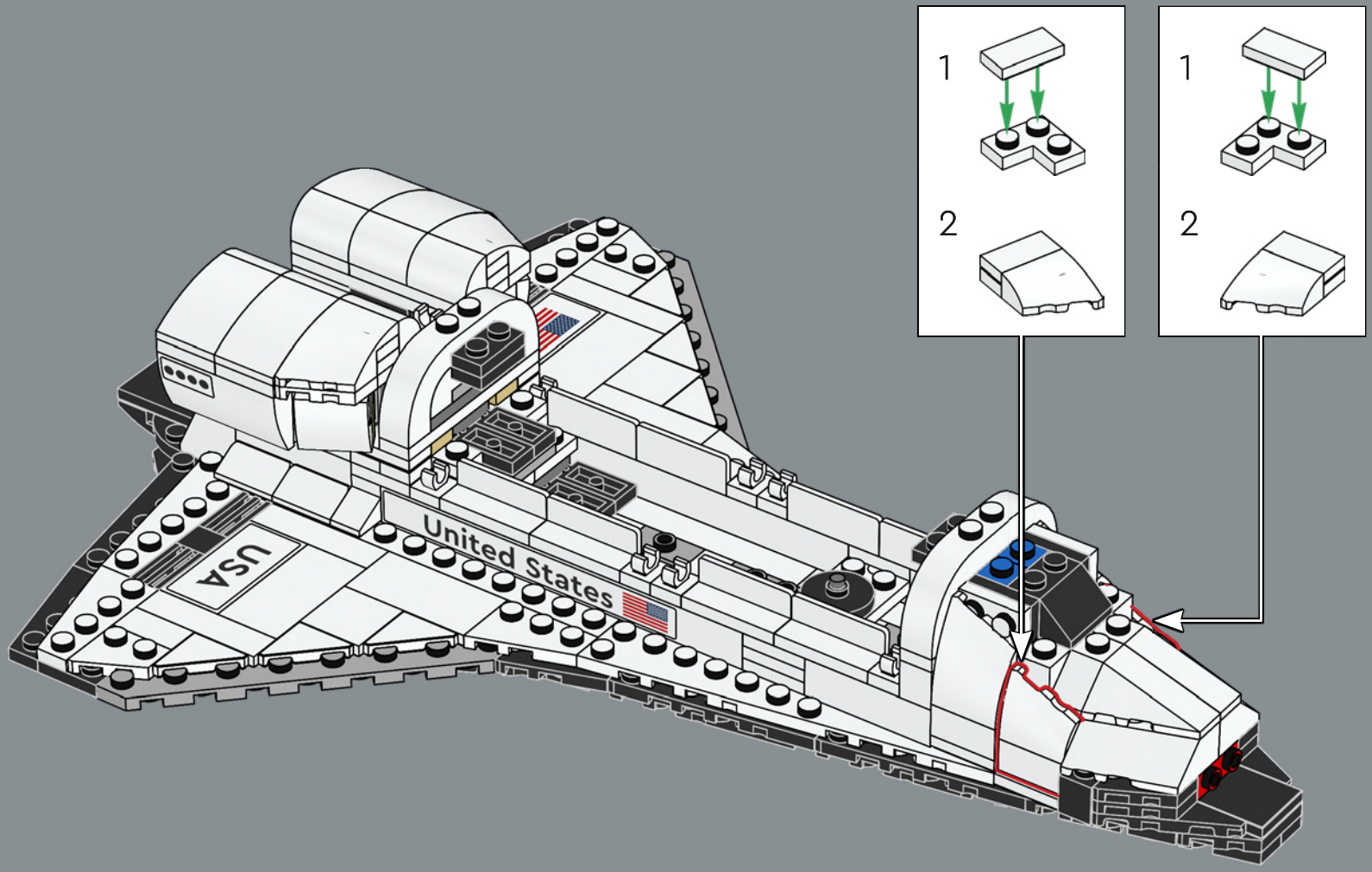


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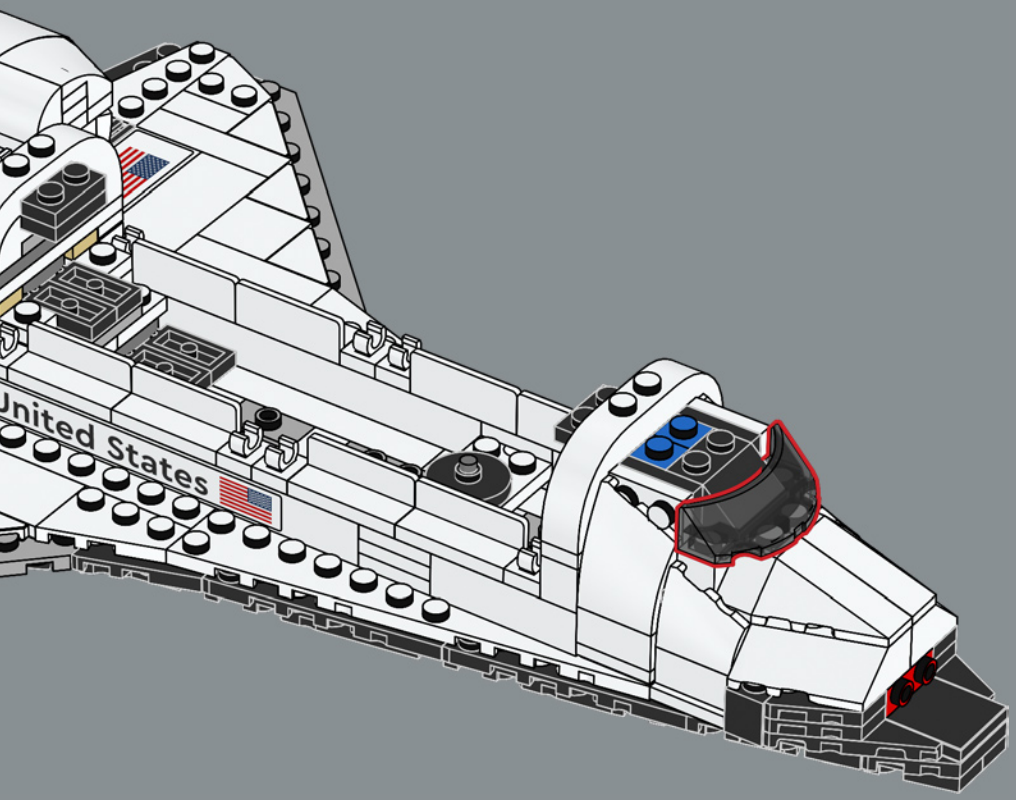


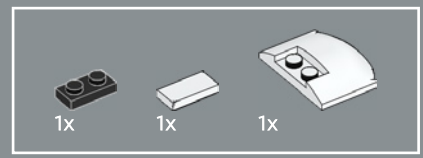


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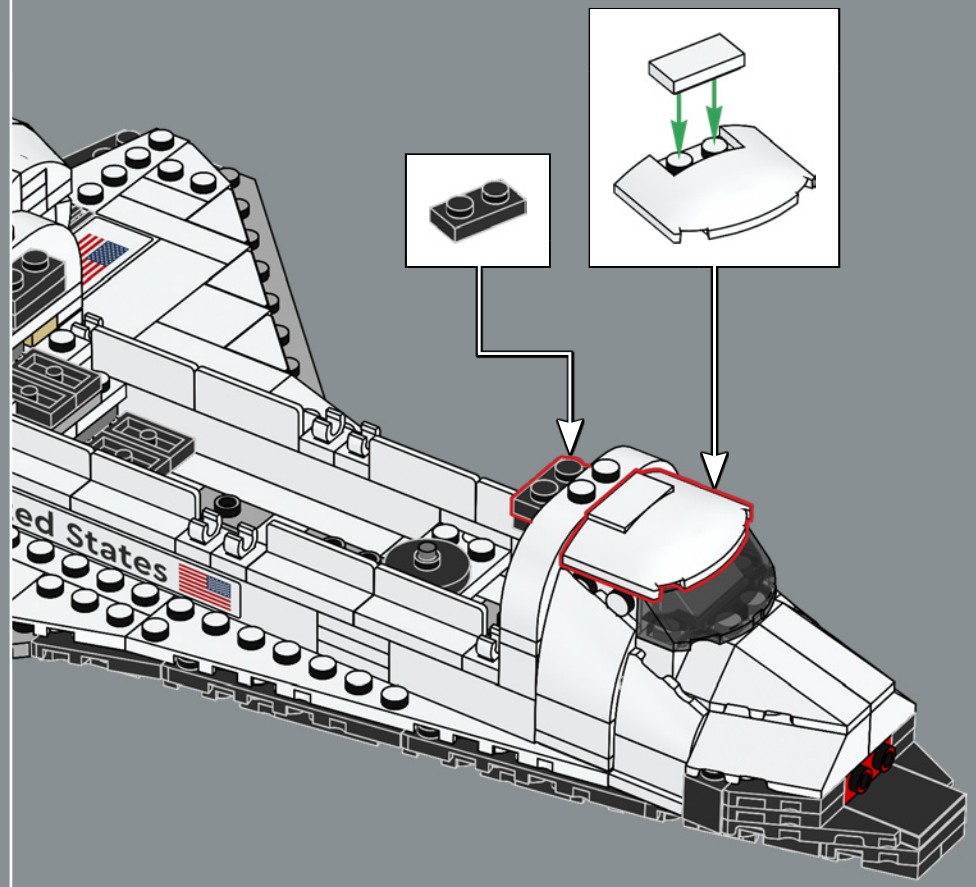


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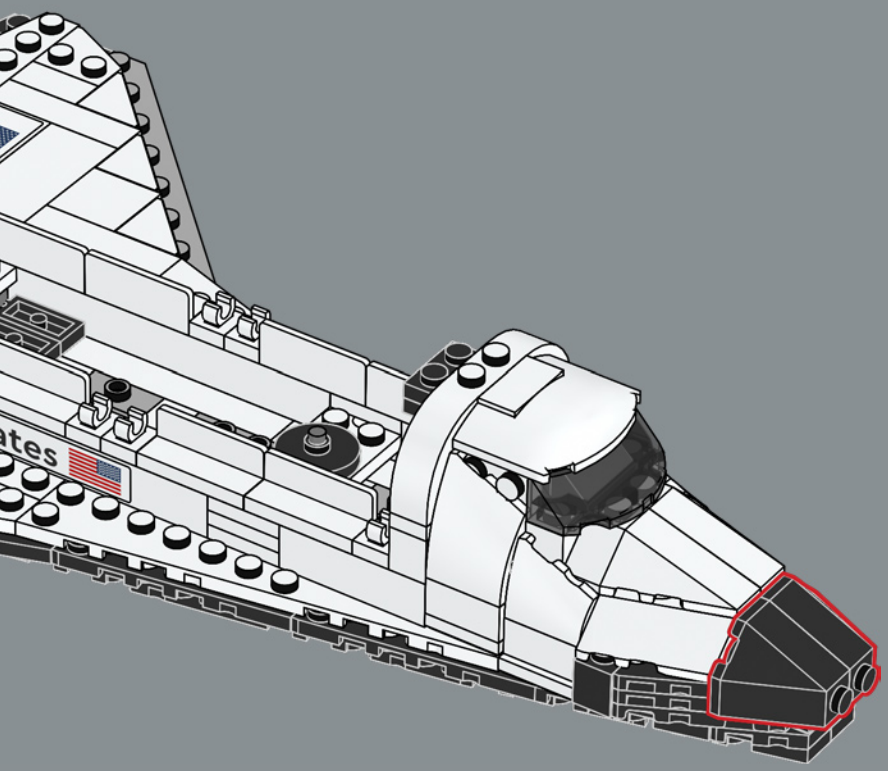


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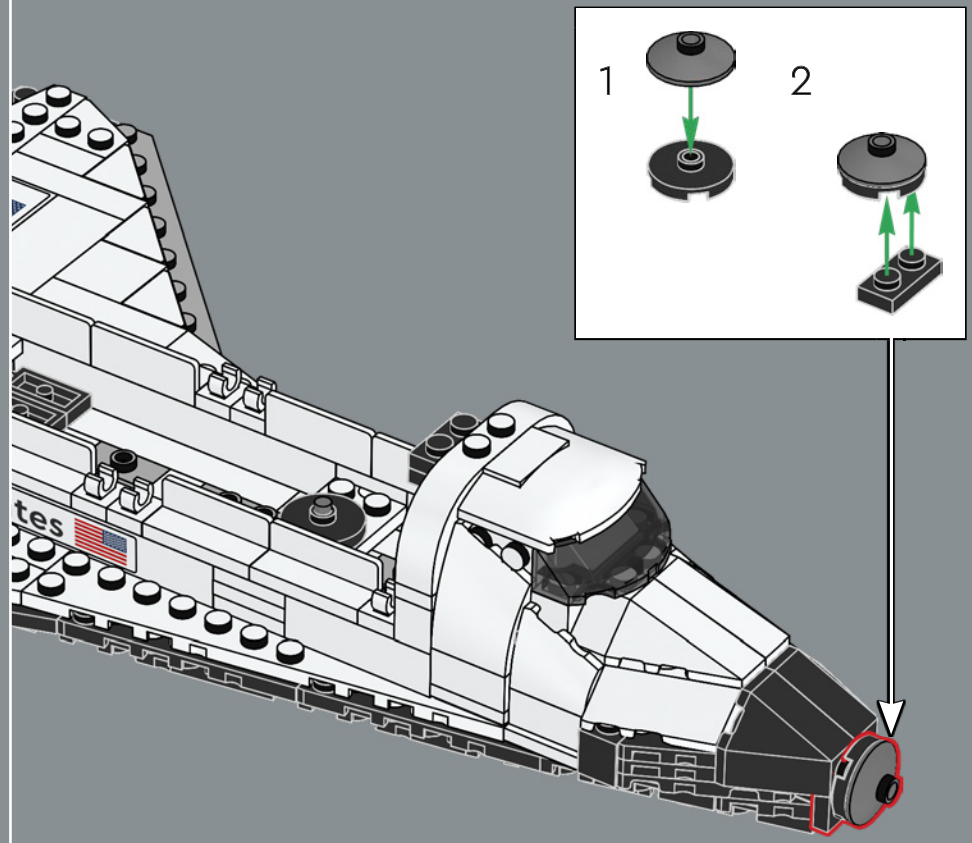

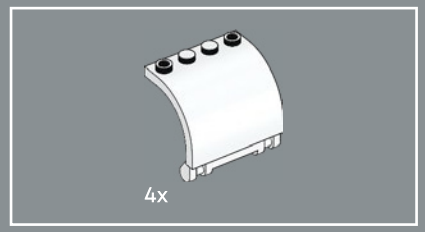
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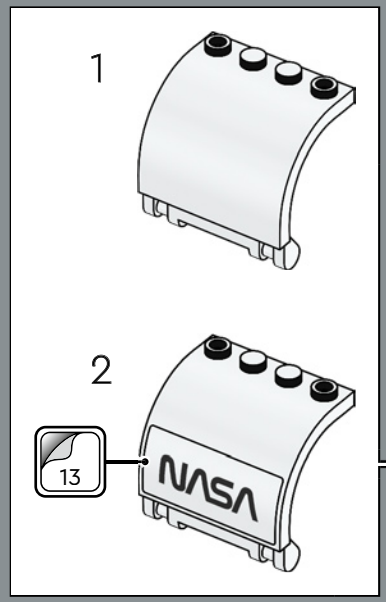
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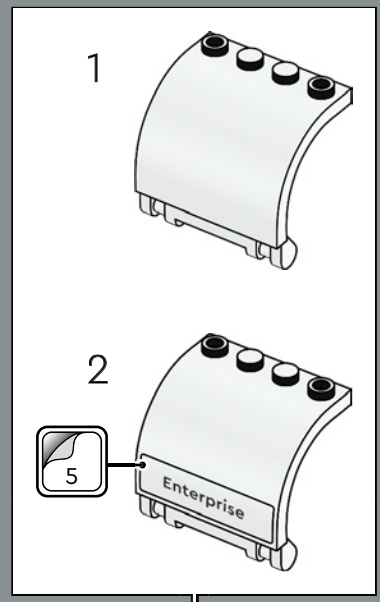
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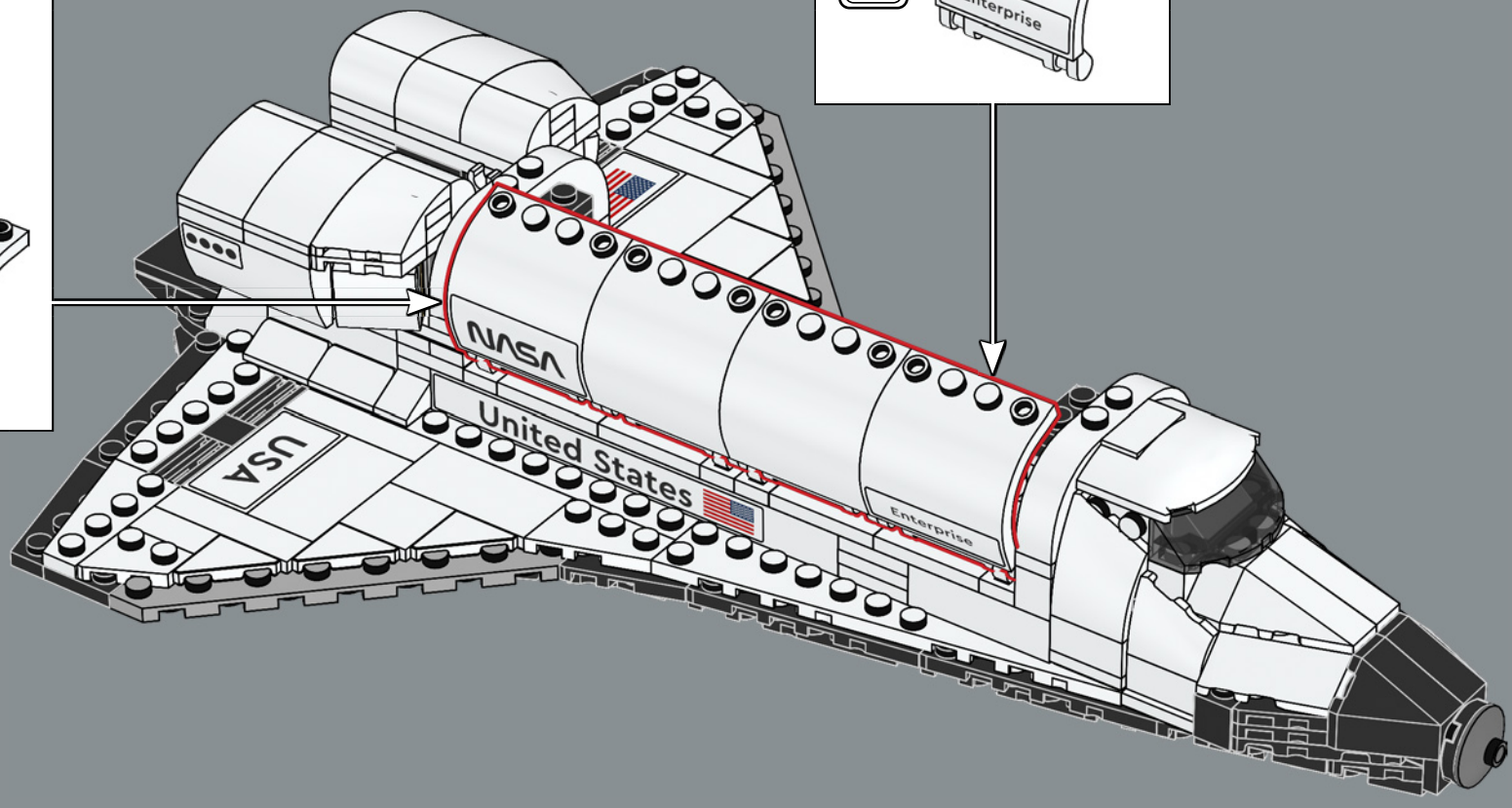
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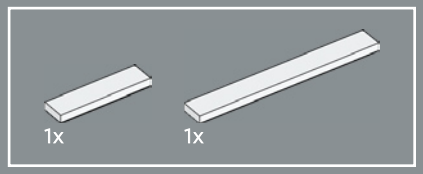


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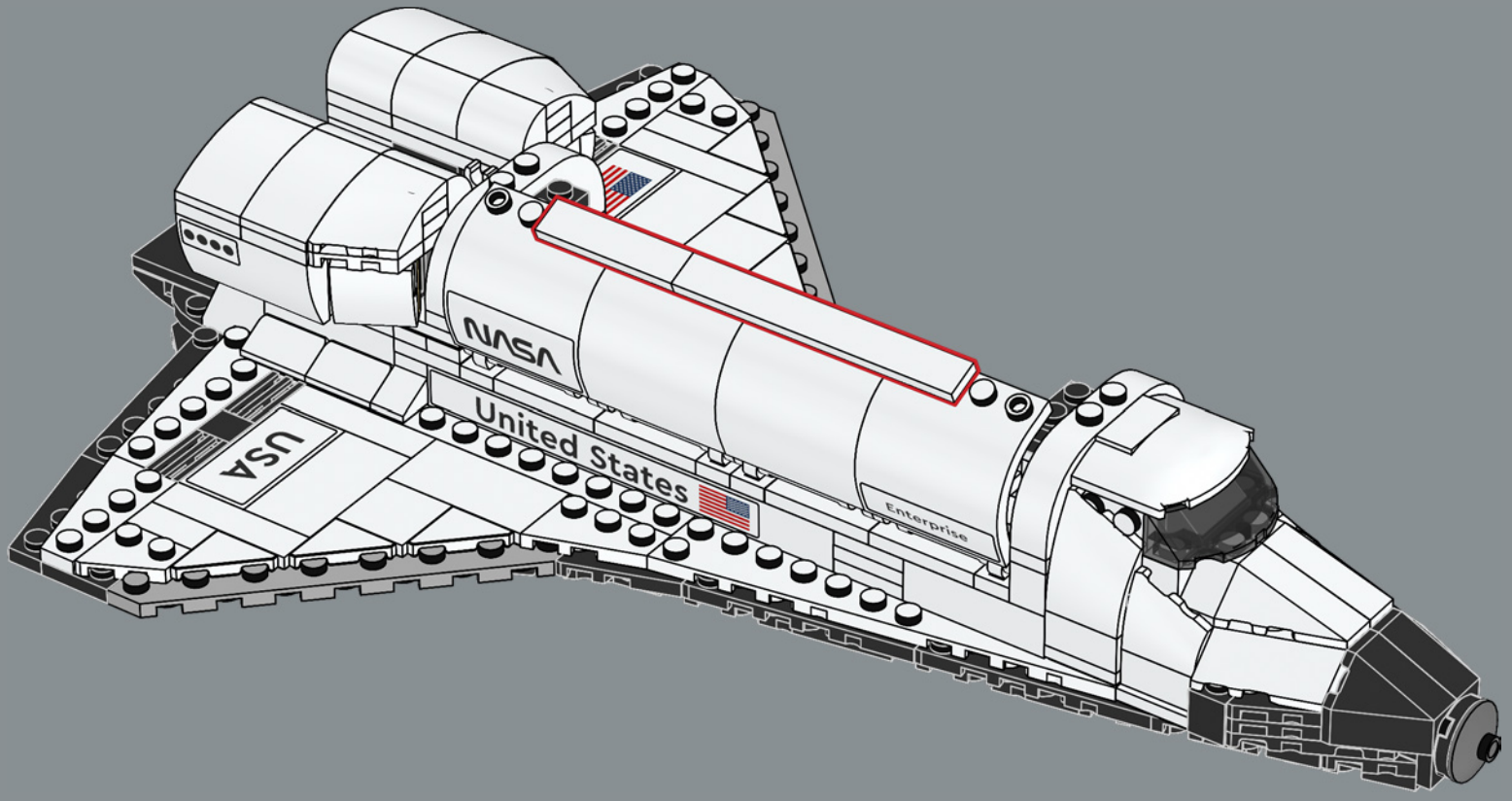

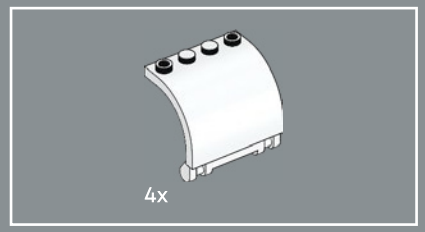


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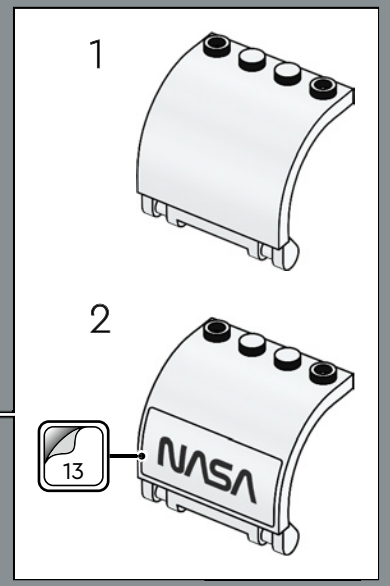
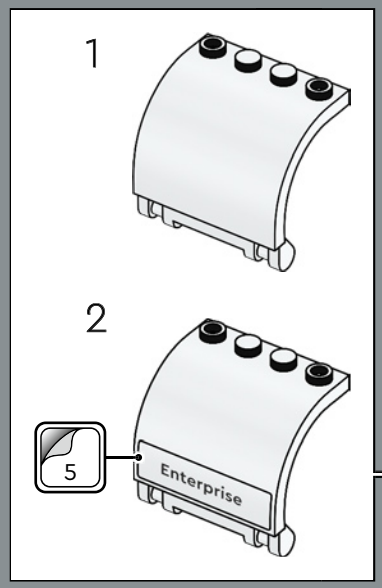
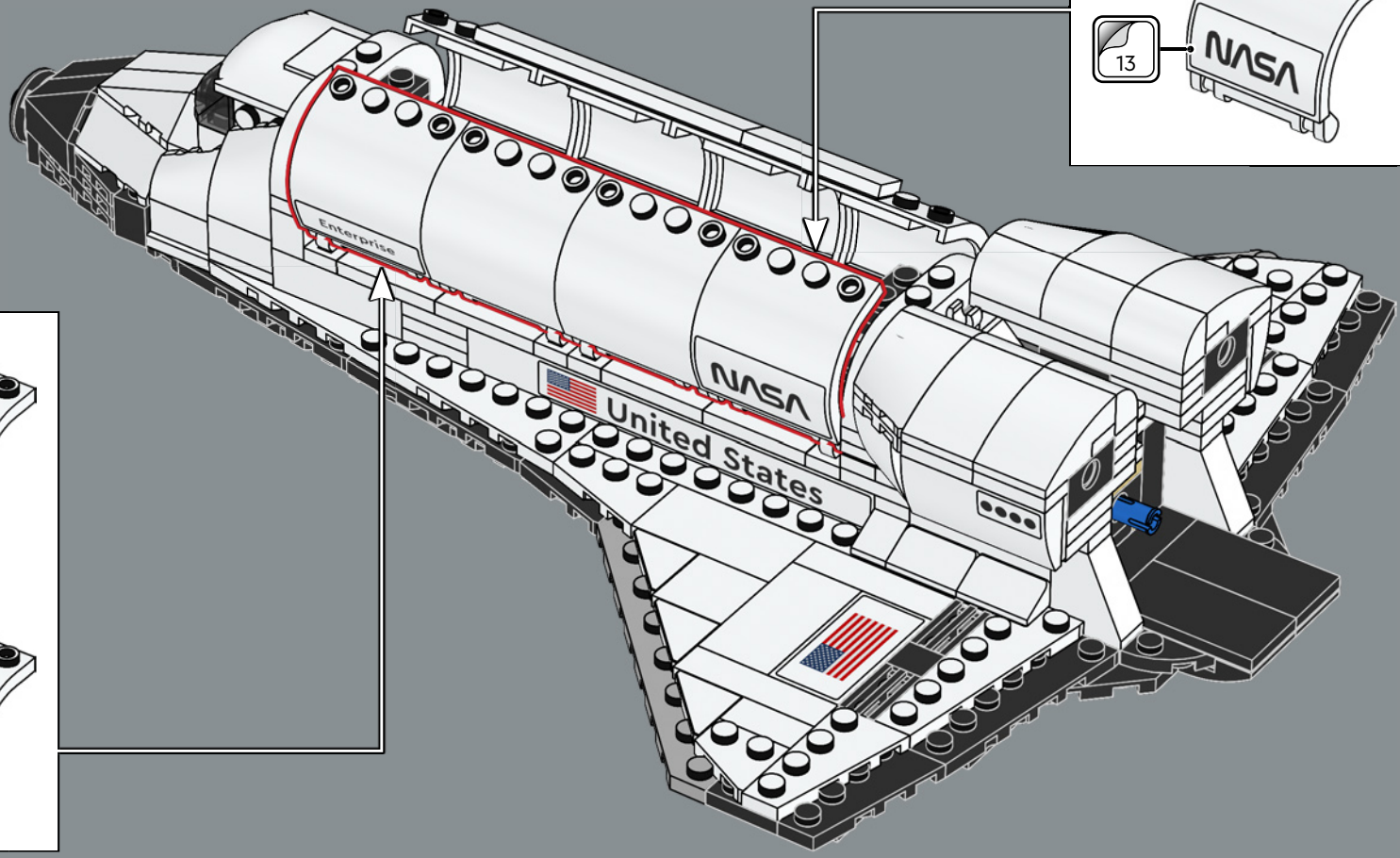
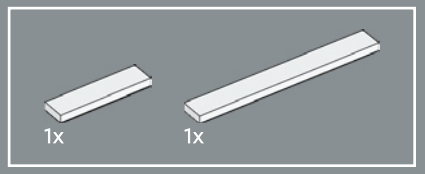


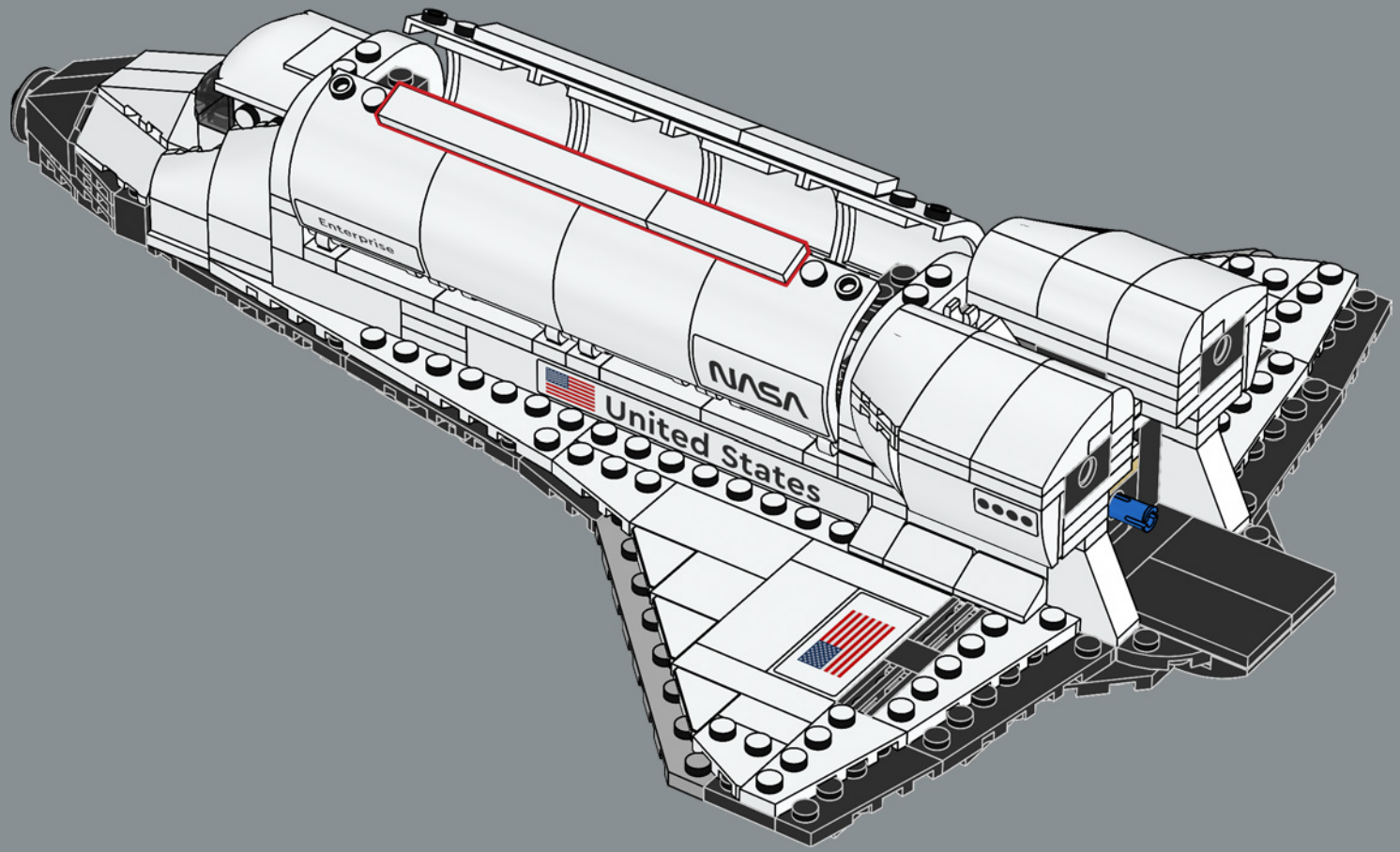






103

En un principio, el Enterprise iba a llamarse Constitution, pero una campaña de envío de cartas por parte de fans de la ciencia ficción convenció al Gobierno estadounidense de que le cambiara el nombre.



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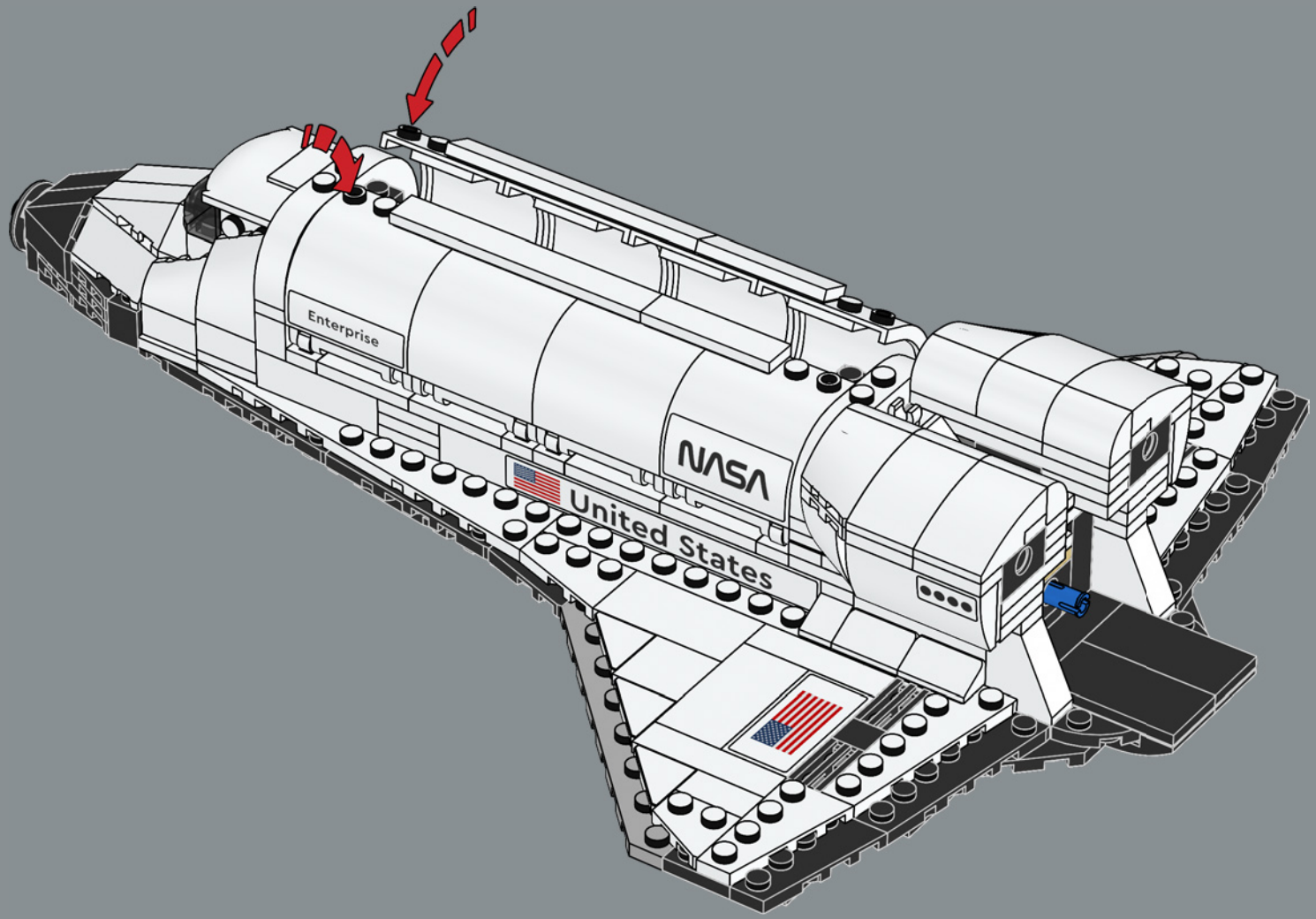


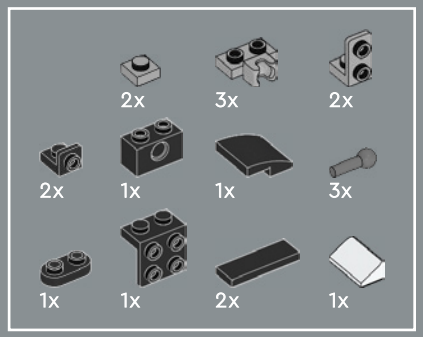


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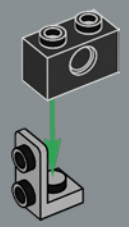

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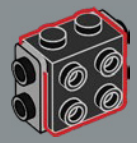

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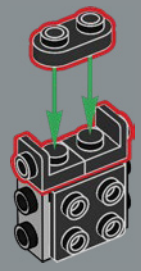

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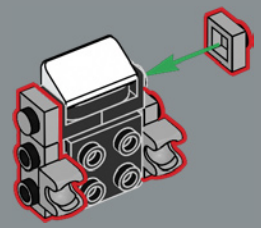

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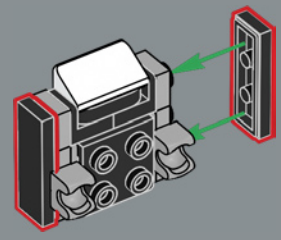

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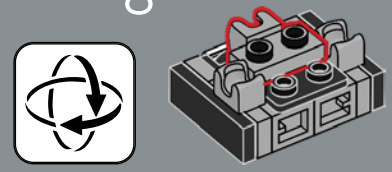

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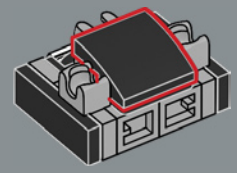

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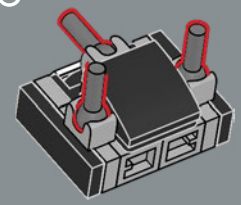

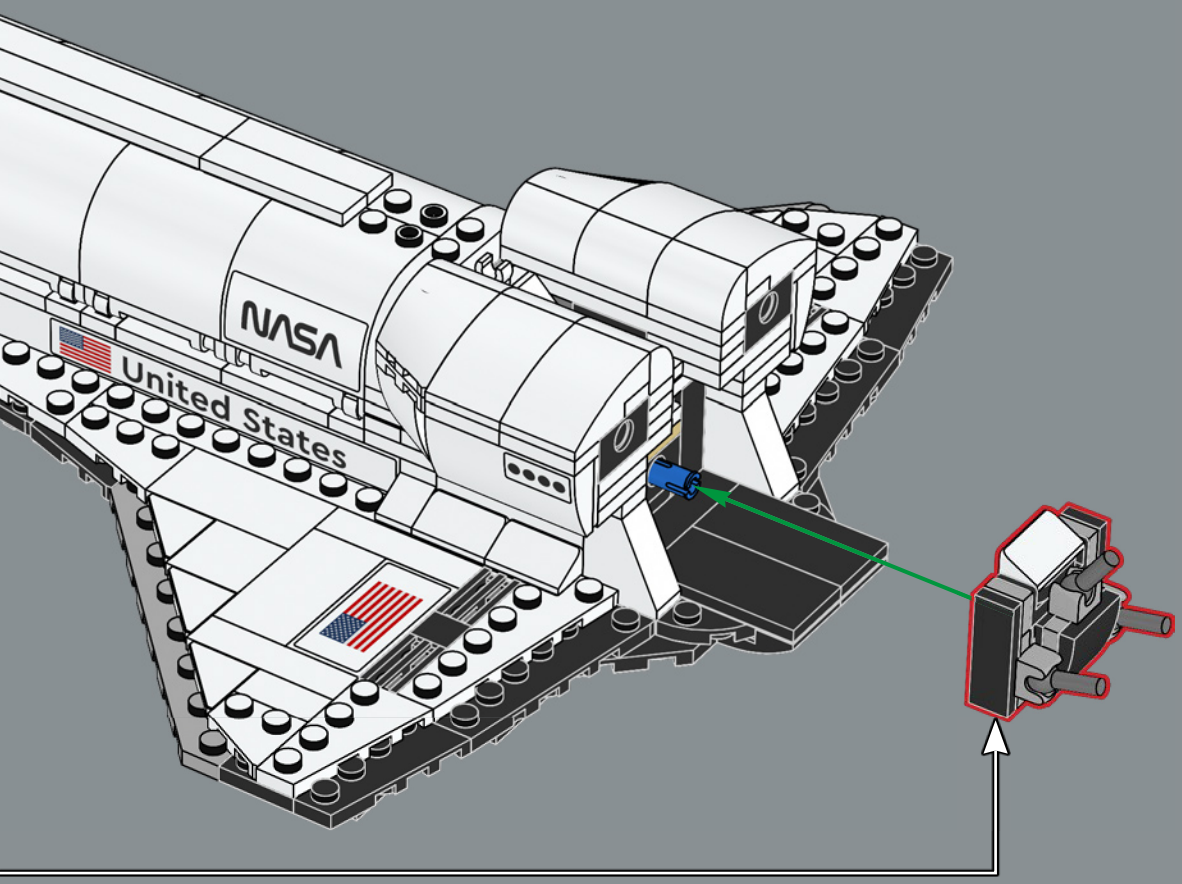



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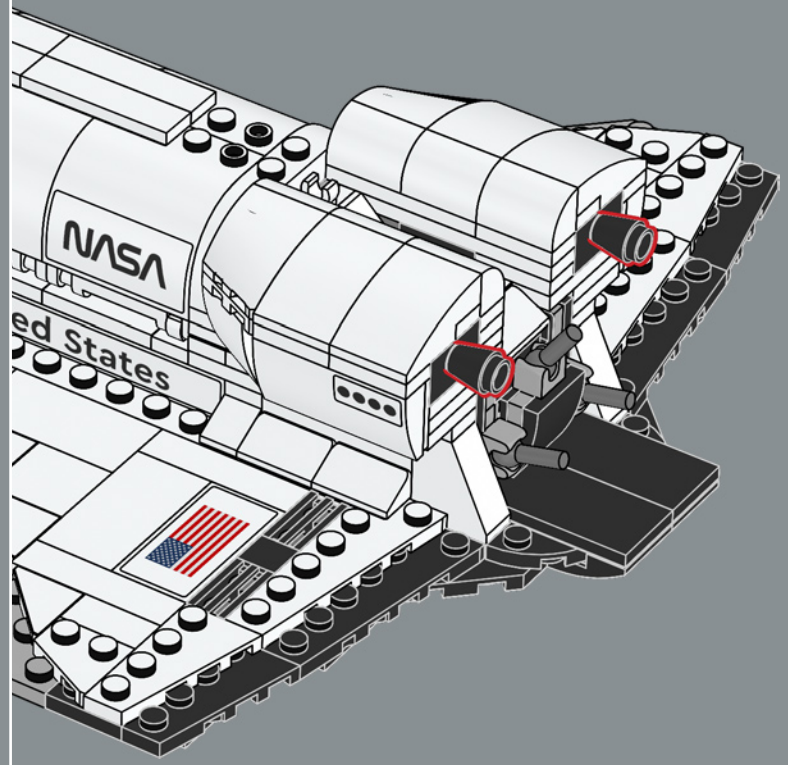

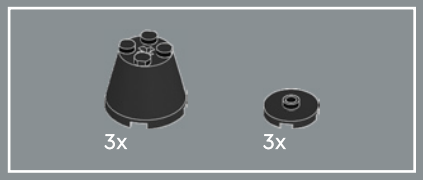


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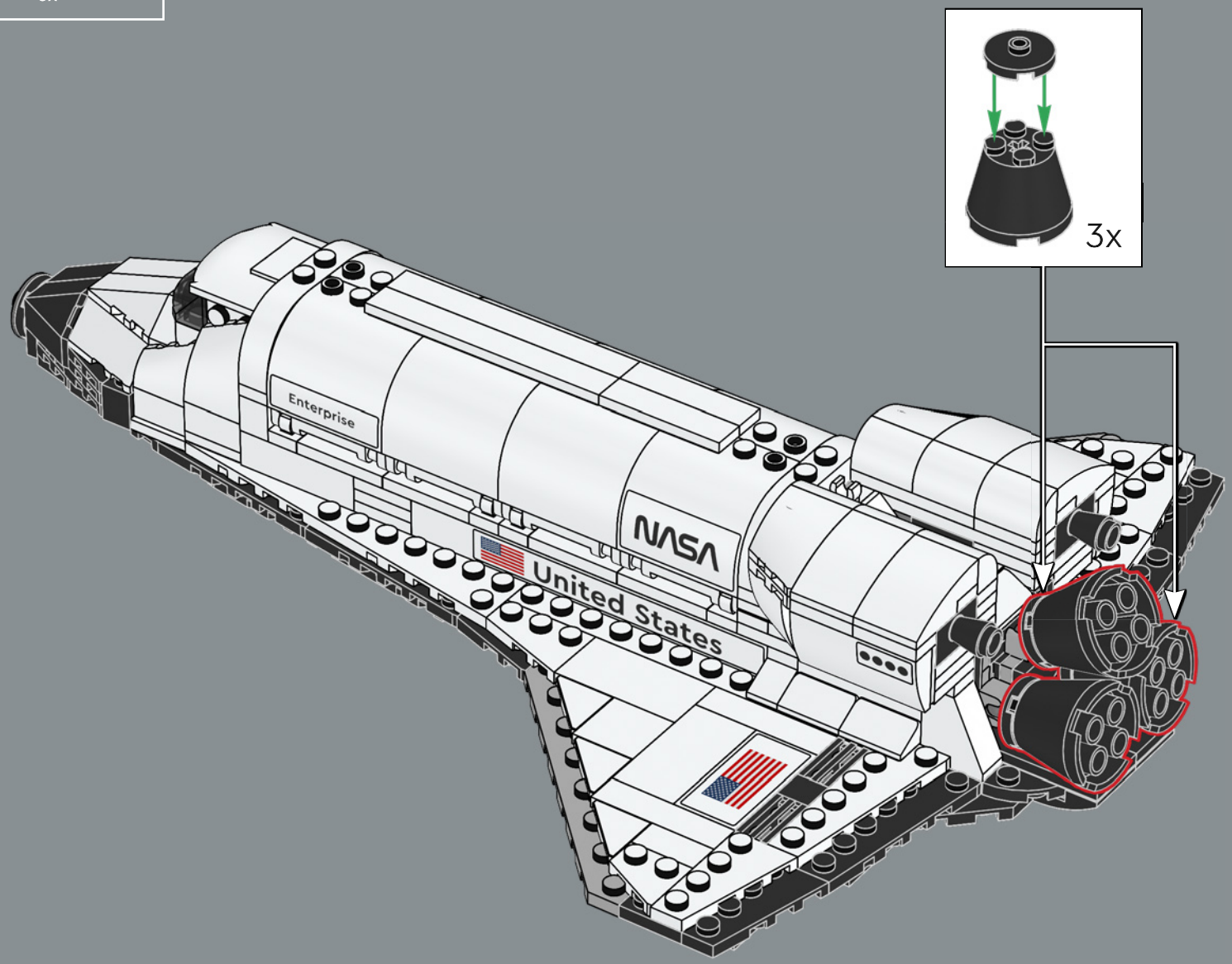


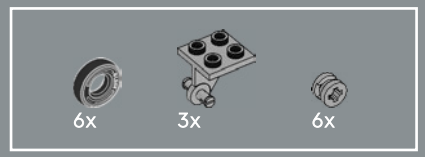


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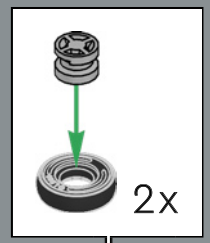


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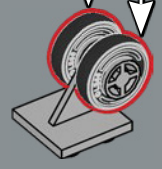

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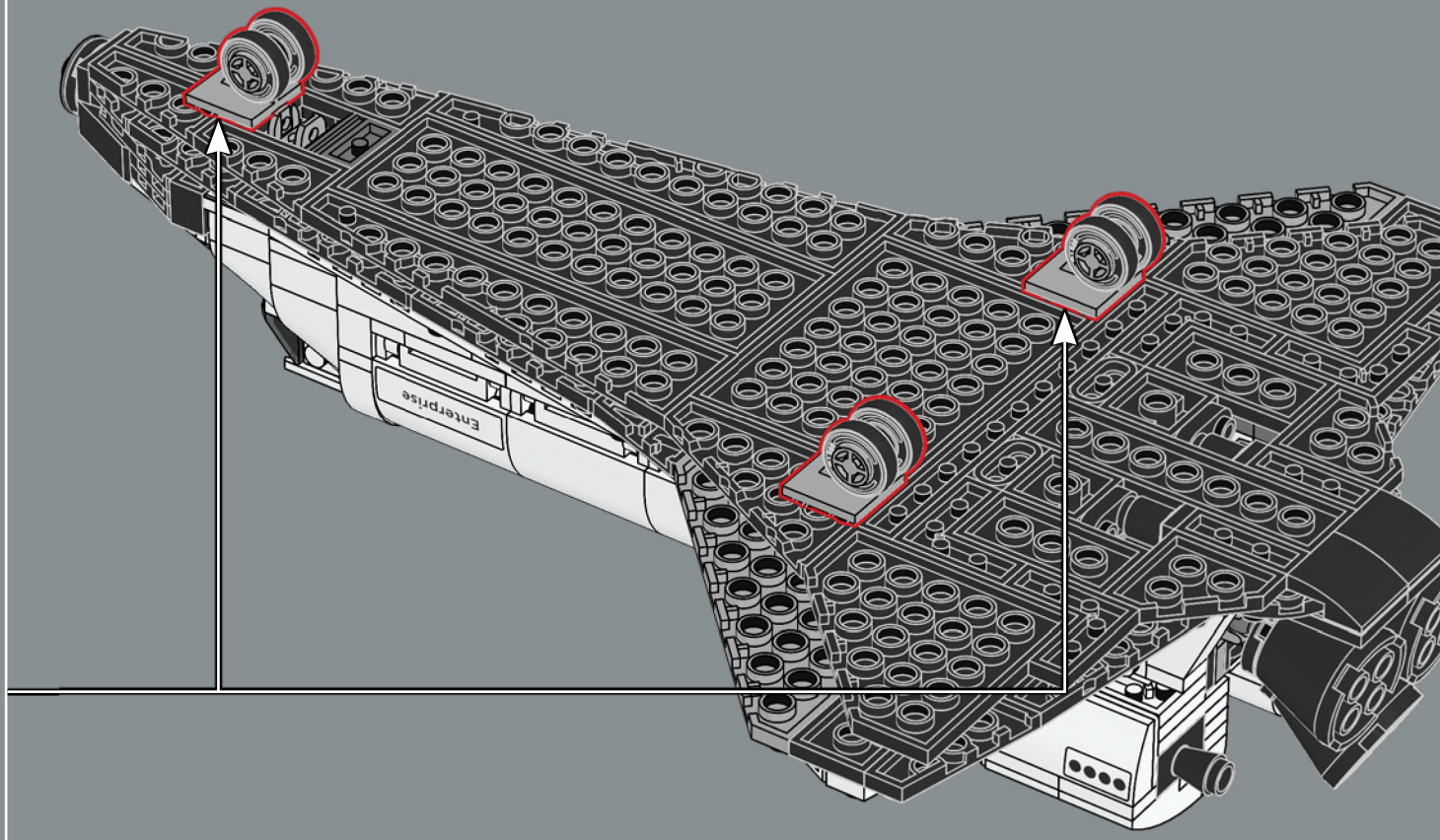

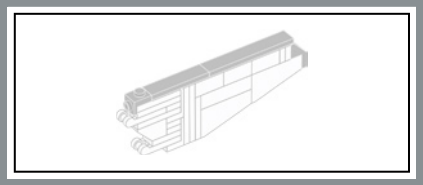

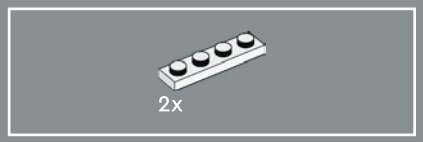


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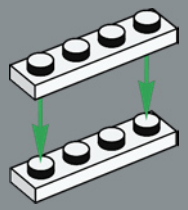

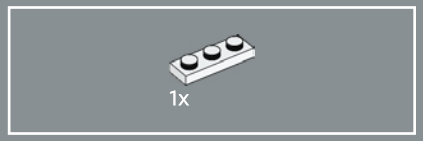


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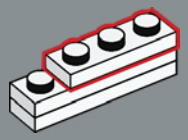

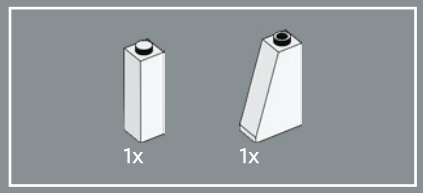


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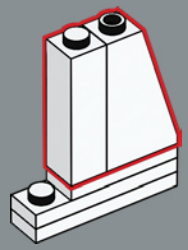

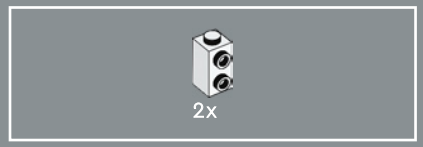


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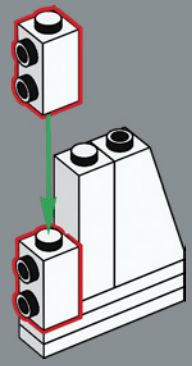

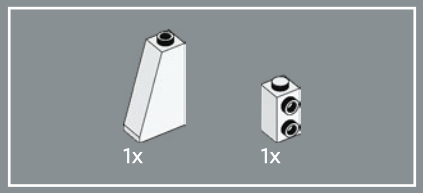


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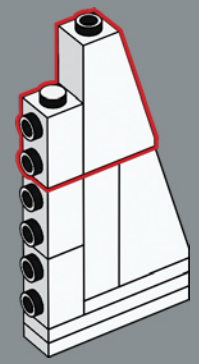

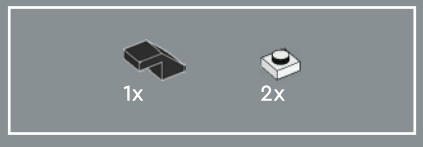


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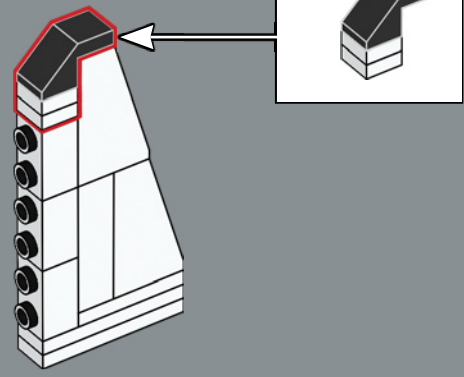

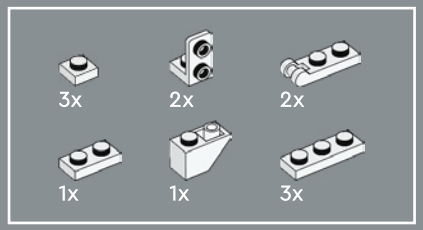


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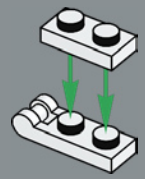

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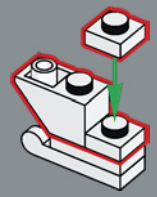

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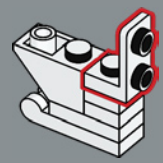

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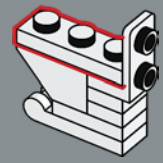

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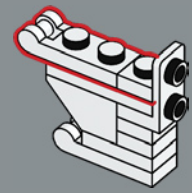

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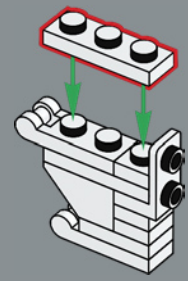

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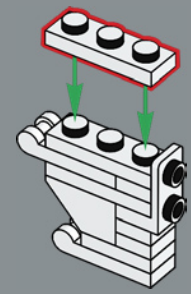

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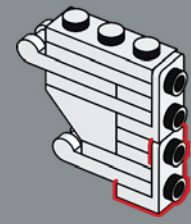

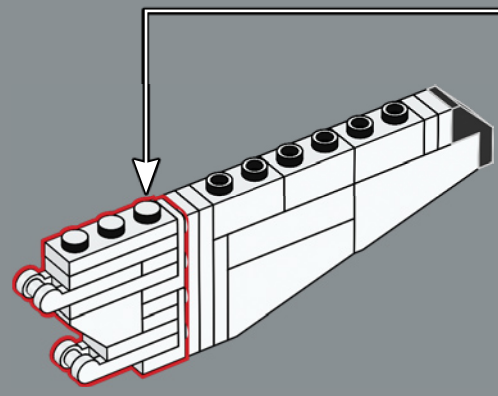

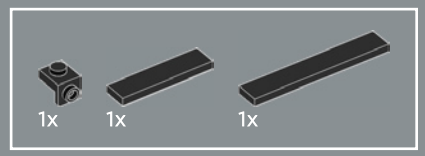


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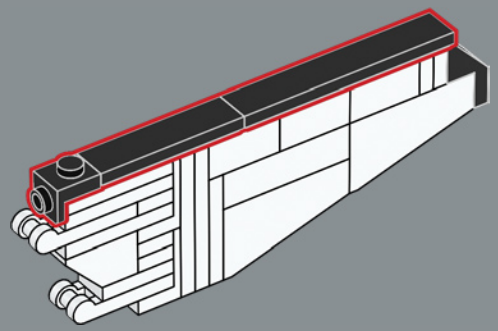

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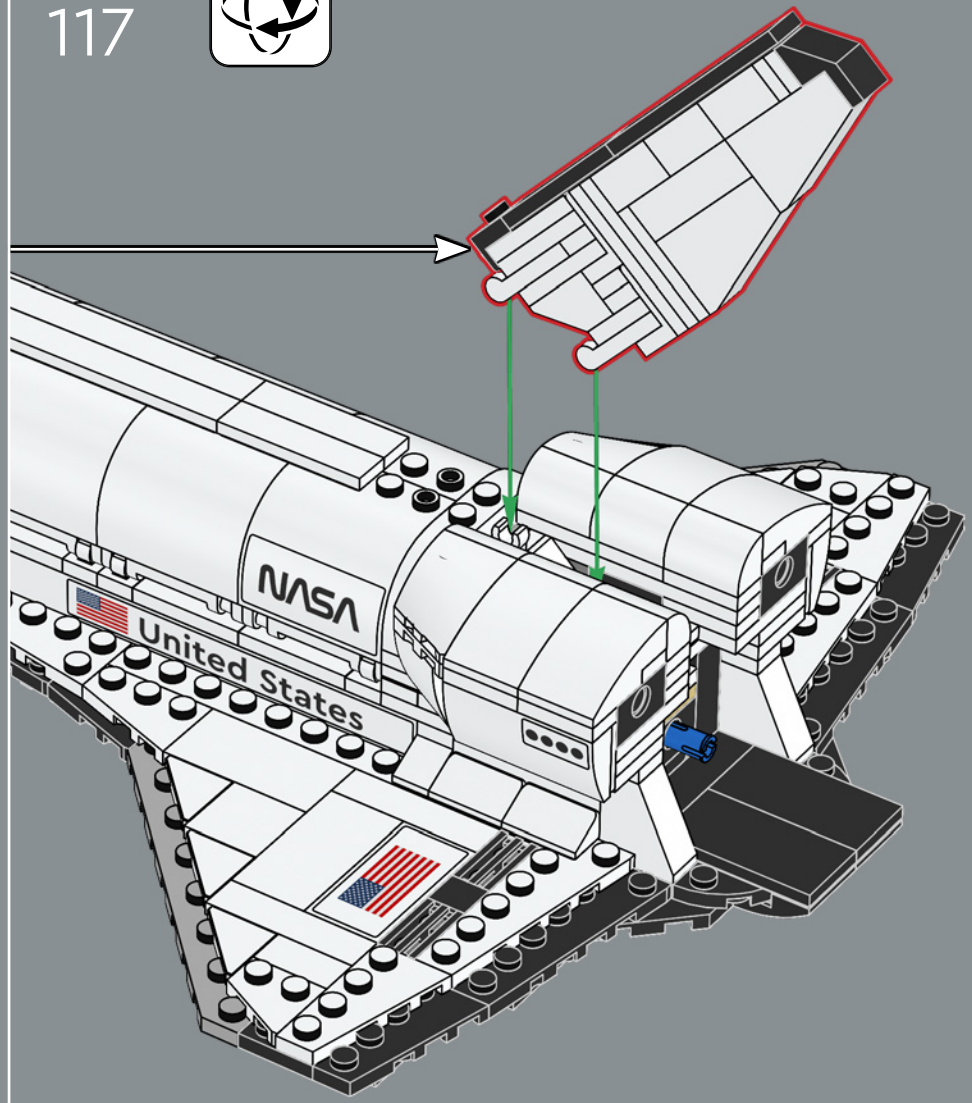

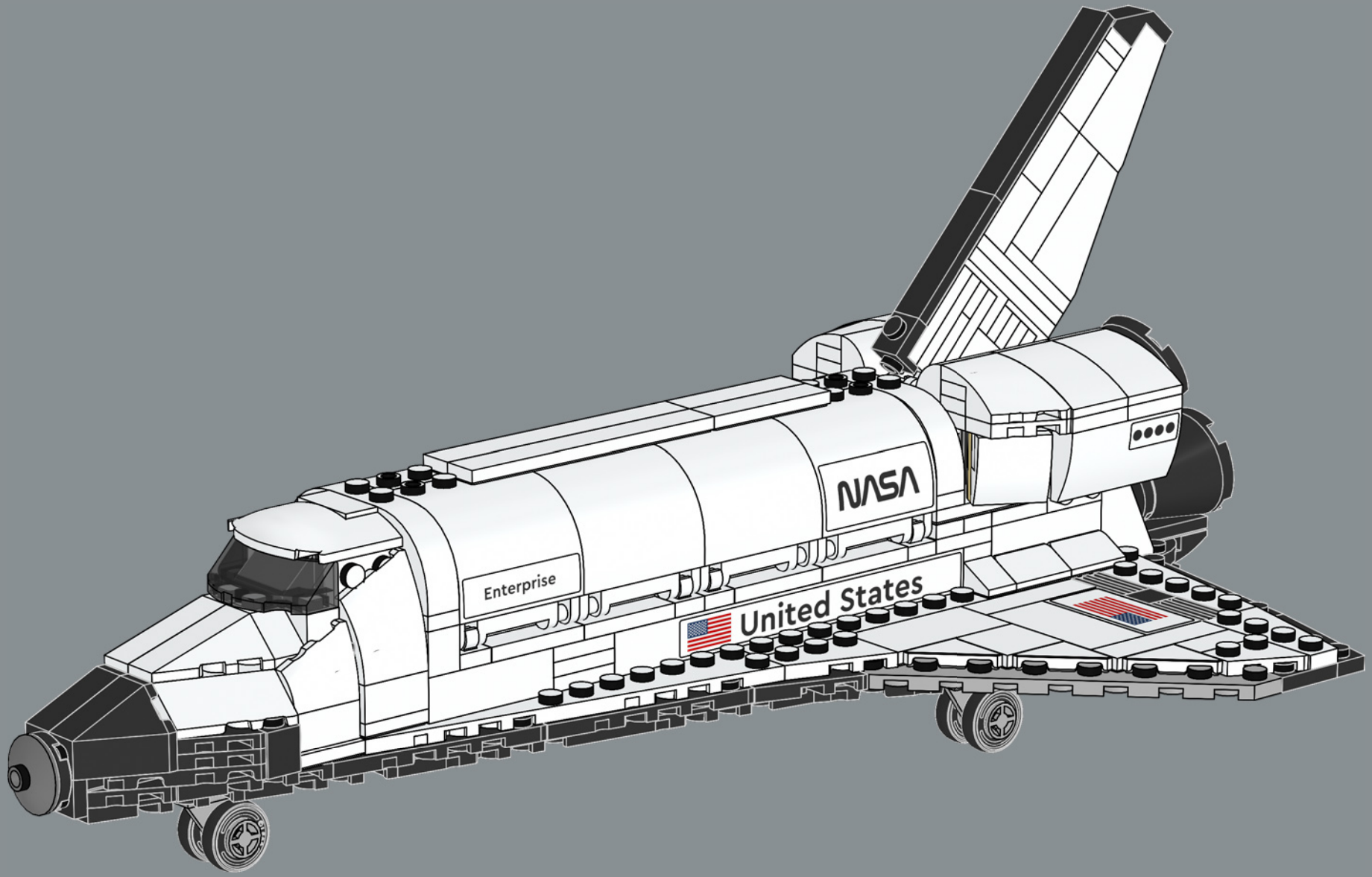
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Enterprise
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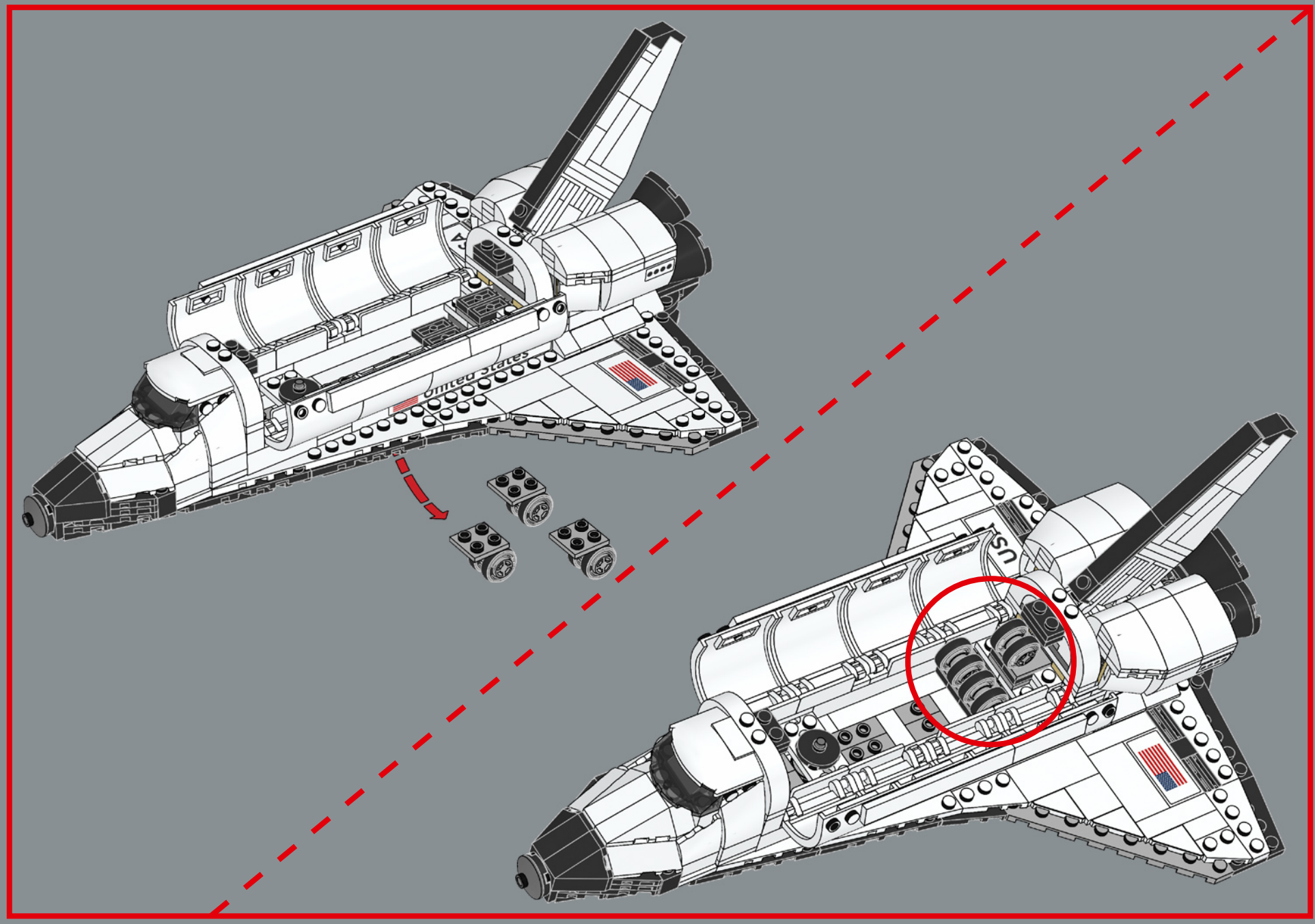
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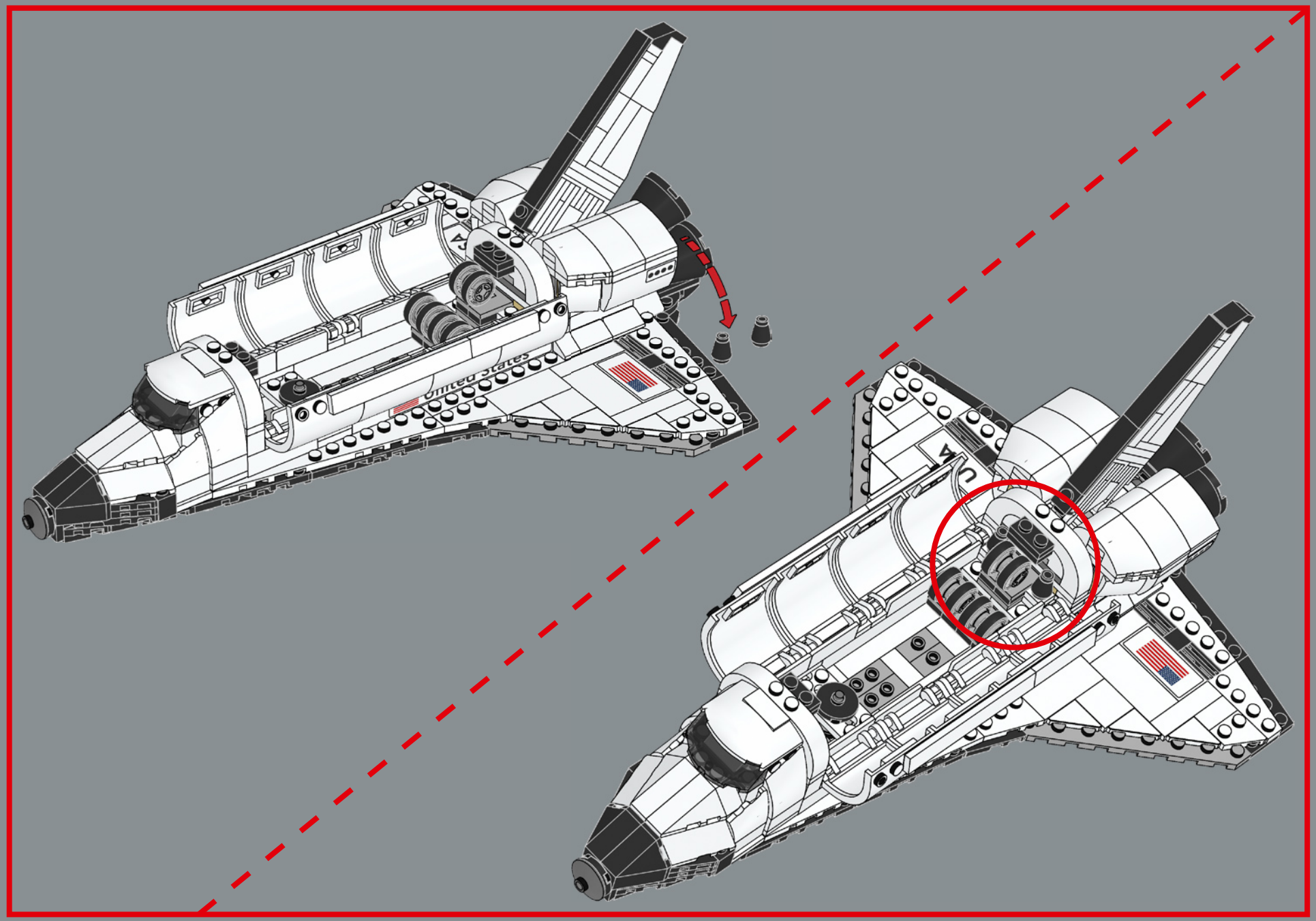
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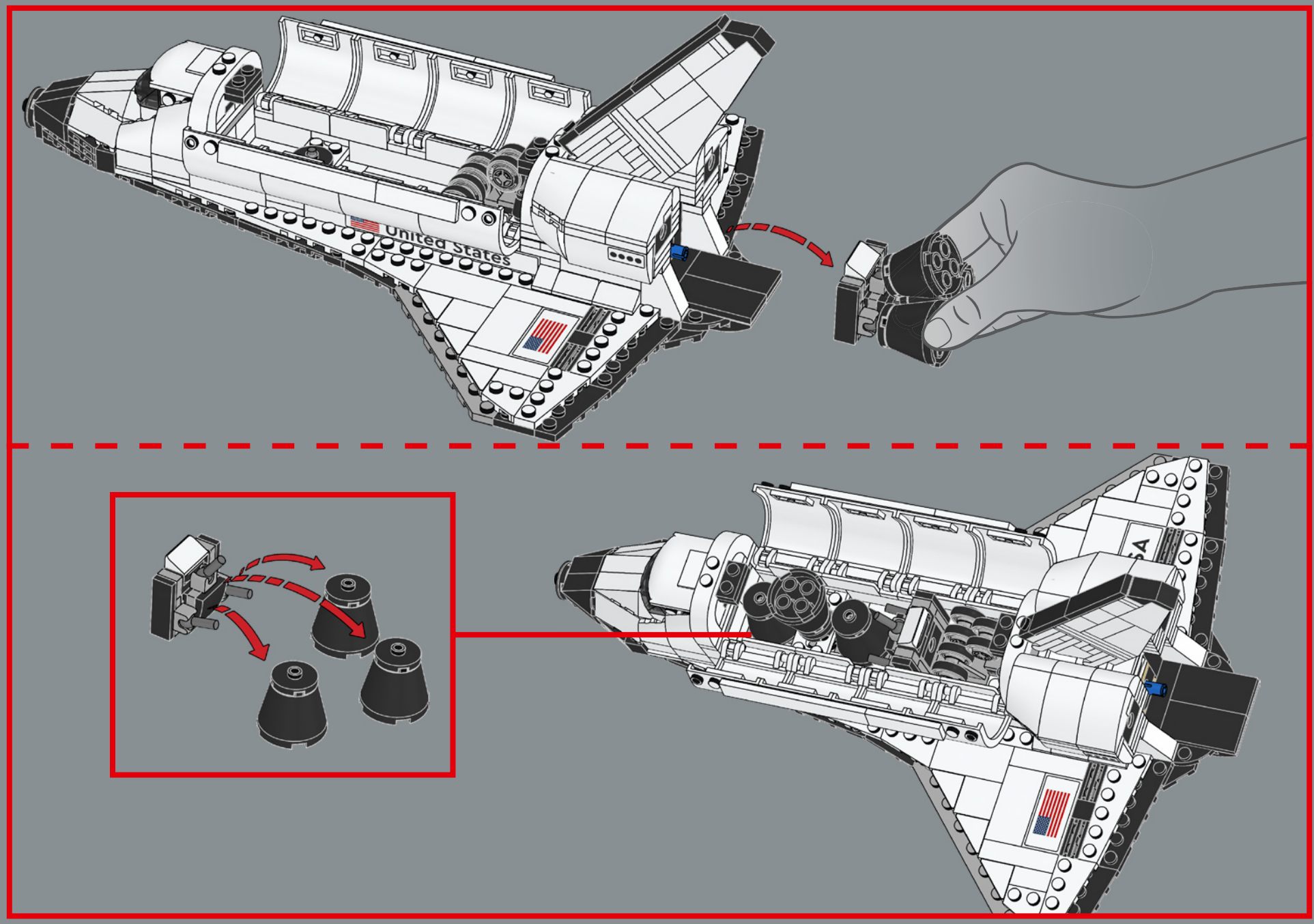
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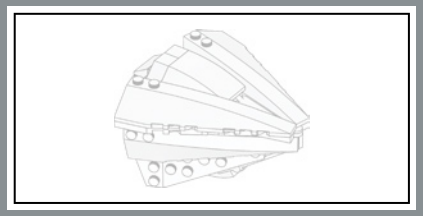

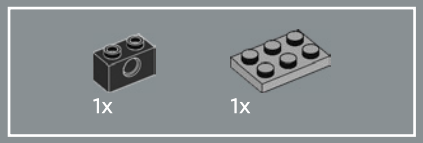


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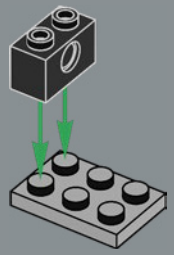

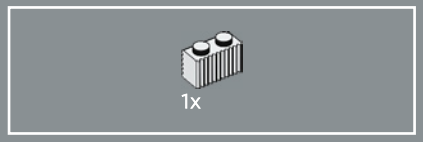


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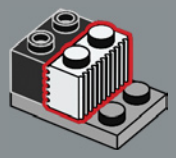

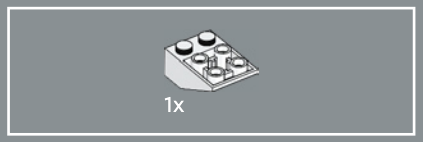


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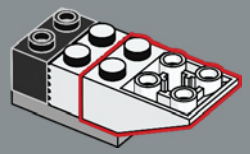

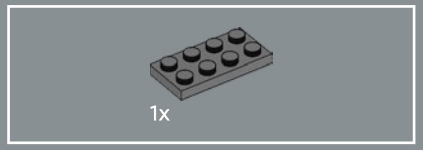


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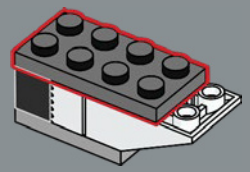

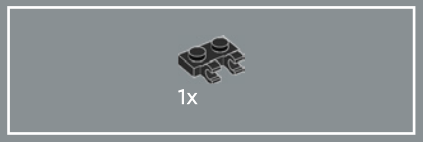


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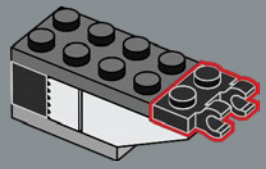

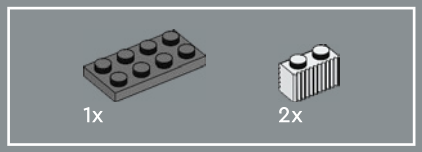


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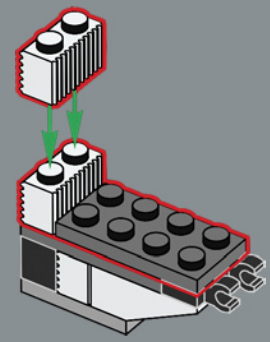

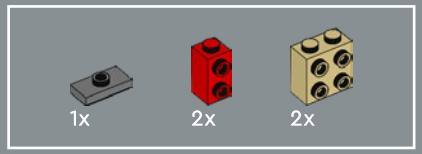


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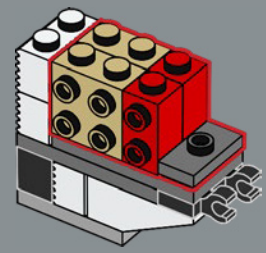

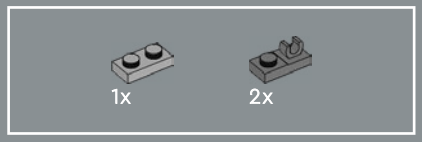


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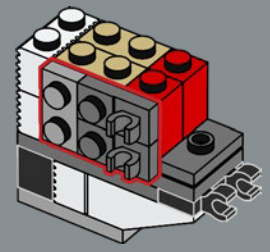


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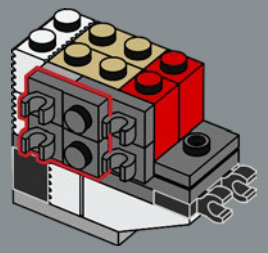


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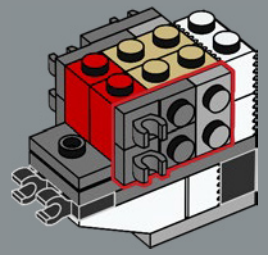


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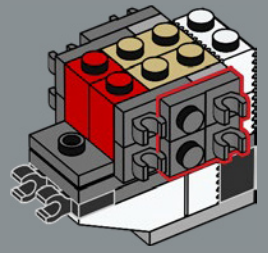


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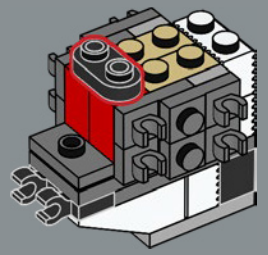

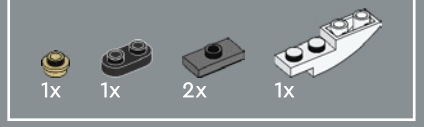


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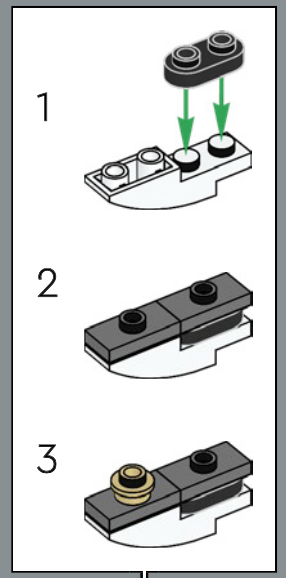
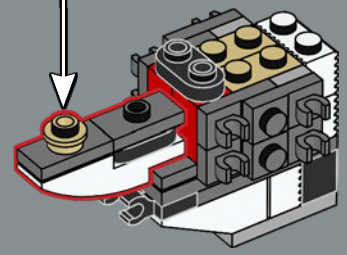
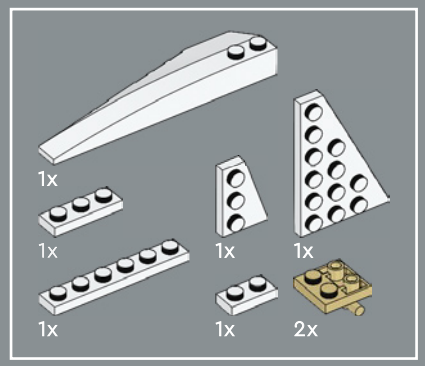


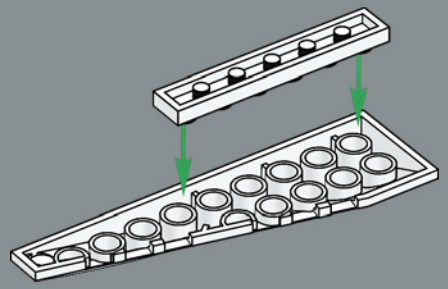






# 131

El cono de cola, la cubierta de los motores de la lanzadera espacial real, se colocaba para mejorar el rendimiento aerodinámico durante el transporte. La versión LEGO® imita su silueta y no está hueca.

1



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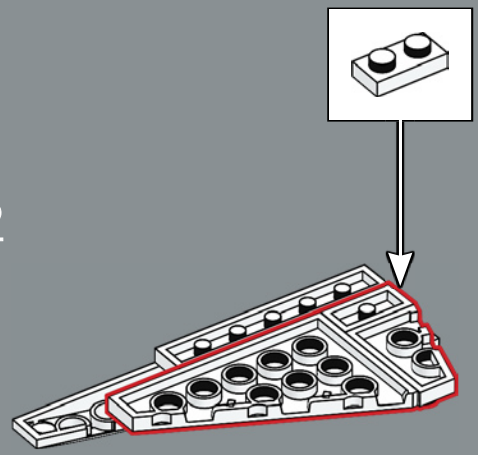

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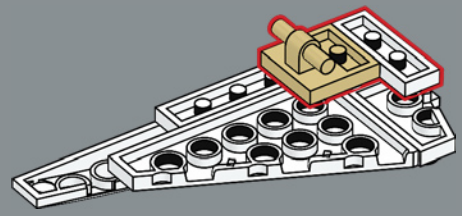

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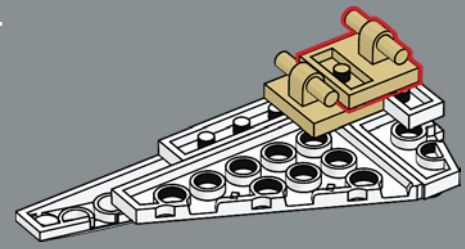

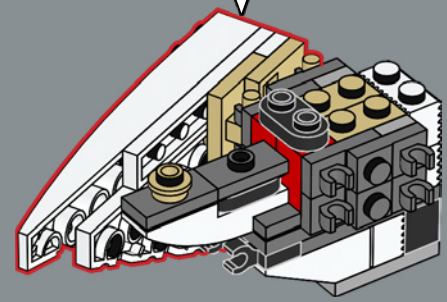

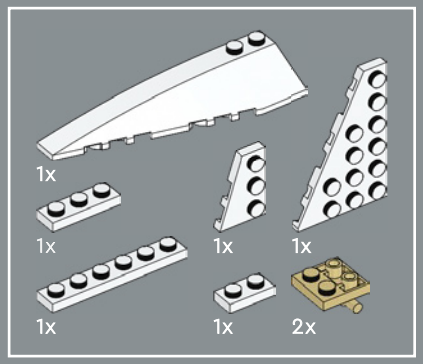


132

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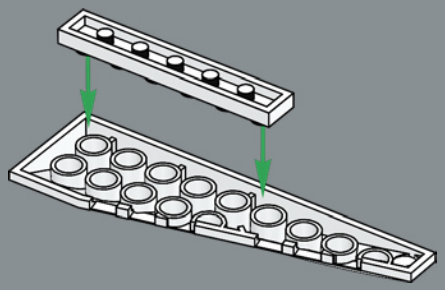

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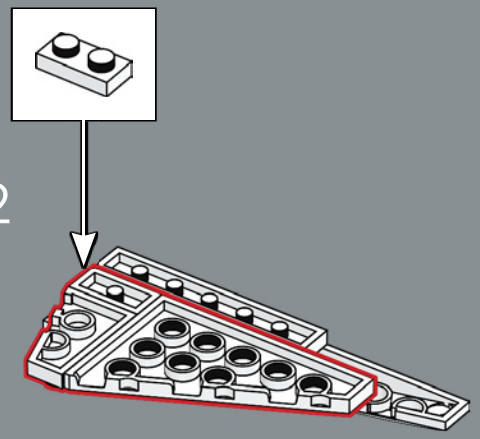

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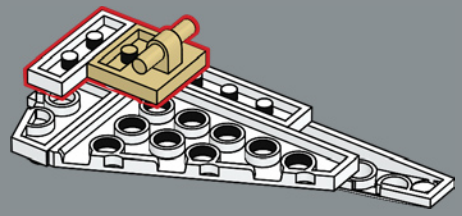

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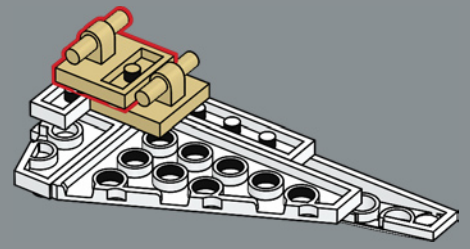

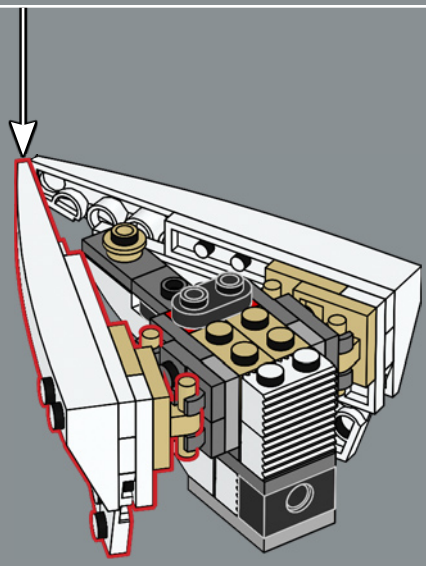

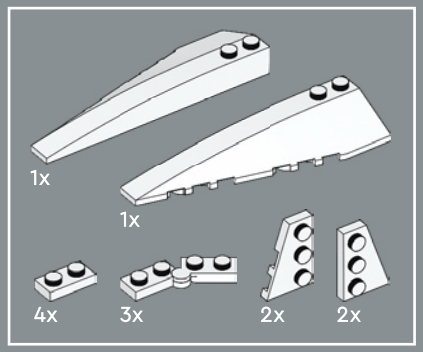


133

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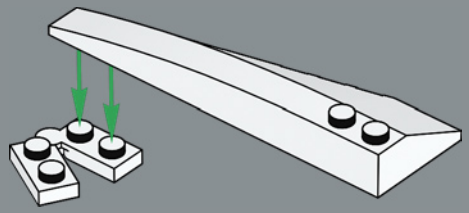

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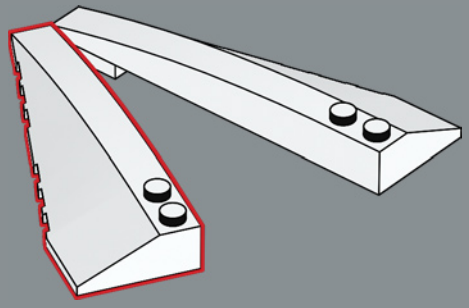

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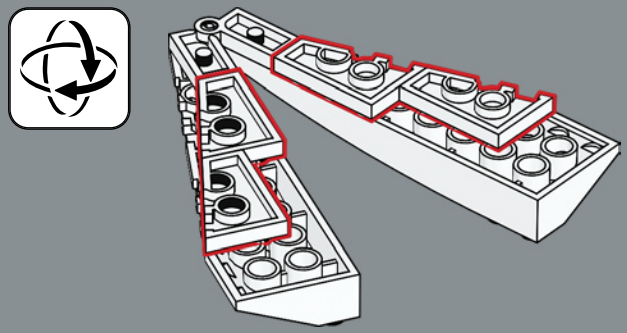

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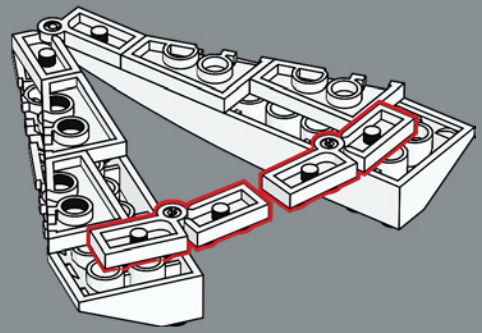

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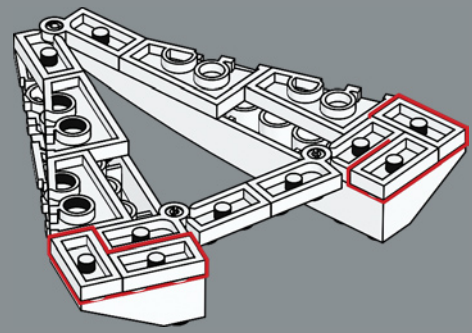

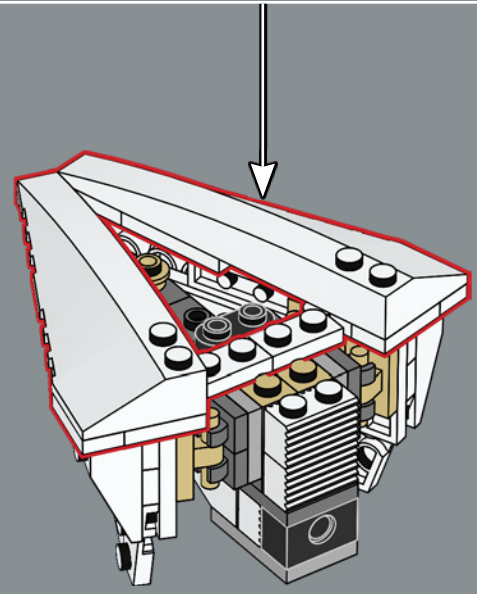


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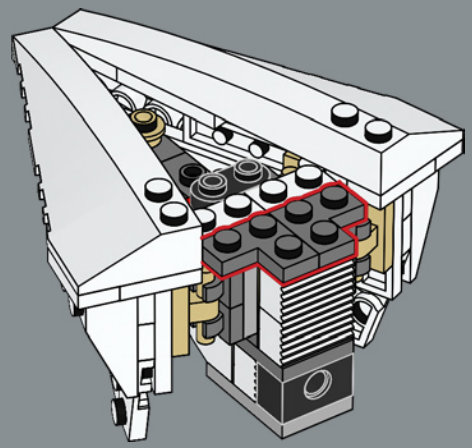





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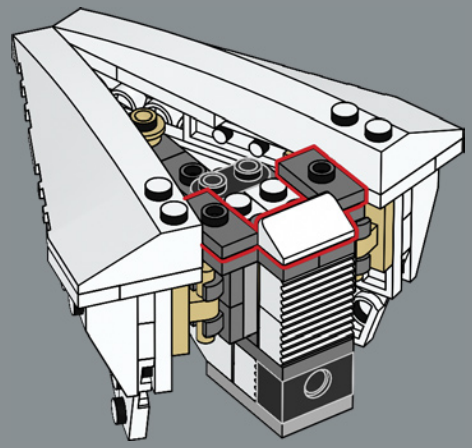




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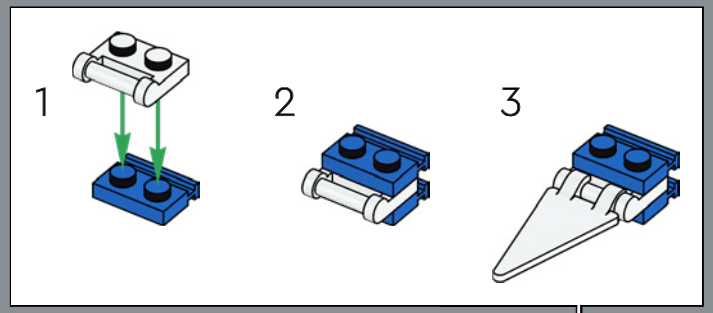


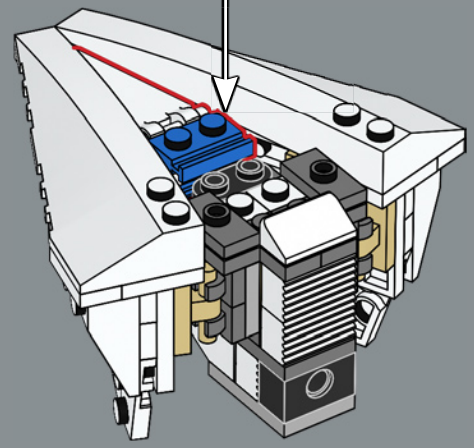

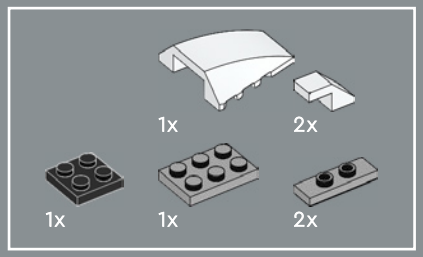


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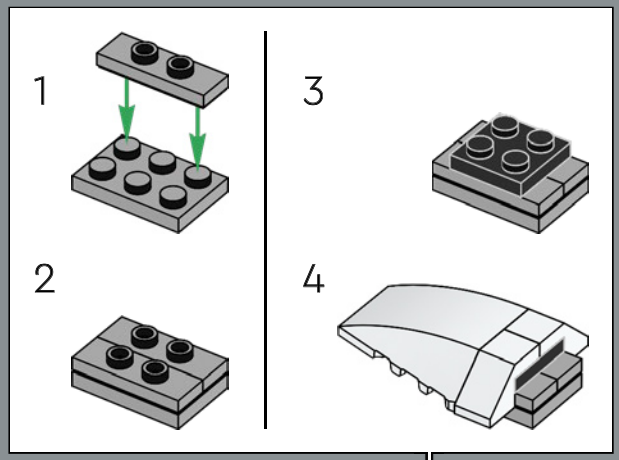


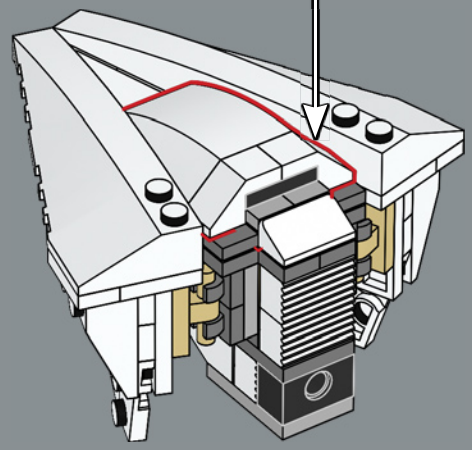

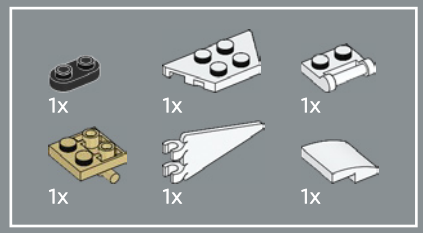


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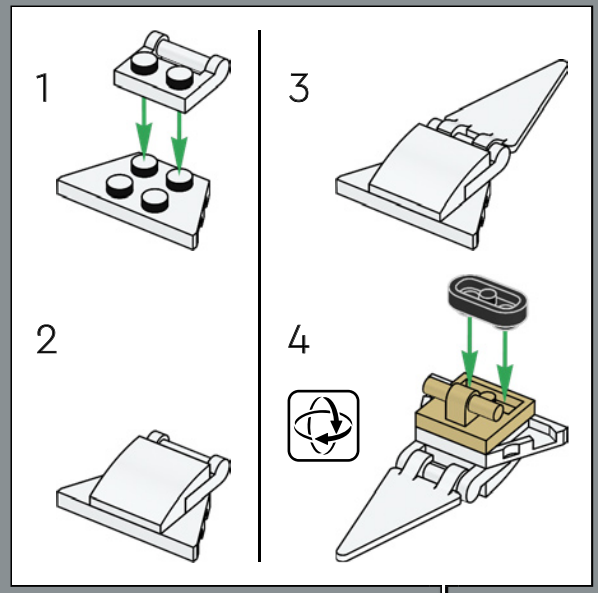
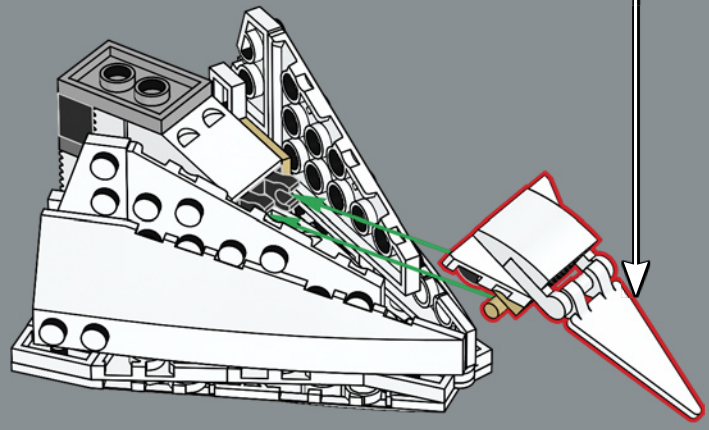
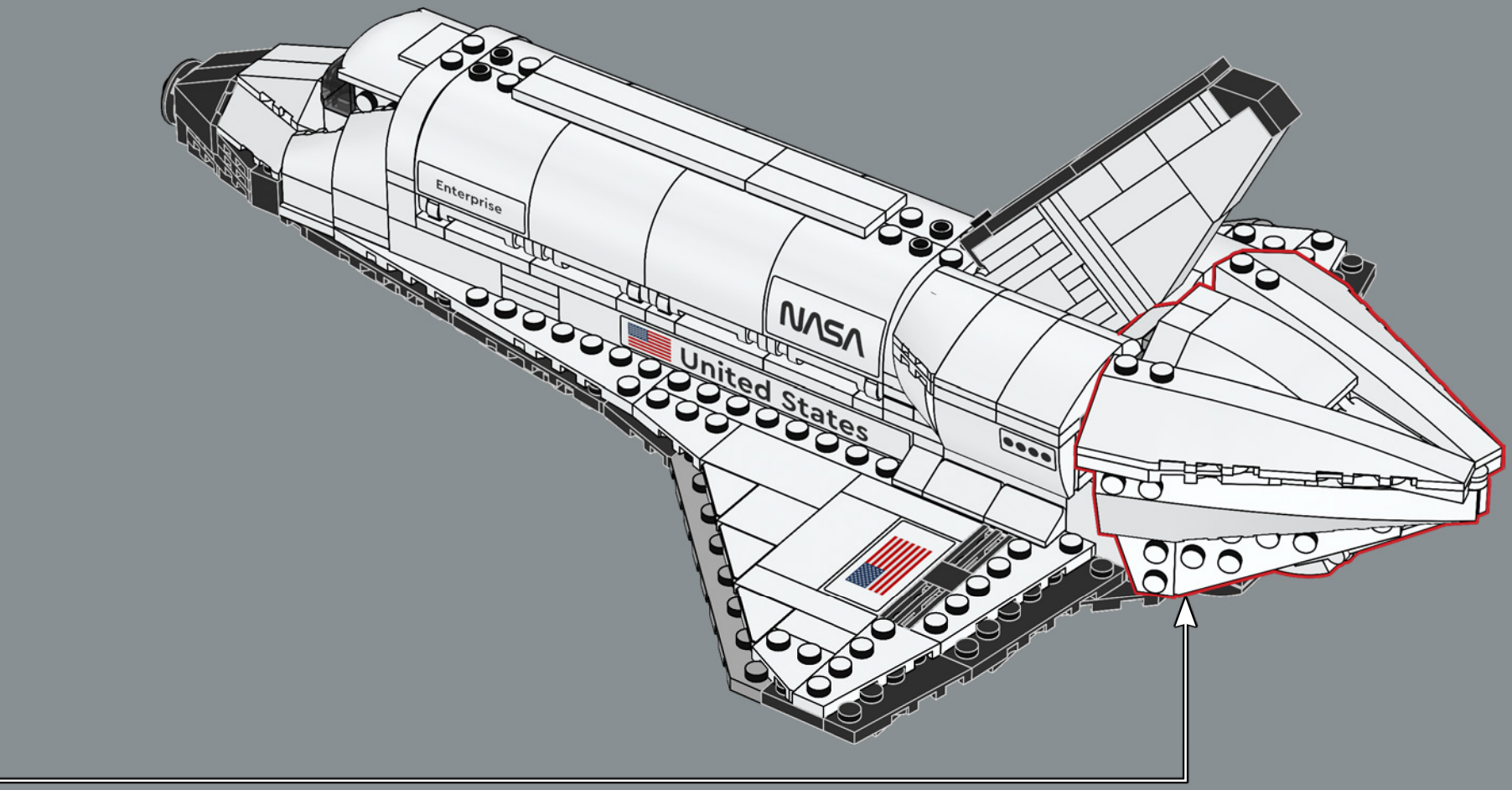
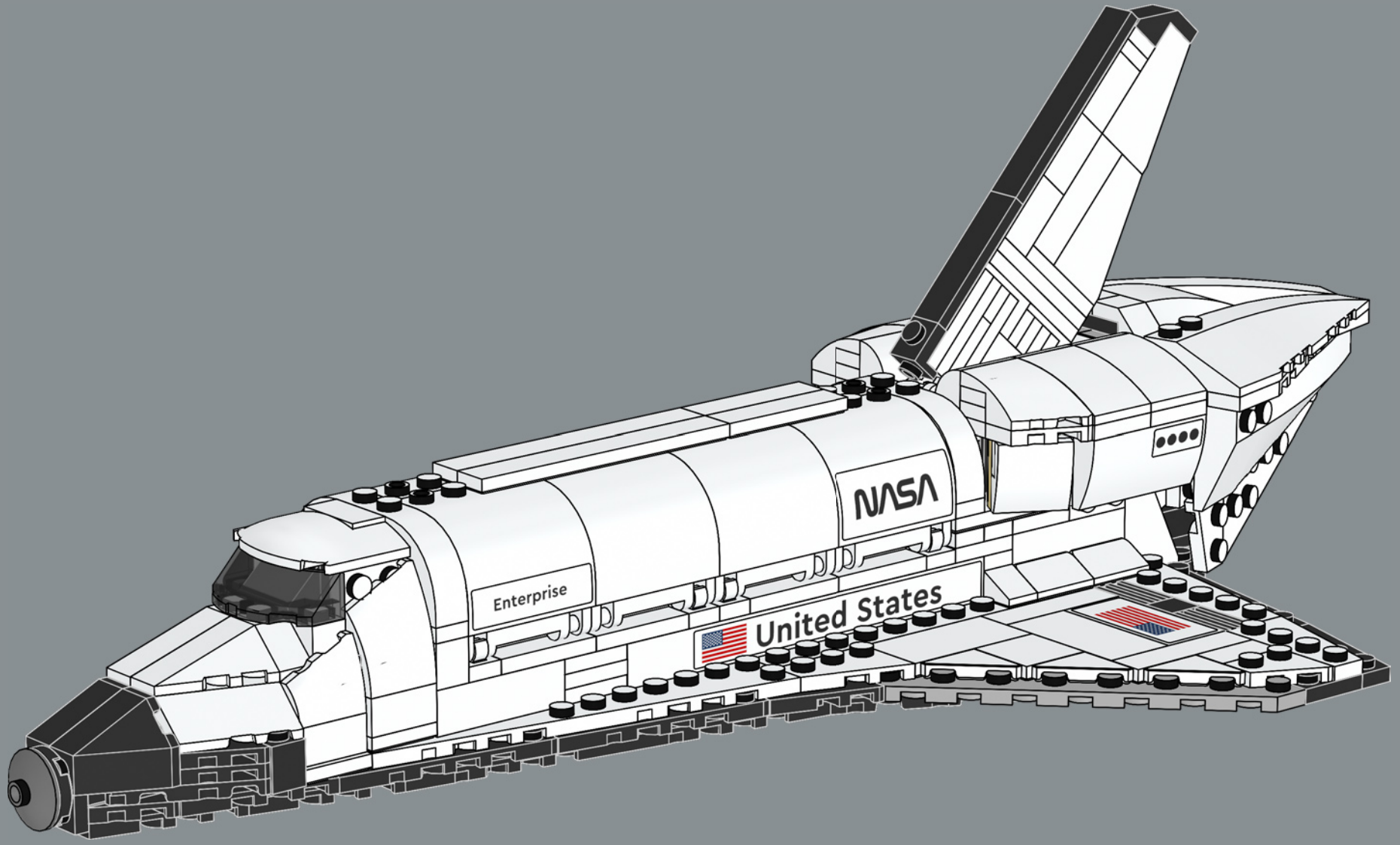


El Enterprise realizó cinco vuelos libres de prueba tripulados. Los tres primeros se hicieron con el cono de cola, mientras que en los dos últimos se instalaron motores simulados.

# 139




NASA
Enterprise
United States