DamoB's Proton rocket collection – 1:110 scale

Modular: swooshable, stageable, interchangeable

UR-500   **Proton-K**   **Proton-K Zarya**   **Proton Blok DM**   **Proton Breeze-M**

Introduction

The Proton (Протон) is a Russian heavy rocket which first launched on 16 Jul 1965 and remains in service with 423 launches to its credit, of which 375 (88.7%) have been successful. Its last commercial mission took place on 9 Oct 2019 but there are still a number of Russian government missions which remain on contract so the Proton may not yet have seen its last launch. The Proton's first variant was the UR-500, an ICBM which was designed to launch a large nuclear weapon over intercontinental distances. It was overqualified for this task and was reengineered into a space launch vehicle to rival the N1's attempts to send cosmonauts around the moon. The Proton has seen a number of developments over its 55 years of service, from the original UR-500 which had just four launches through Proton-M Phase IV. Many of these are externally nearly identical, especially at 1:110 scale! The name Proton comes from its earliest payloads, a series of scientific satellites which were the heaviest launched by any nation to that date. The first Proton to be seen by the West was during the televised launch of the Mir core segment, with other notable payloads including the Salyut space stations and the Zarya and Zvesda modules of the ISS. These instructions should help you design your favourite Proton rocket.

Stages:

First Stage. The Proton's first stage has remained externally identical since the UR-500 although many modifications have been made over its life to enhance efficiency and reduce weight. Its unusual design stems from the central oxidizer tank being the maximum diameter which can be transported by rail with the six surrounding fuel tanks also being the attachment points of the engines.

Second Stage. The UR-500's second stage was increased in length for the fifth launch (Proton Mk2), but from that time it has remained externally identical.

Third Stage. The Proton's third stage was introduced with the Proton Mk2 and, as with the second stage, remained externally identical throughout its life.

Fourth Stage. The fourth stage has gone through three main iterations. The first was the Blok-D which was designed for interplanetary missions and was essentially a fuel/oxidizer stage with an engine which had to be guided by its payload. The Blok DM was externally the same as the Blok-D and came in three variants (DM, DM2, DM2M) which were used for high Earth orbit missions. The Breeze-M was the last fourth stage used with the Proton and its unusual design, with the fuel tanks surrounding the engine in a donut shape, means that just .058m are visible on the launch pad with the remainder of the stage contained within the fairing.

Pick 'n' Mix. There are a number of Proton variants from which to choose – happy building!

Rocket	First stage (all identical)	Second stage (K-2 and M-2 identical)	Third stage (all identical)	Fourth stage (Blok-D and DM identical)	Fairing	First flight	Notable Payloads
UR-500	UR-500-1 21.18m	UR-500-2 10.1m	-	-	8.5m	16 Jul 1965	First flight of the Proton family
8K82K Proton-K	Proton K-1 21.18m	Proton K-2 17.05m	Proton K-3 4.11m	-	7.66m	16 Nov 1968	First mission which returned lunar rock samples (Luna 16, 12 Sep 1970)
Proton-K Zarya	Proton K-1 21.18m	Proton K-2 17.05m	Proton K-3 4.11m	-	12.65m	20 Nov 1998	First module of ISS
Proton-M Blok DM	Proton KM-1 21.18m	Proton KM-2 17.05m	Proton KM-3 4.11m	Blok DM 4.9m	8.9m	25 Dec 2007	Triple satellite launch: Kosmos 2382 (Uragan-M#1); Kosmos 2380 *Uragan #78; Kosmos 2381 *Uragan #79 communications satellites
Proton-M Breeze-M PhIV	Proton KM-1 21.18m	Proton KM-2 17.05m	Proton KM-3 4.11m	Breeze-M 2.61m	15.25m	9 Jun 2016	Intelsat 31 communications satellite

The technical stuff

Height:
- One plate is 3.2mm high, At 1:110 scale = 352mm (0.352m)
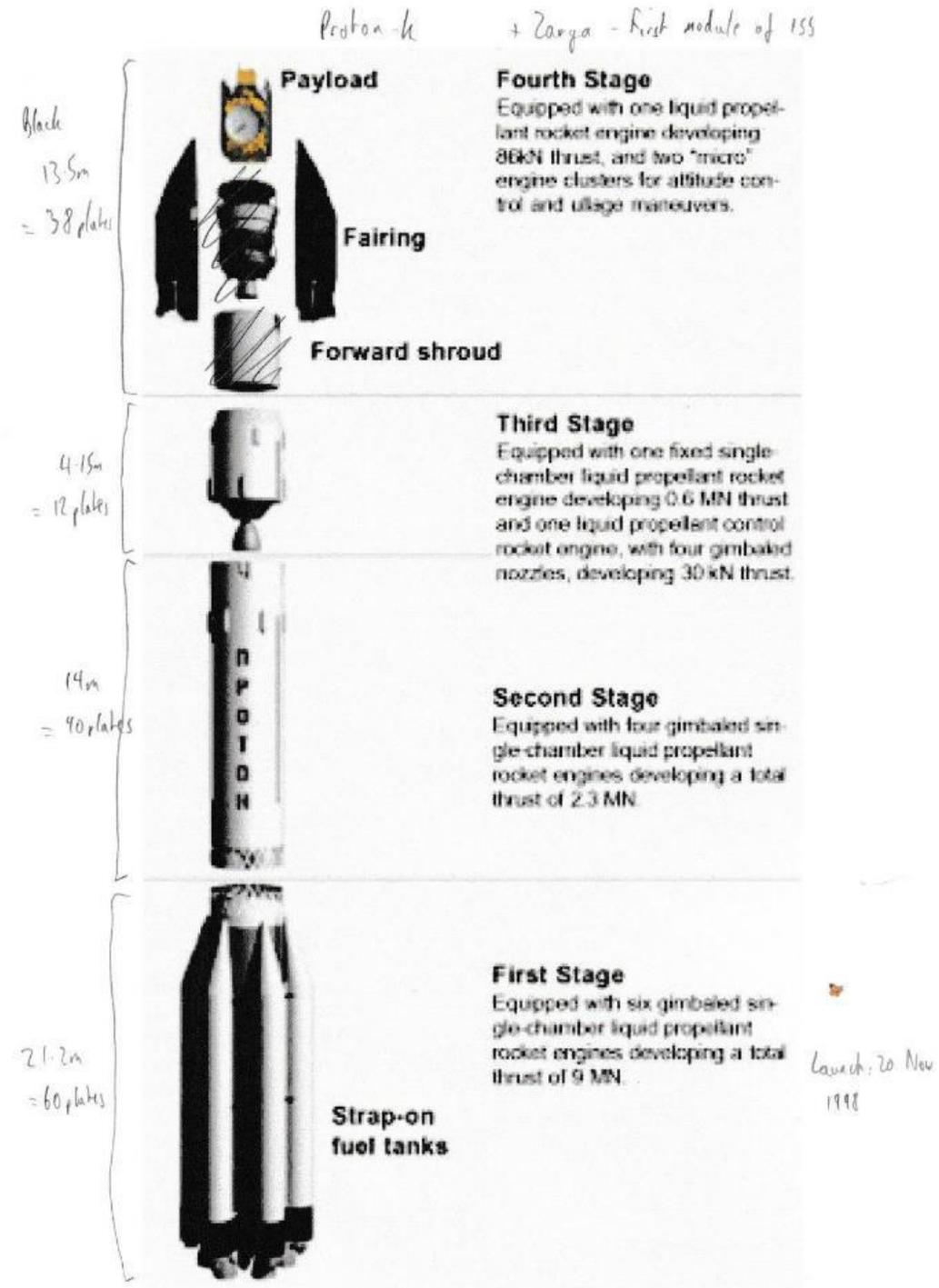- 1m / 352mm = 2.84 plates per m

Width:
- One brick is 8mm wide. At 1:110 scale = 880mm
- 1m / 880mm = 1.14 bricks per m

Notes:
- Proton first stages are externally identical.
- Proton K-2 and KM-2 second stages are externally identical.
- Proton K-3 and KM-3 are externally identical.
- Blok D and Blok DM are externally identical.
- Blok D and DM have adapter.
- Zarya fairing is 12.5m long – I have had to infer this from available information.
- The model is about the right width at the first stage but a little skinny through the second and third stages.
- Photos show that fairings are slightly wider than the second/third stage. The width of the Proton fairings is 4.35m (5 studs) and the model width is 5.1 studs.
- Bricks shown in yellow can be any colour as they are internal structures.

Personal preferences:
- I made a decision to prioritise stageability and swooshability for all designs.
- Trying to fit the Breeze-M inside the fairing was very challenging as only the bottom two plates should show. To keep the staging I had to design a 5.6 stud wide fairing which makes it slightly too wide.

The maths

UR-500 8K82 Proton	First stage (UR-500-1)	Second stage (UR-500-2)			Fairing	Total
Height (m)	21.18	10.1			8.5	39.78
Width (m)	7.4	4.15			4.15	15.7
Height (plates)	60	29			24	113
Width (plates)	8	5			5	8
Height on model	60	27			18	105
Width on model	8	4			5	8
First Proton rocket						
8K82K Proton-K	First stage (K-1)	Second stage (K-2)	Third stage (K-3)		Fairing	Total
Height (m)	21.18	17.05	4.11		7.66	50
Width (m)	7.4	4.15	4.15		4.15	7.4
Height (plates)	60	48	12		22	142
Width (plates)	8	5	5		5	8
First lunar sample return (12 Sep 1970; Luna 16)						
Proton-K and Zarya	First stage (K-1)	Second stage (K-2)	Third stage (K-3)		Fairing	Total
Height (m)	21.18	17.05	4.11		12.65	54.99
Width (m)	7.4	4.15	4.15		4.15	7.4
Height (plates)	60	48	12		36	156
Width (plates)	8	5	5		5	8
First module of ISS (20 Nov 1998)						
8K82M Proton-M Blok-DM	First stage (KM-1)	Second stage (KM-2)	Third stage (KM-3)	Fourth stage (Blok-DM)	Fairing	Total
Height (m)	21.18	17.05	4.11	4.9	8.9	47.823
Width (m)	7.4	4.15	4.1	3.7	4.35	7.4
Height (plates)	60	48	12	14	25	159
Width (plates)	8	5	5	4	5	8
8K82M Proton-M Breeze-M	First stage (KM-1)	Second stage (KM-2)	Third stage (KM-3)	Fourth stage (Breeze-M)	Fairing	Total
Height (m)	21.18	17.05	4.11	2.61	15.25	47.273
Width (m)	7.4	4.15	4.1	4	4.35	7.4
Height (plates)	60	48	12	7	43	128
Width (plates)	8	5	5	5	5	8
				Lower 0.583m of Briz-M are outside fairing		

https://www.spacelaunchreport.com/proton.html#config
http://www.b14643.de/Spacerockets_1/East_Europe_2/Proton-M/Description/Frame.htm

UR-500-1, K-1 and KM-1 First Stage

1

2x   1x   1x   1x

2

1x   4x

3

1x 2x 4x 1x

4

1x 2x 4x 1x

5

1x 2x 4x 1x 1x

6

1x 2x 4x 1x

7

1x 2x 4x 1x

8

1x 2x 4x 1x

9

1x 2x 4x 1x 1x

10

1x 2x 4x 1x

11

2x   1x

12

3x

13

4x   1x   1x

14

1x
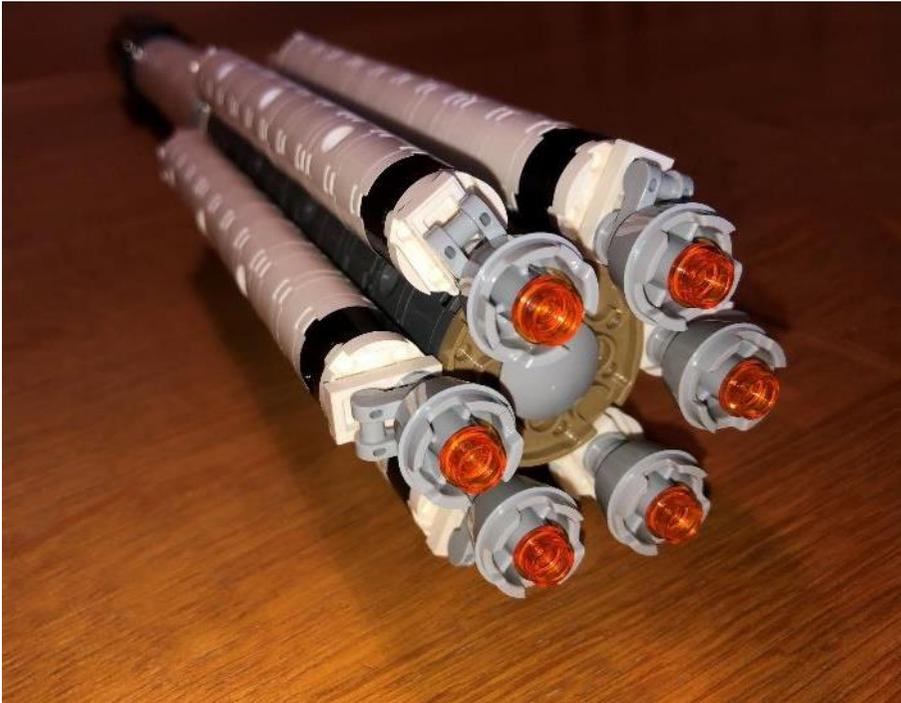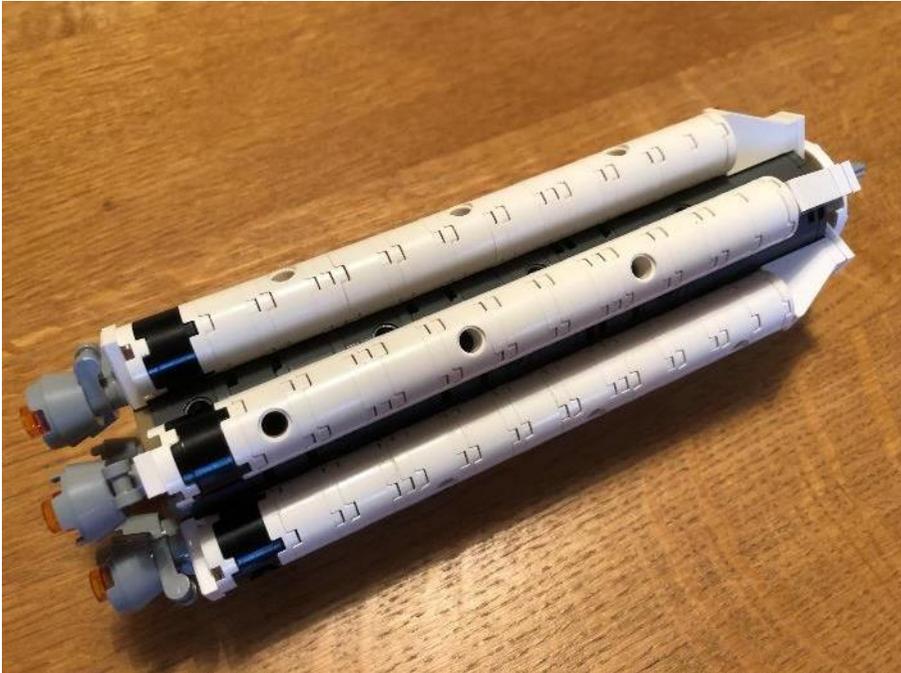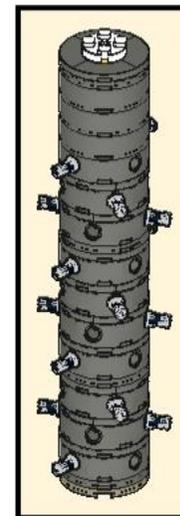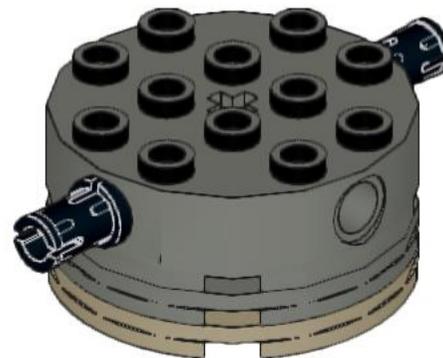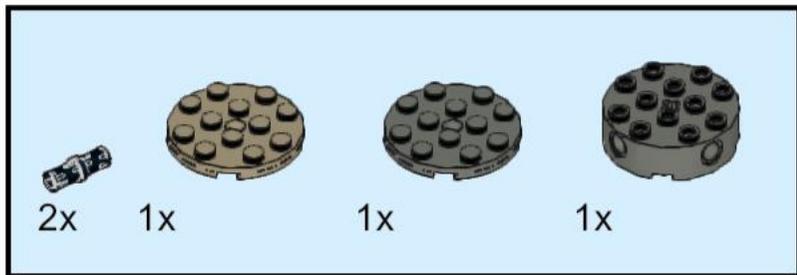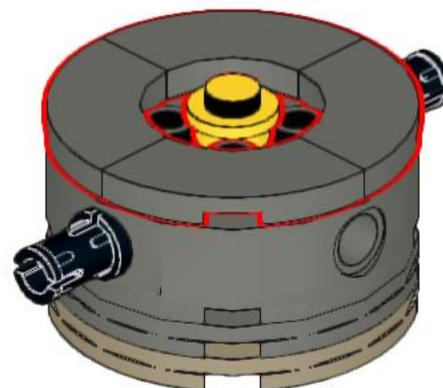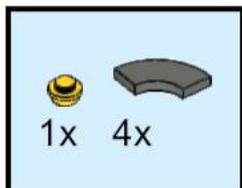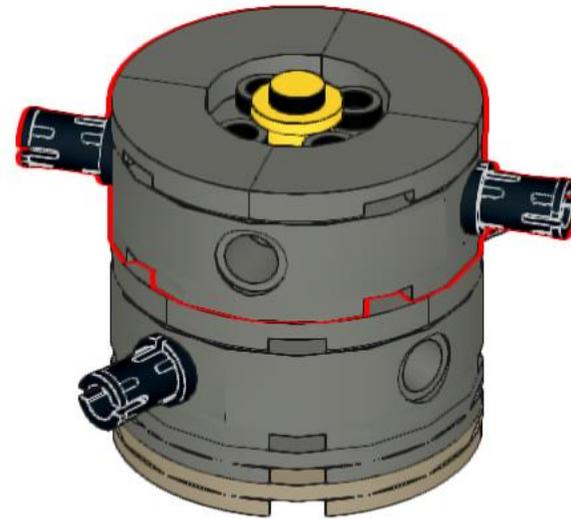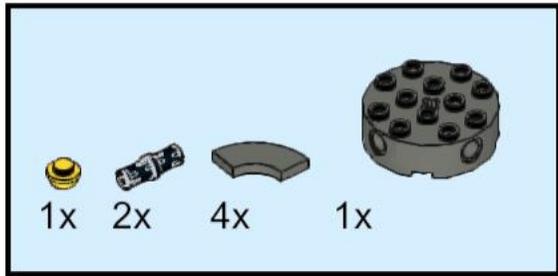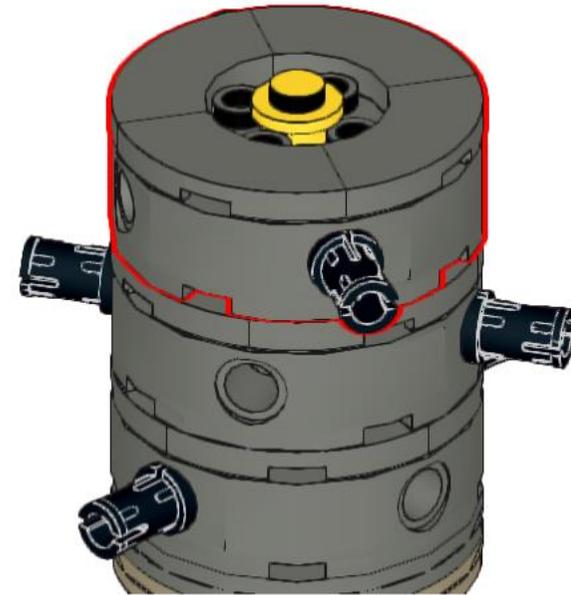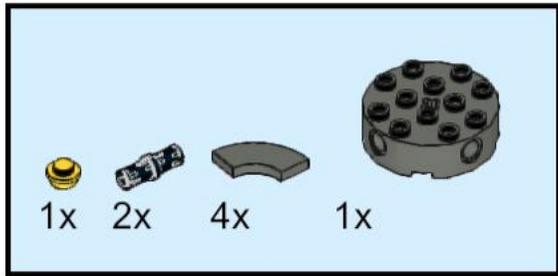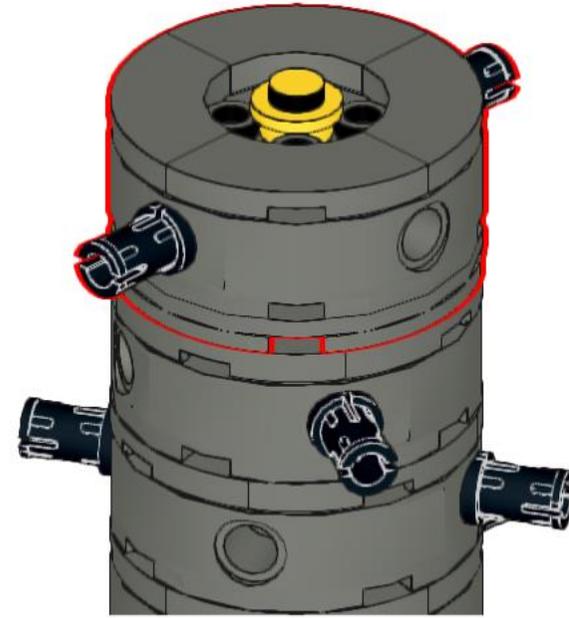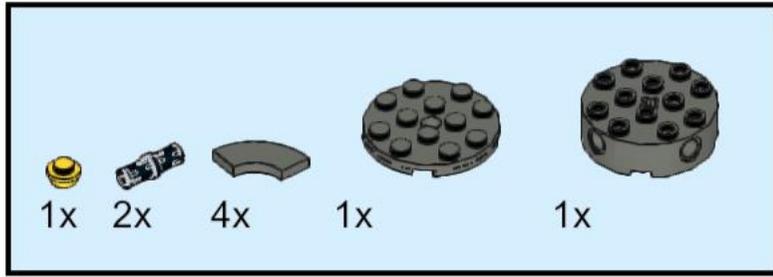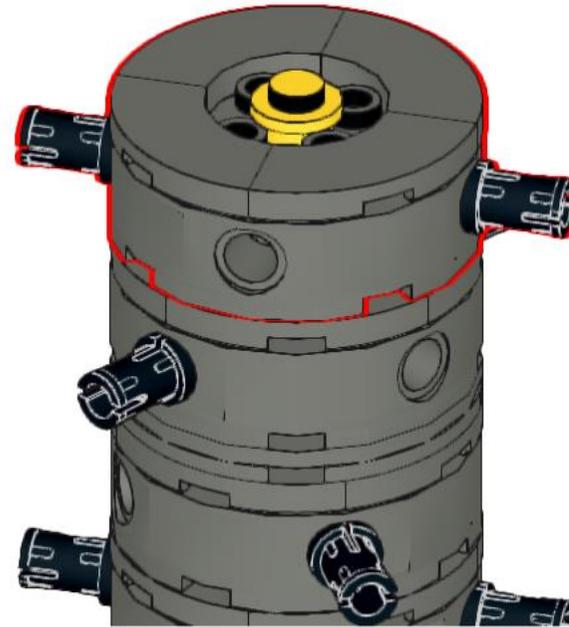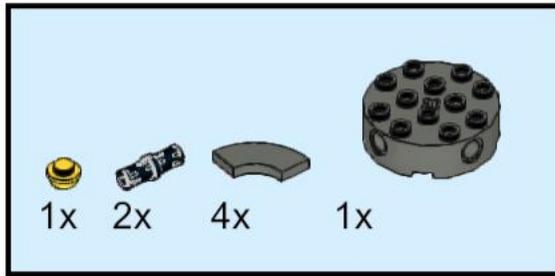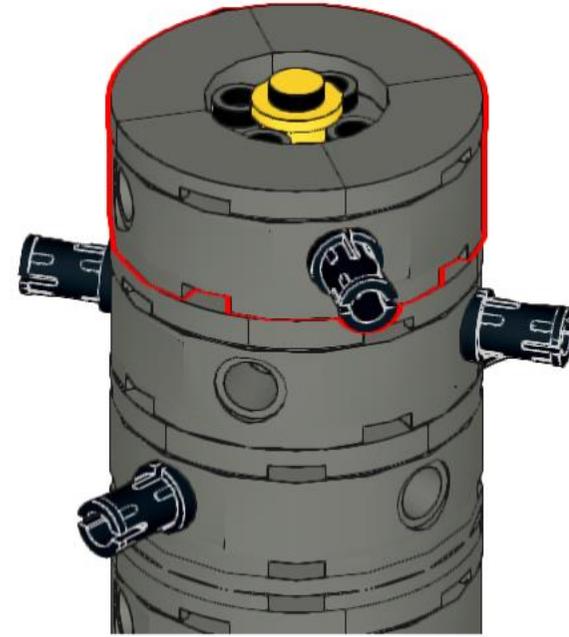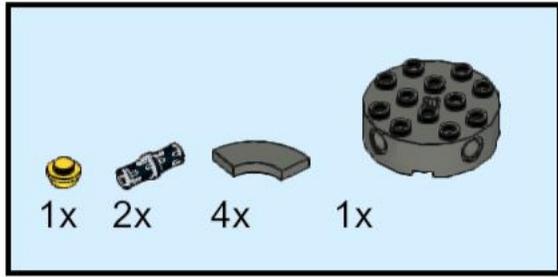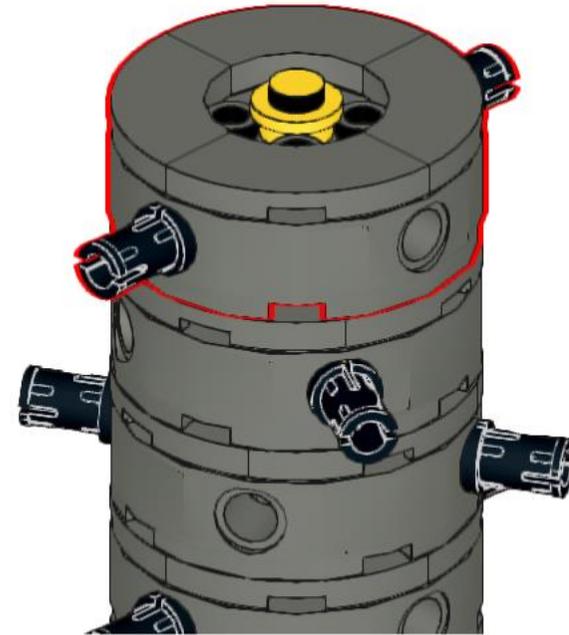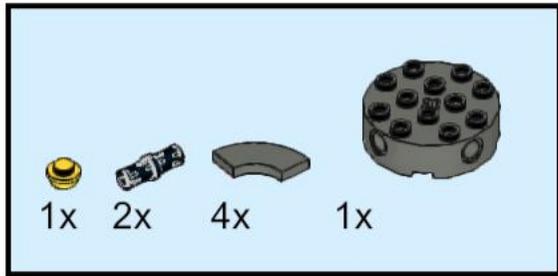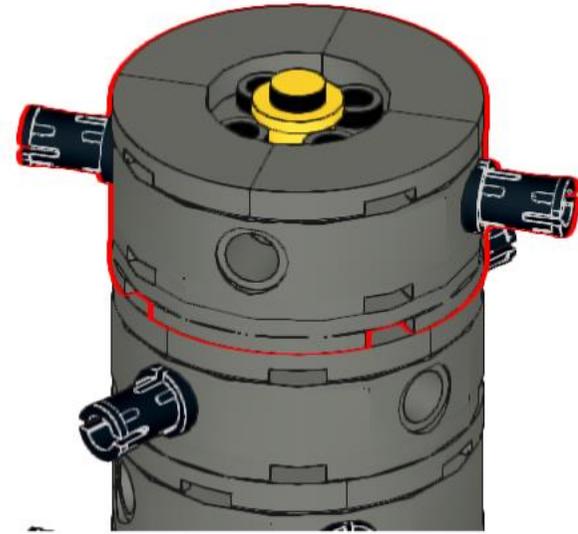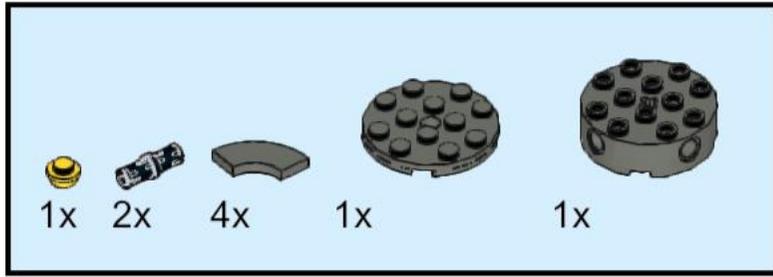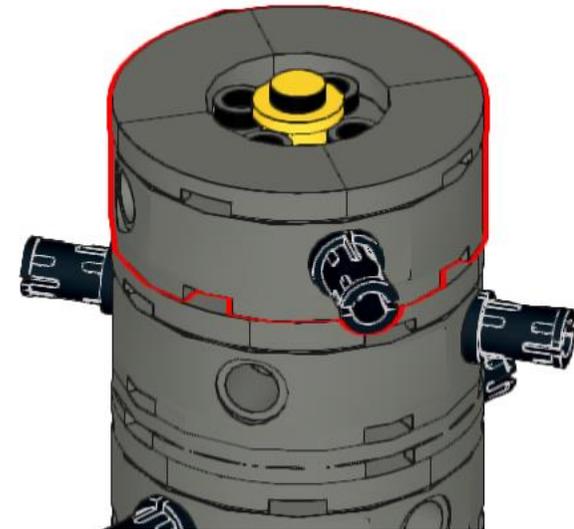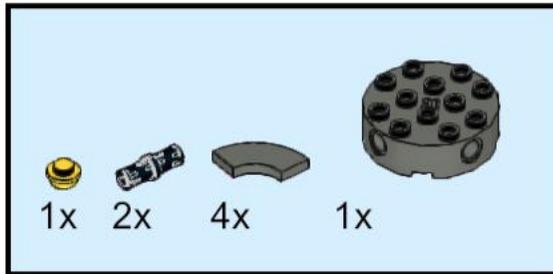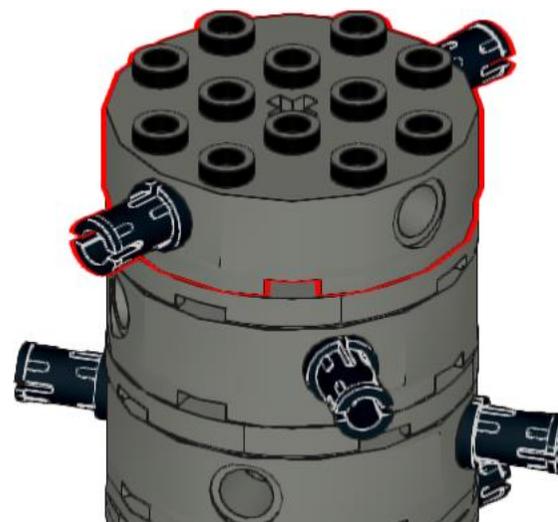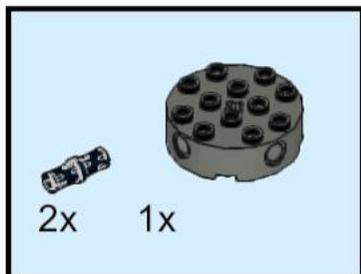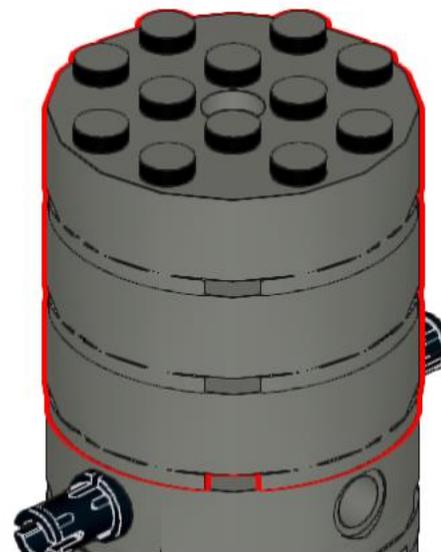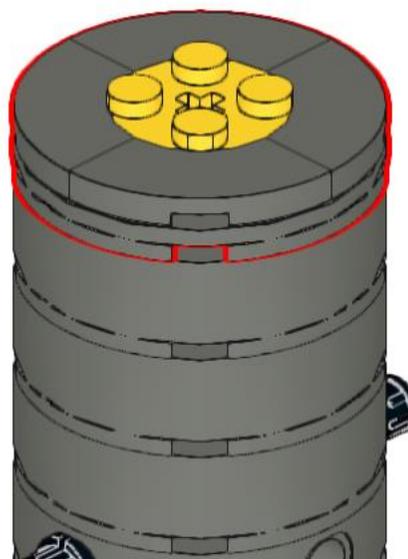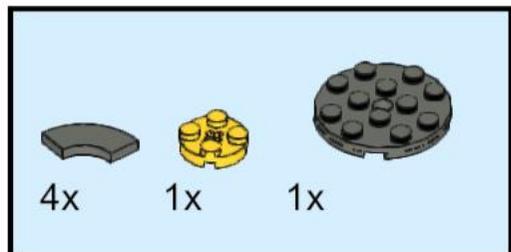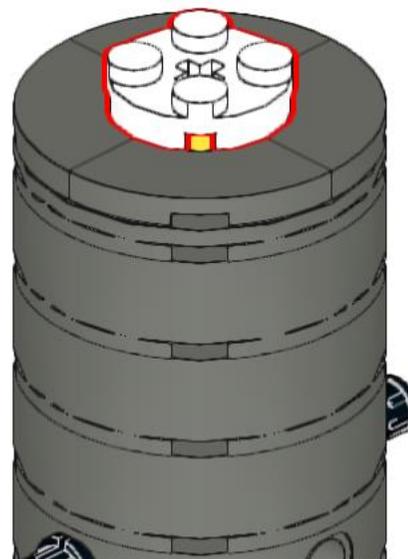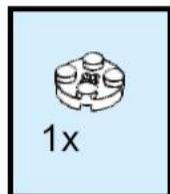
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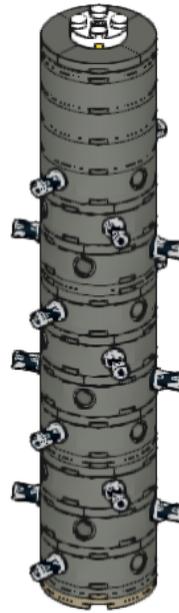
Pins are evenly spaced around cylinder (60°)

16

17

1x 1x 2x 1x

18

3x 1x 2x

19

3x 1x 2x

20

4x 1x 2x

21

1x 1x 1x

22

1x 1x
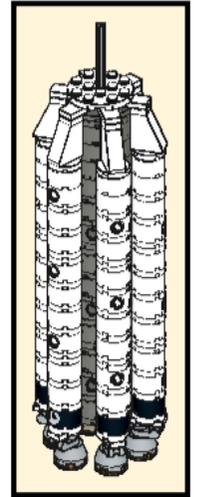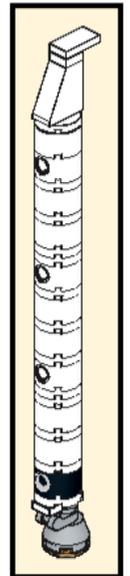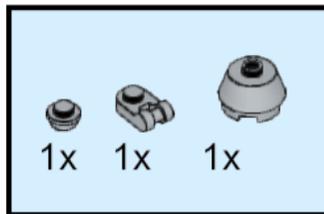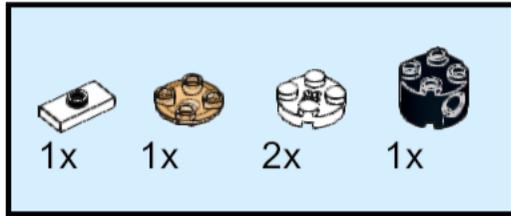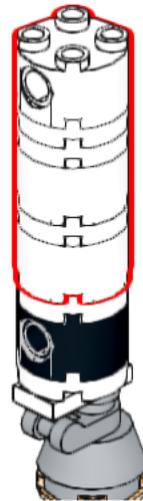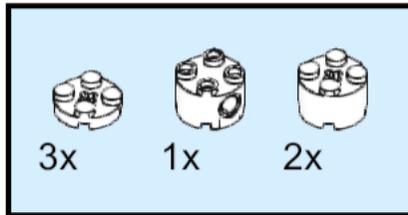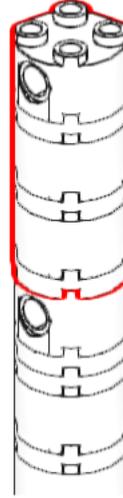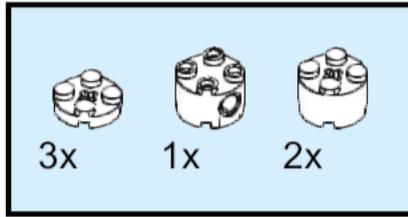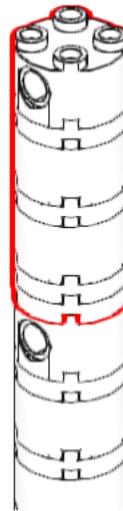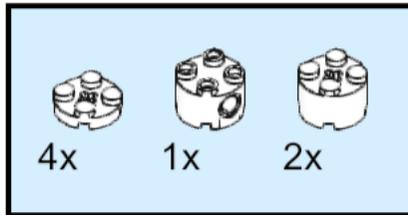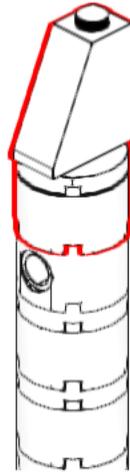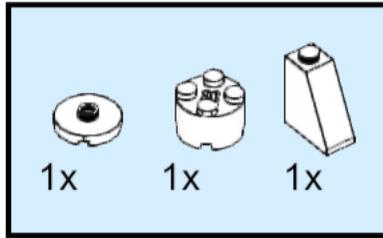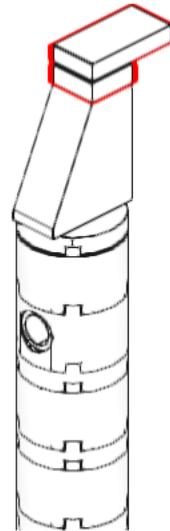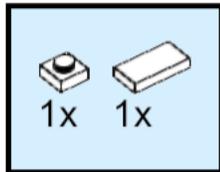
Clip completed fuel tank to either of the sides with four pins

23
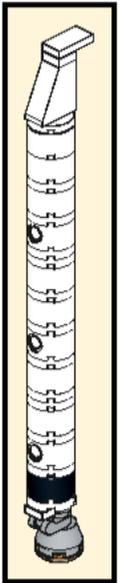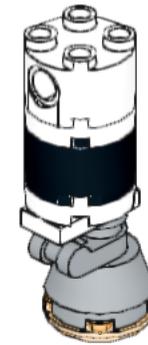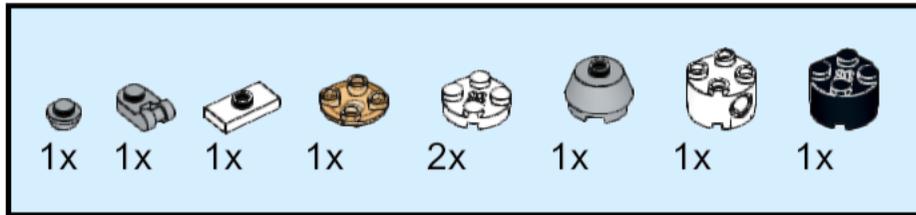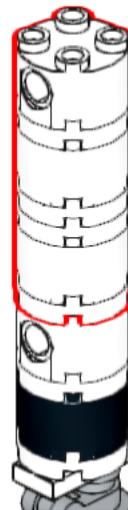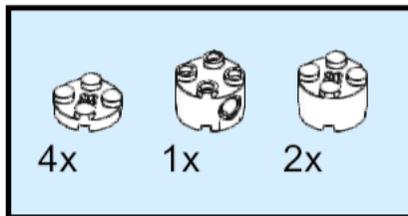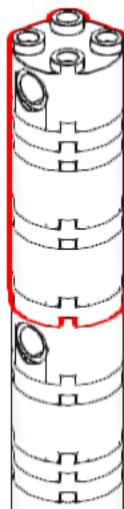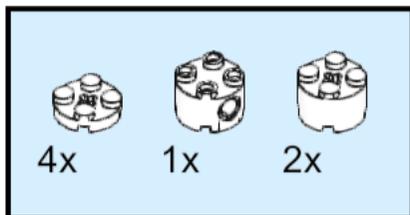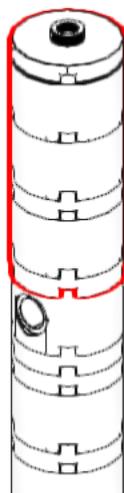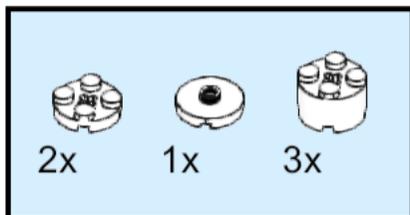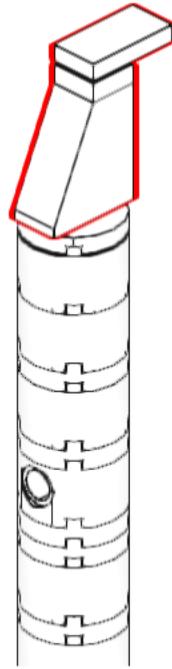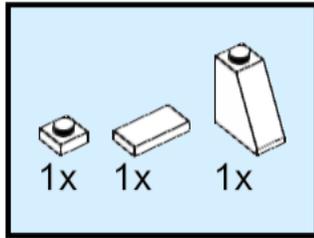
1x	1x	1x	1x	2x	1x	1x	1x

24

4x	1x	2x

25

4x 1x 2x

26

2x 1x 3x

27

1x   1x   1x

Clip completed fuel tank to the left of the one which is already attached

28

1x   1x   1x   1x   3x   1x   1x   1x   1x

29

4x 1x 2x

30

4x 1x 2x

31

1x 1x 2x

32

1x 1x 1x

Clip completed fuel tank to the left of the one which is already attached

33

1x 1x 1x 1x 1x 1x 1x

34

4x 1x 2x

35

3x 1x 2x

36

4x 1x 2x

37

1x   1x

38

1x   1x   1x

Clip completed fuel tank to the left of the one which is already attached

39

1x	1x	1x	1x	2x	1x	1x	1x

40

4x	1x	2x

41

4x	1x	2x

42

2x	1x	3x

43

1x 1x 1x

Clip completed fuel tank to the left of the one which is already attached

44

1x 1x 1x 3x 1x 1x 1x 1x

45

4x   1x   2x

46

4x   1x   2x

47

1x 1x 2x

48

1x 1x 1x 1x
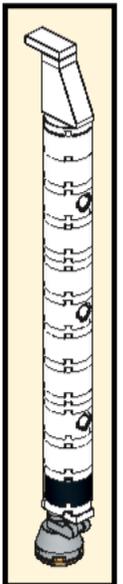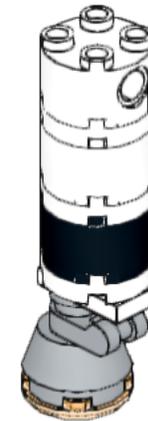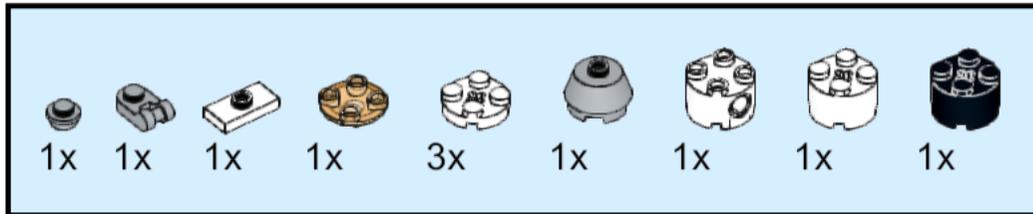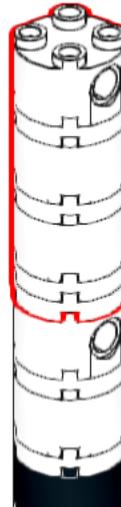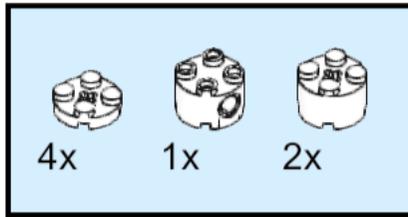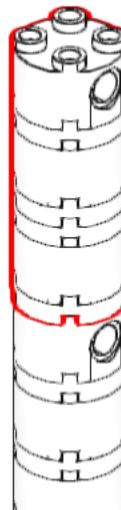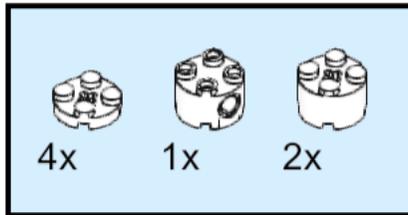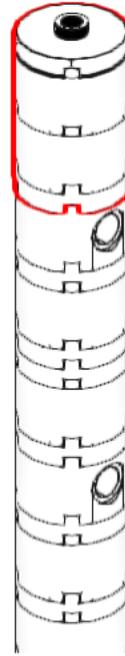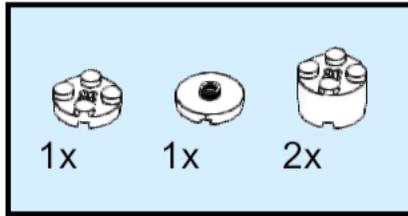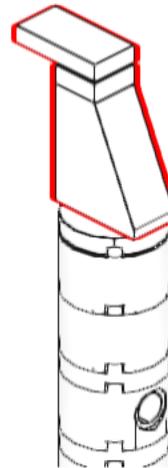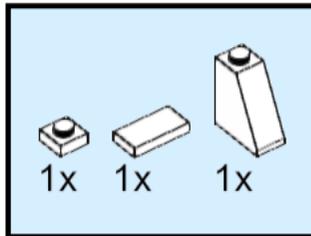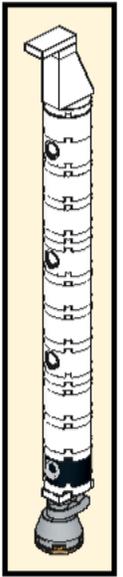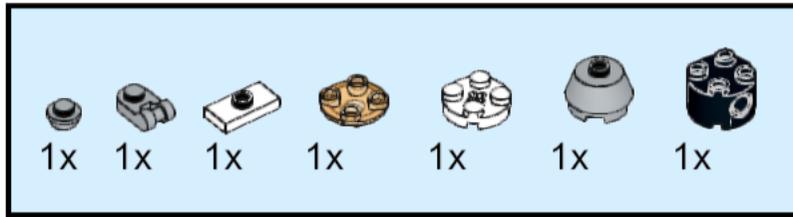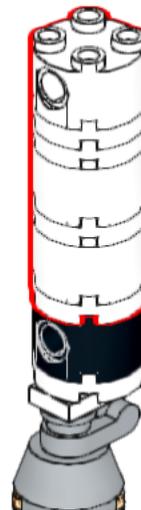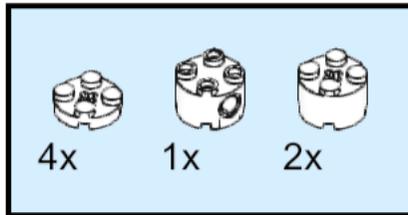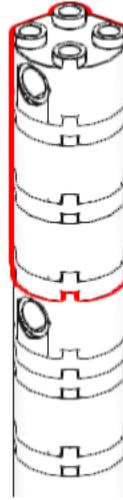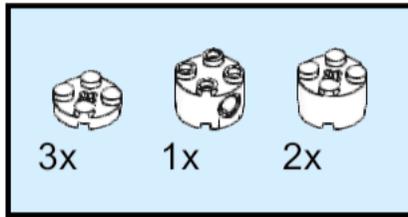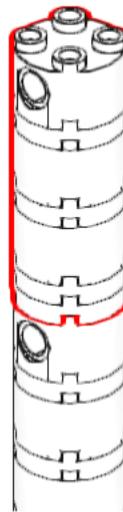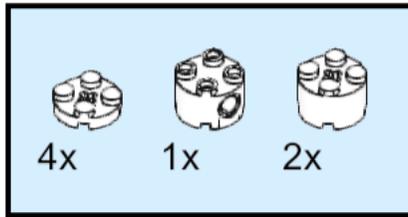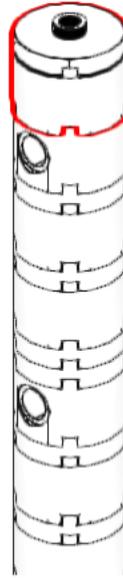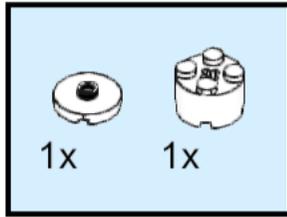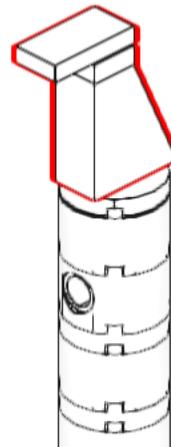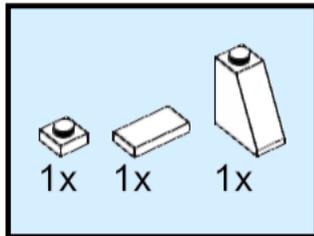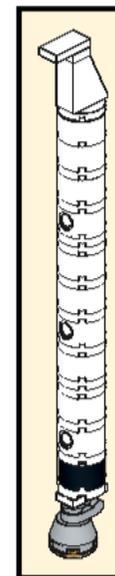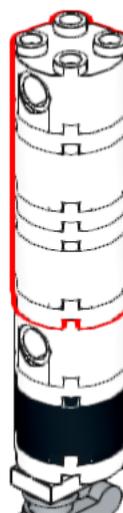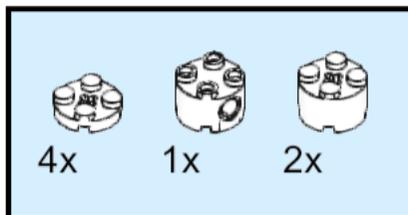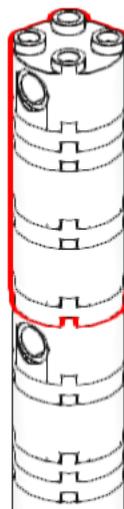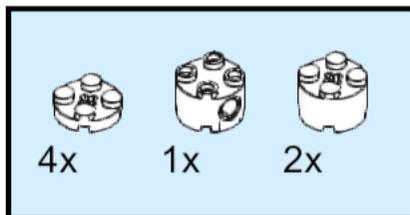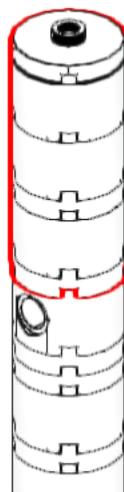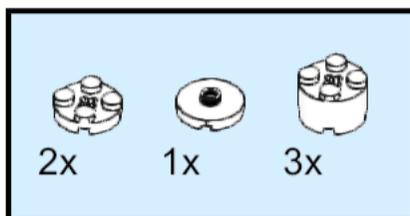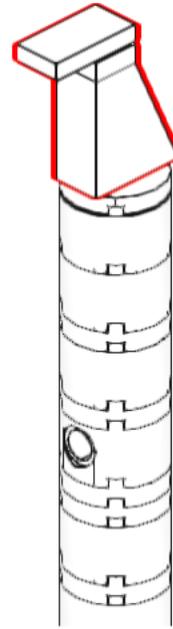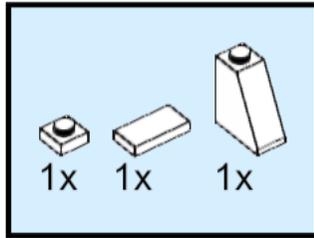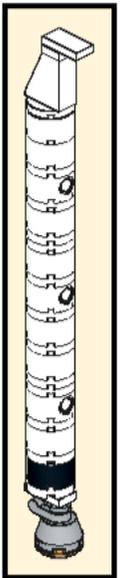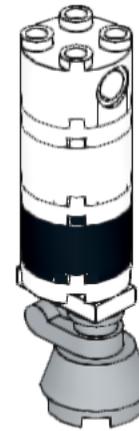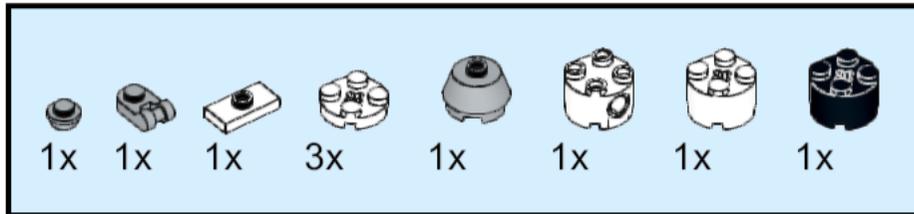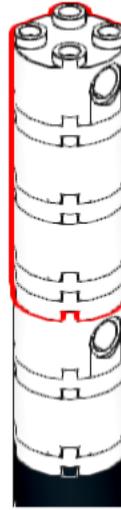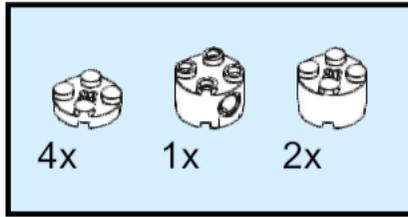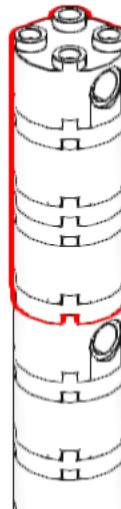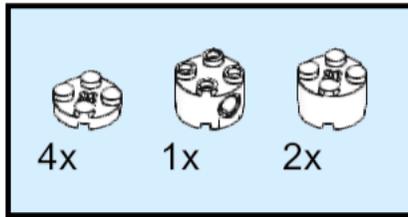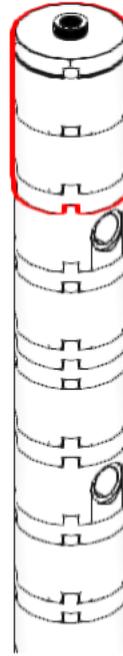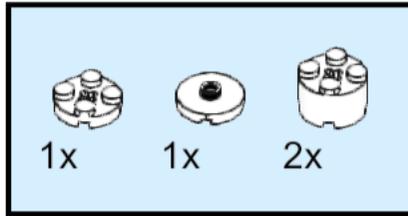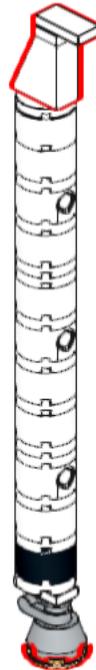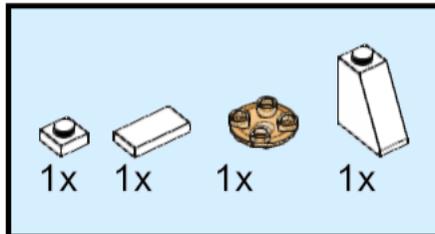
Clip completed fuel tank in the last remaining space

49

50

Axle 9

1x   1x

51

1x
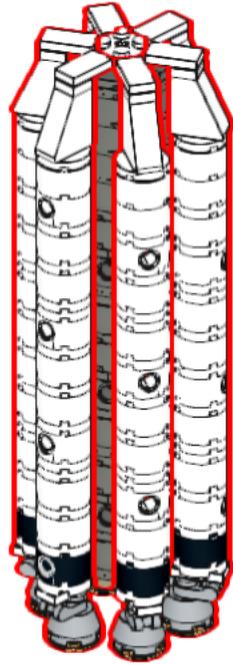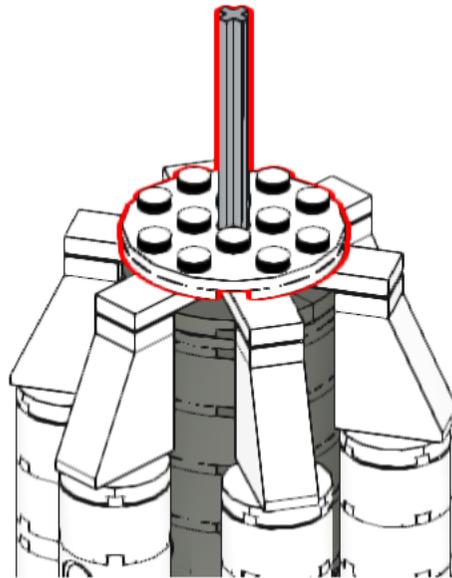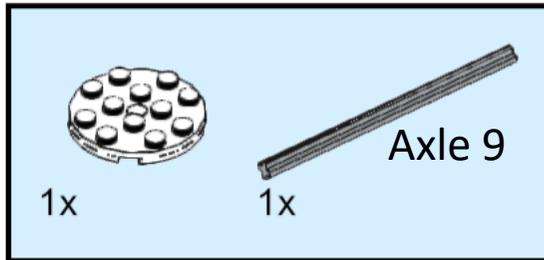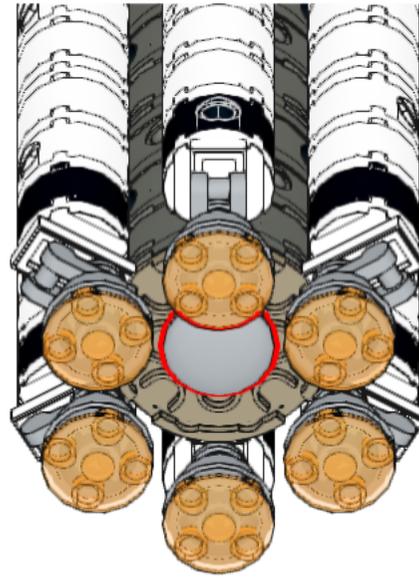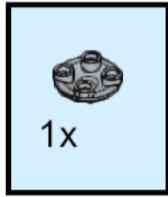
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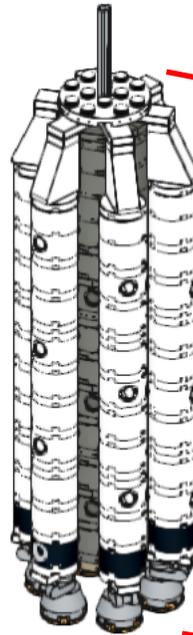
Image	Description	Condition	Max Price	Quantity
	Brick, Round 2 x 2 with Axle Hole 3941 ■ Black	-	-	Want: 4 Have: -
	Brick, Round 2 x 2 with Pin Holes 17485 ■ Black	-	-	Want: 2 Have: -
	Technic, Pin with Friction Ridges Lengthwise WITH Center Slots 2780 ■ Black	-	-	Want: 20 Have: -
	Brick, Round 4 x 4 with 4 Side Pin Holes and Center Axle Hole 6222 ■ Dark Bluish Gray	-	-	Want: 10 Have: -
	Brick, Round 4 x 4 with Hole 87081 ■ Dark Bluish Gray	-	-	Want: 3 Have: -
	Plate, Round 4 x 4 with Hole 60474 ■ Dark Bluish Gray	-	-	Want: 4 Have: -
	Tile, Round Corner 2 x 2 Macaroni 27925 ■ Dark Bluish Gray	-	-	Want: 40 Have: -
	Plate, Round 4 x 4 with Hole 60474 ■ Dark Tan	-	-	Want: 1 Have: -
	Cone 2 x 2 Truncated 98100 ■ Light Bluish Gray	-	-	Want: 6 Have: -
	Plate, Modified 1 x 1 Rounded with Handle 26047 ■ Light Bluish Gray	-	-	Want: 6 Have: -
	Plate, Round 1 x 1 4073 ■ Light Bluish Gray	-	-	Want: 6 Have: -
	Plate, Round 2 x 2 with Rounded Bottom (Boat Stud) 2654 ■ Light Bluish Gray	-	-	Want: 1 Have: -
	Technic, Axle 9 60485 ■ Light Bluish Gray	-	-	Want: 1 Have: -
	Brick, Round 2 x 2 with Axle Hole 3941 □ White	-	-	Want: 42 Have: -
	Brick, Round 2 x 2 with Pin Holes 17485 □ White	-	-	Want: 18 Have: -
	Plate 1 x 1 3024 □ White	-	-	Want: 6 Have: -

Image	Description	Condition	Max Price	Quantity
	Plate, Modified 1 x 2 with 1 Stud with Groove and Bottom Stud Holder (Jumper) 15573 □ White	-	-	Want: 6 Have: -
	Plate, Round 2 x 2 with Axle Hole 4032 □ White	-	-	Want: 73 Have: -
	Plate, Round 4 x 4 with Hole 60474 □ White	-	-	Want: 1 Have: -
	Slope 65 2 x 1 x 2 60481 □ White	-	-	Want: 6 Have: -
	Tile 1 x 2 with Groove 3069b □ White	-	-	Want: 6 Have: -
	Tile, Round 2 x 2 with Open Stud 18674 □ White	-	-	Want: 6 Have: -
	Plate, Round 1 x 1 4073 ■ Yellow	-	-	Want: 9 Have: -
	Plate, Round 2 x 2 with Axle Hole 4032 ■ Yellow	-	-	Want: 1 Have: -
	Plate, Round 2 x 2 with Rounded Bottom (Boat Stud) 2654 ■ Trans-Orange	-	-	Want: 6 Have: -

UR-500-2 second stage and fairing

1
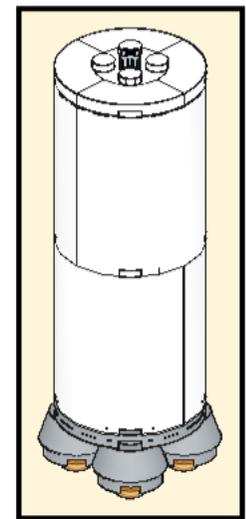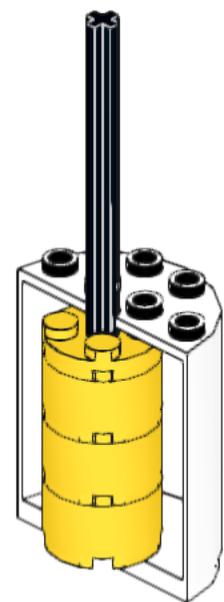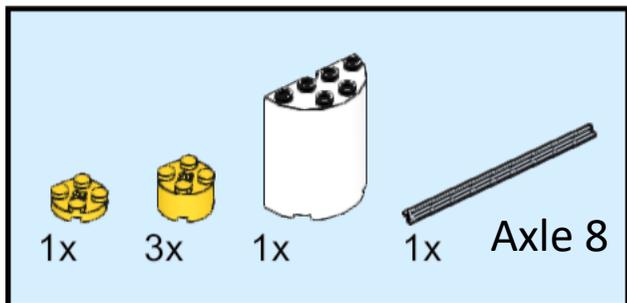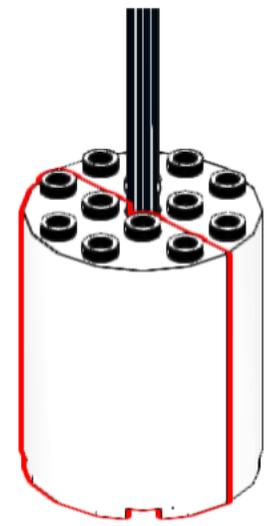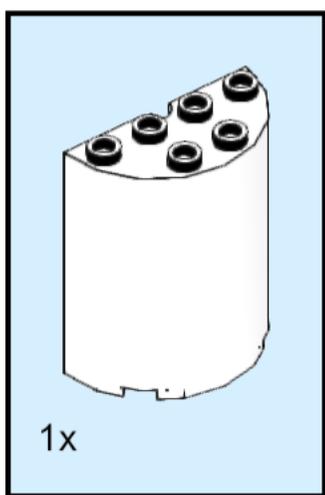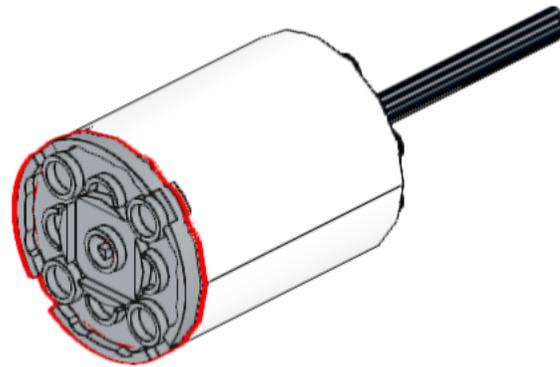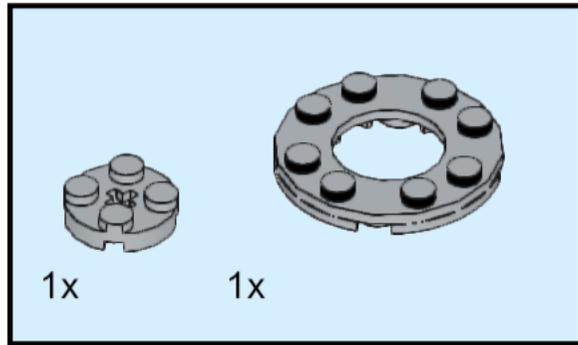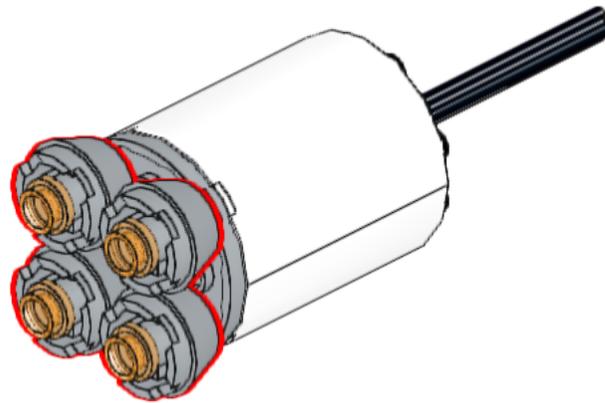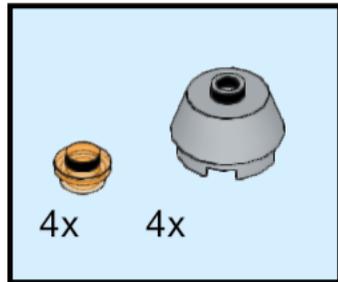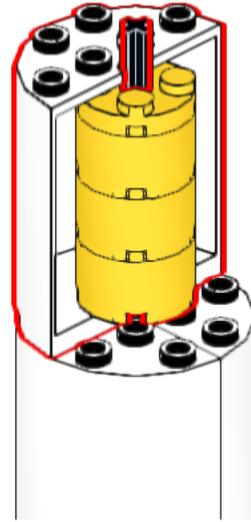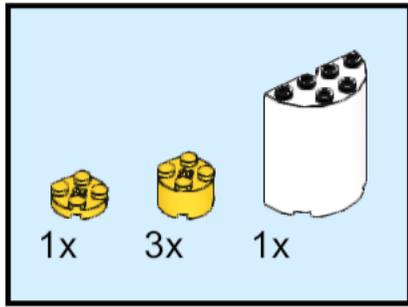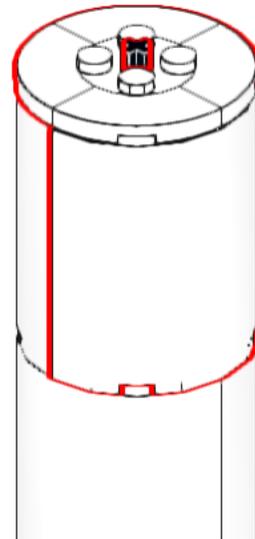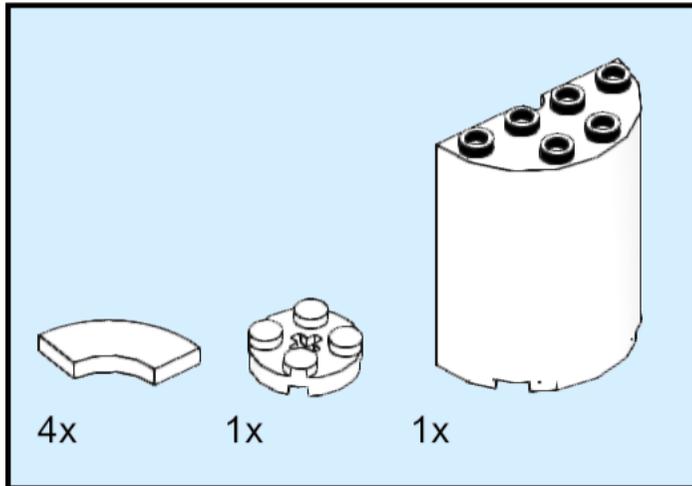
1x 3x 1x 1x Axle 8

2

1x

3

1x   1x

4

4x   4x

5

1x   3x   1x

6

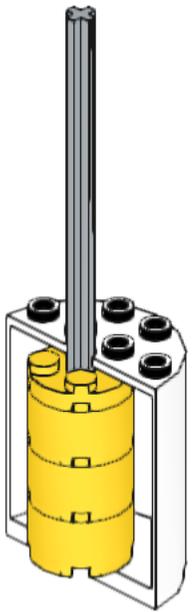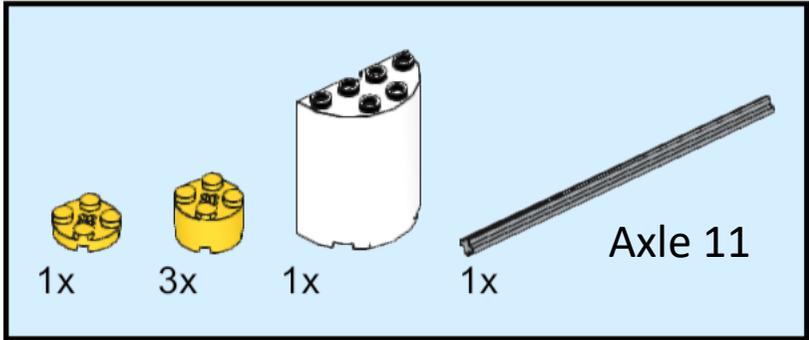4x   1x   1x

7

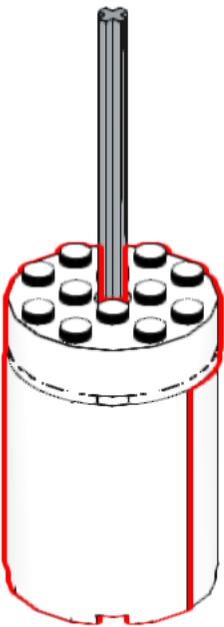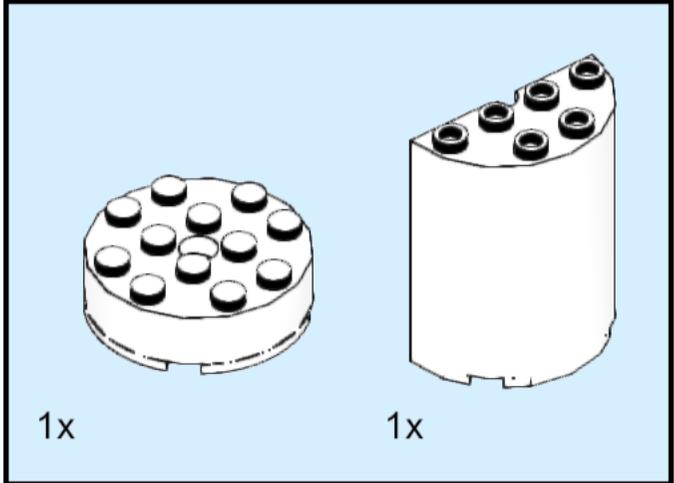4x   1x

8

1x   2x

9

1x   **1x**

10

1x   **1x**

11

K-2 and KM-2 second stage

1

1x 3x 1x 1x Axle 11

2

1x 1x

3

1x   3x   1x

4

1x   1x   1x

5

12x   1x

6

4x   1x

7

1x   1x

8

4x   4x

9
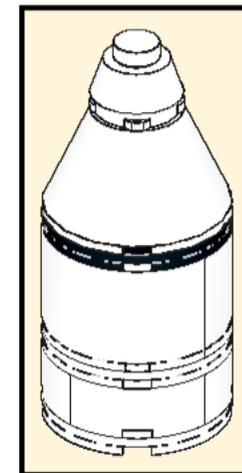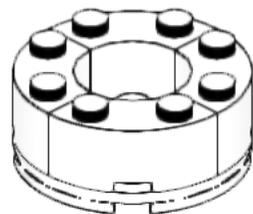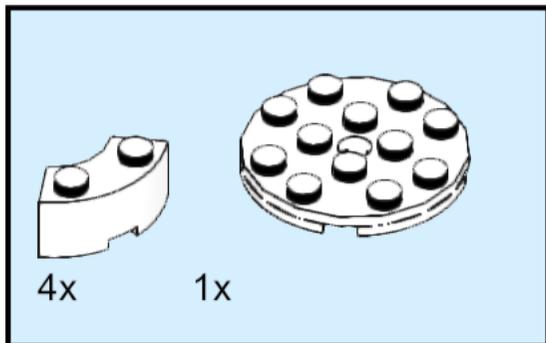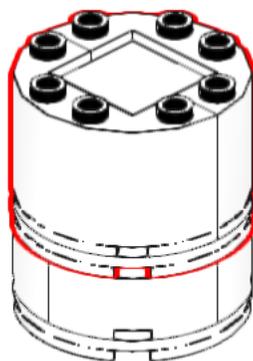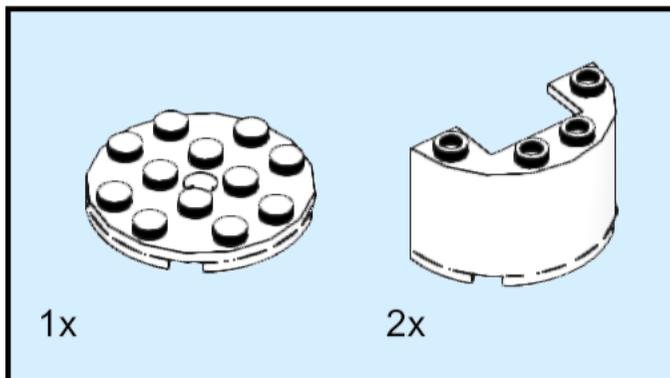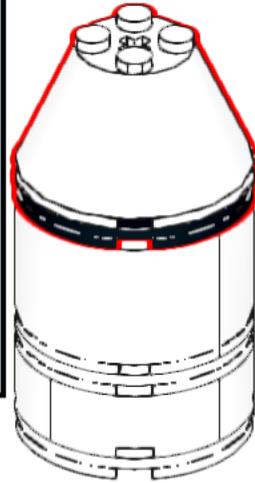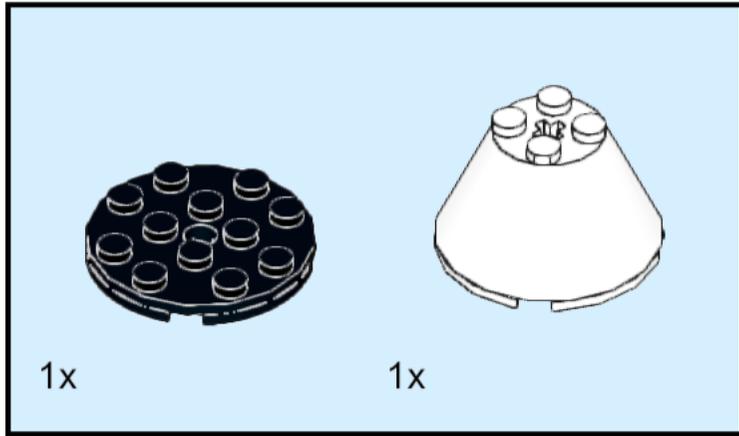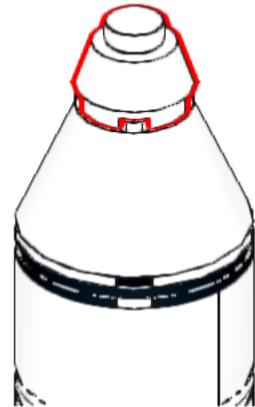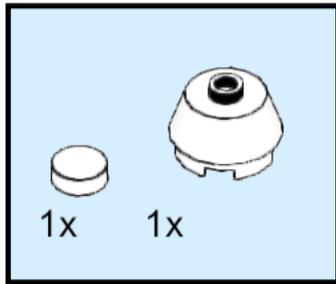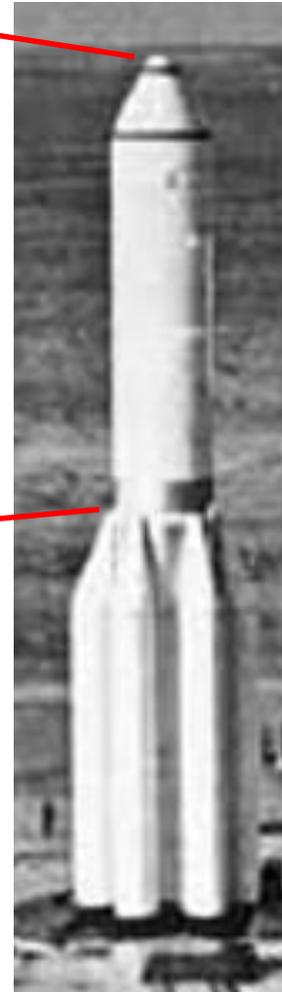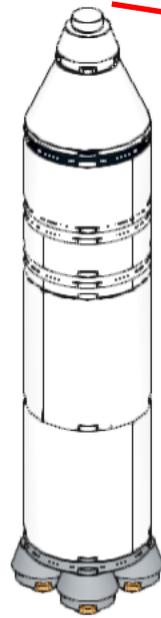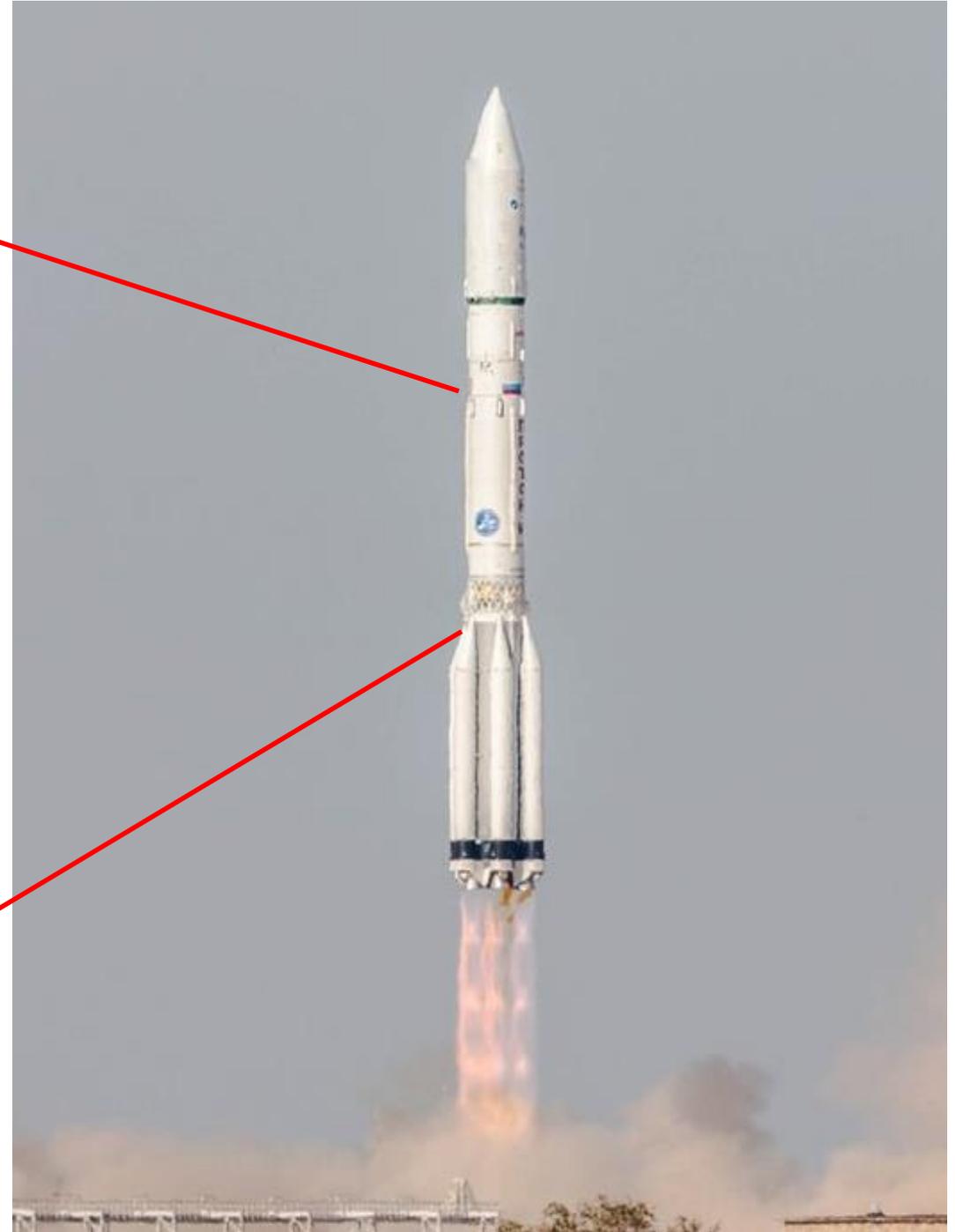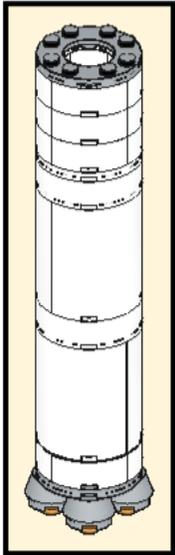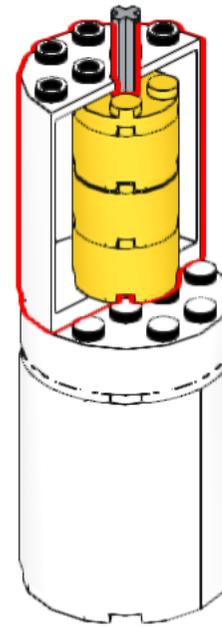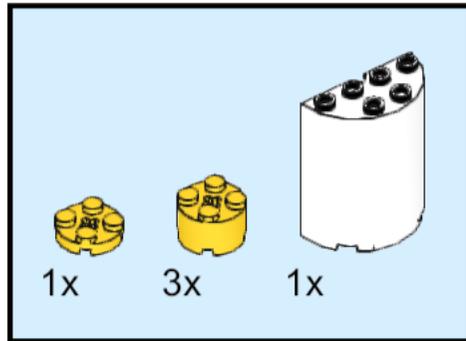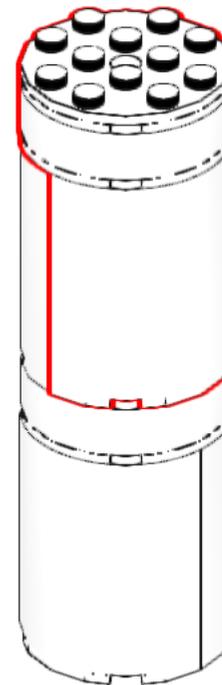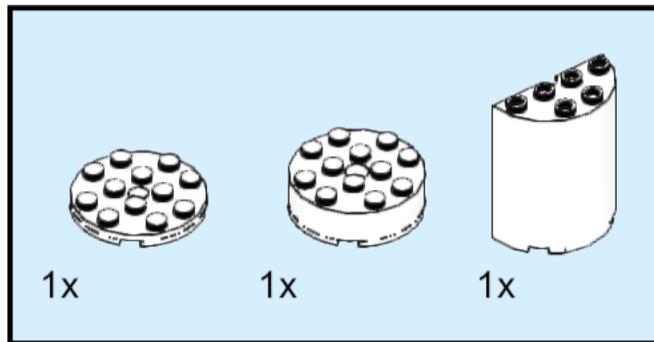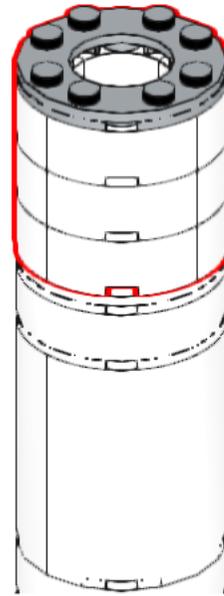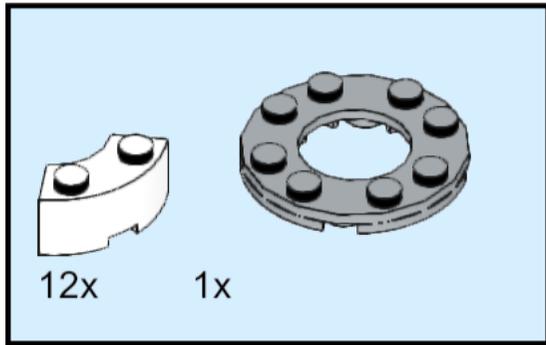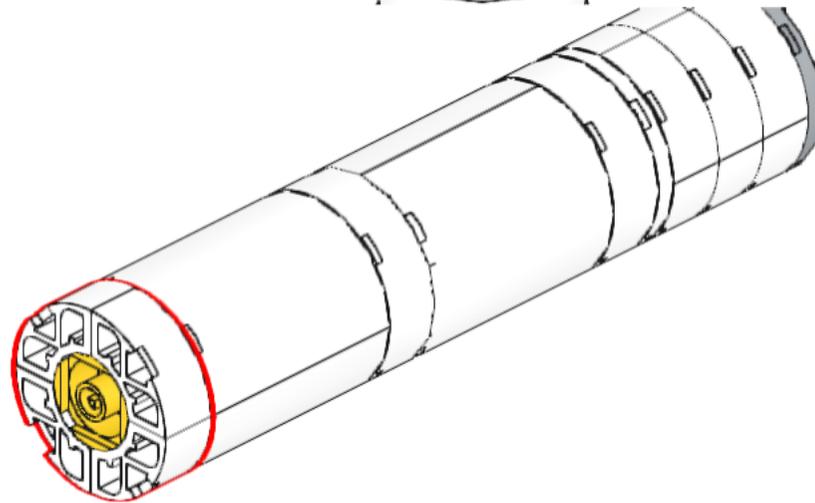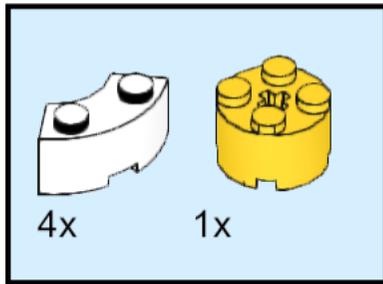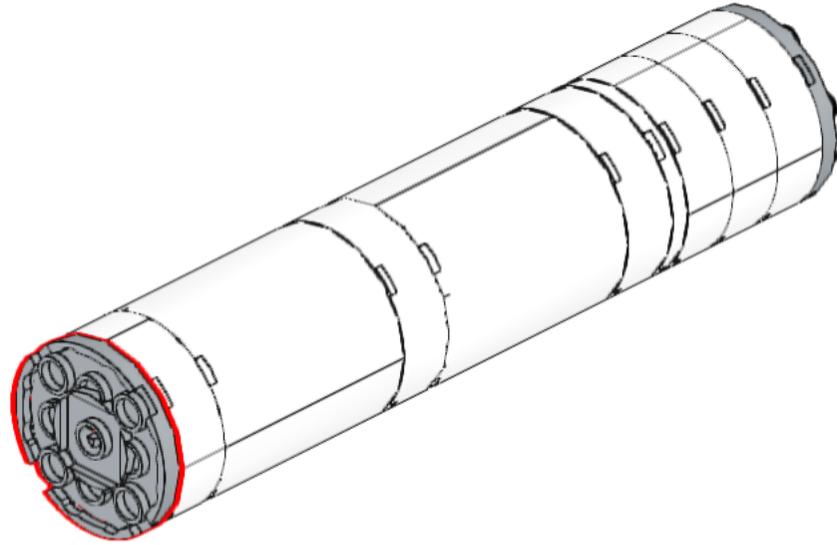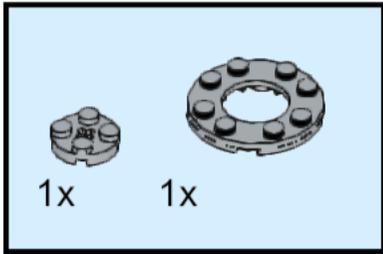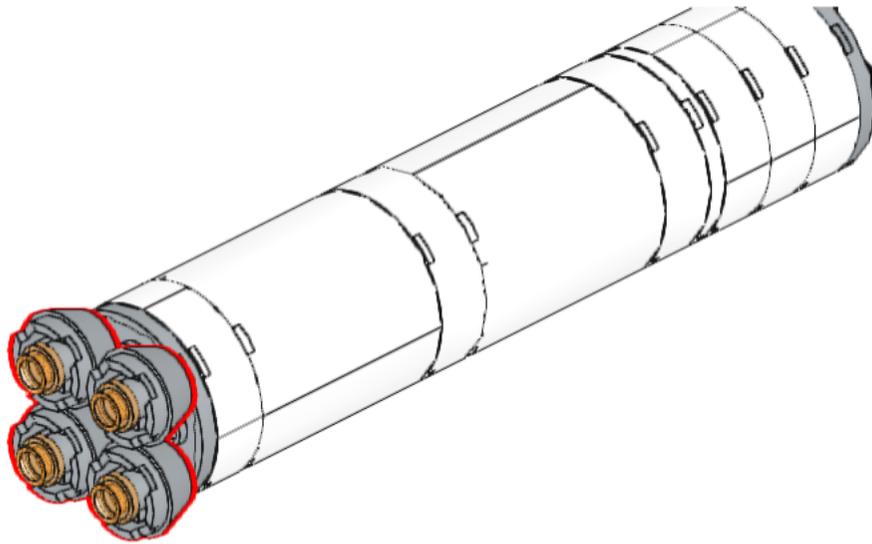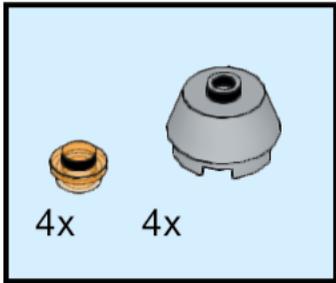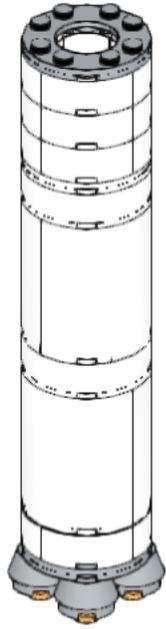
Image	Description	Condition	Max Price	Quantity
	Cone 2 x 2 Truncated 98100 ■ Light Bluish Gray	-	-	Want: 4 Have: -
	Plate, Round 2 x 2 with Axle Hole 4032 ■ Light Bluish Gray	-	-	Want: 1 Have: -
	Plate, Round 4 x 4 with 2 x 2 Hole 11833 ■ Light Bluish Gray	-	-	Want: 2 Have: -
	Technic, Axle 11 23948 ■ Light Bluish Gray	-	-	Want: 1 Have: -
	Brick, Round 4 x 4 with Hole 87081 ☐ White	-	-	Want: 2 Have: -
	Brick, Round Corner 2 x 2 Macaroni with Stud Notch and Reinforced Underside 85080 ☐ White	-	-	Want: 16 Have: -
	Cylinder Half 2 x 4 x 4 6259 ☐ White	-	-	Want: 4 Have: -
	Plate, Round 4 x 4 with Hole 60474 ☐ White	-	-	Want: 1 Have: -
	Brick, Round 2 x 2 with Axle Hole 3941 ■ Yellow	-	-	Want: 7 Have: -
	Plate, Round 2 x 2 with Axle Hole 4032 ■ Yellow	-	-	Want: 2 Have: -
	Plate, Round 1 x 1 4073 ■ Trans-Orange	-	-	Want: 4 Have: -

K-3 and KM-3 third stage

1

4x 1x 1x

2

2x

3

2x

4

1x   1xBar 4L

5

1x 1x 1x
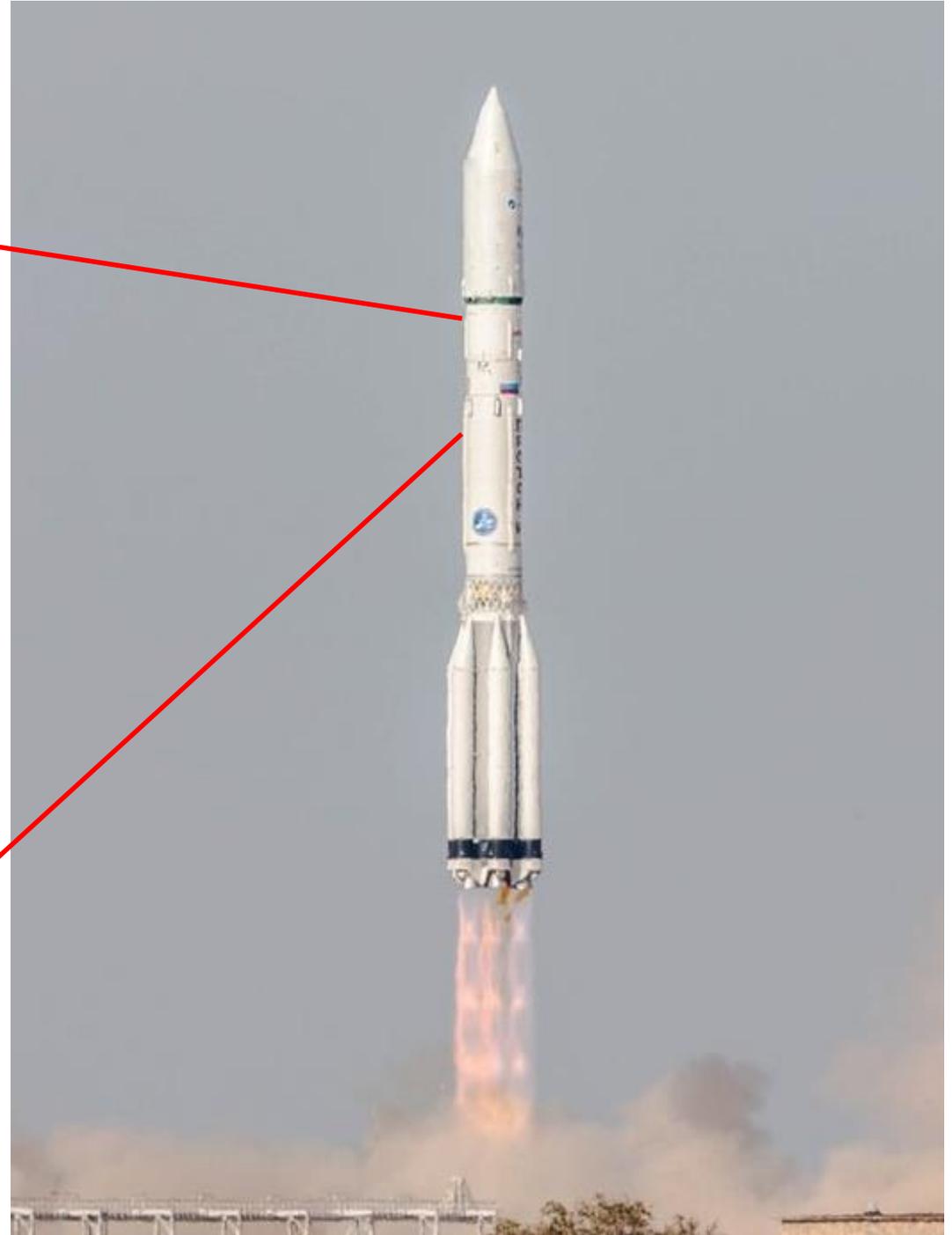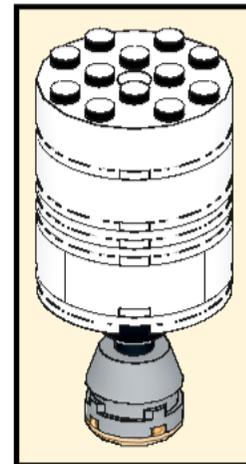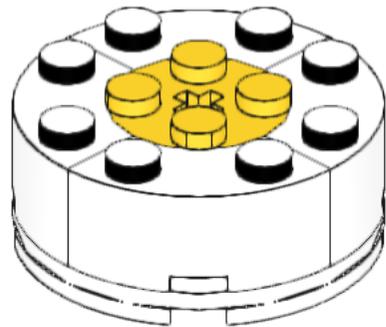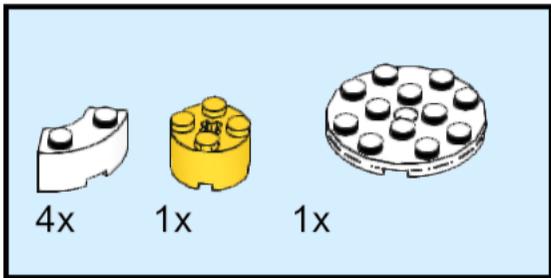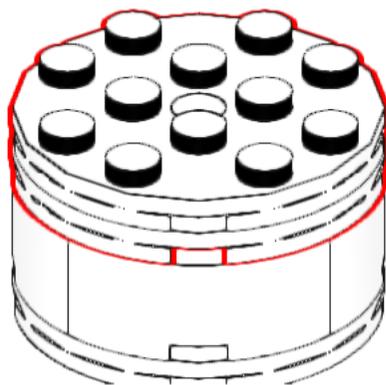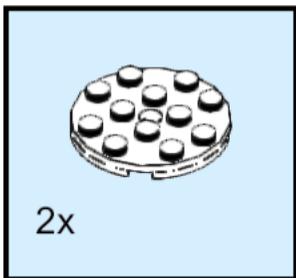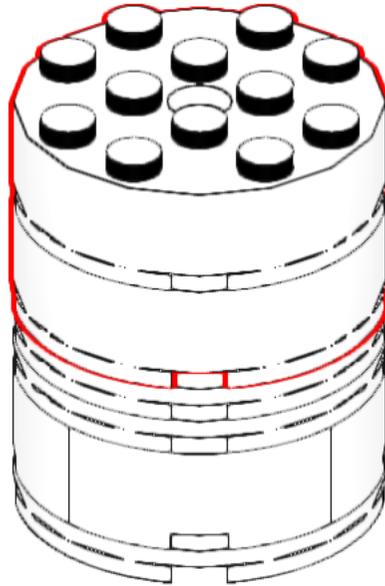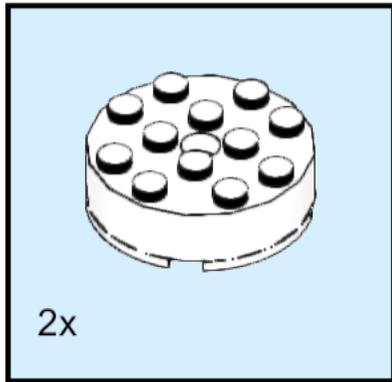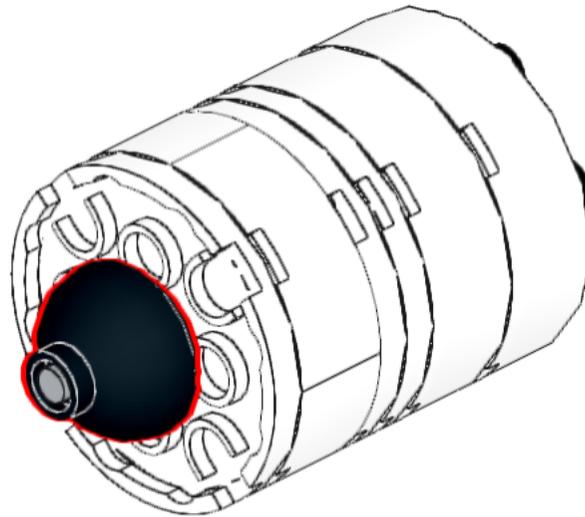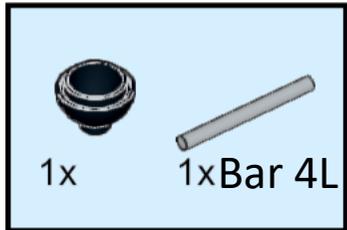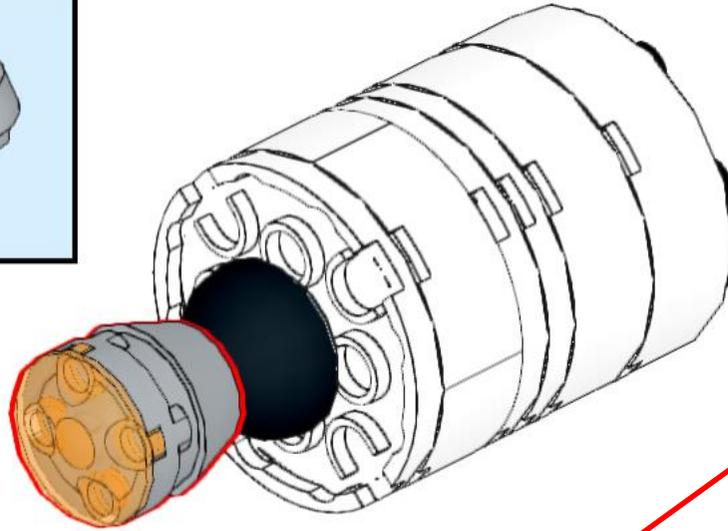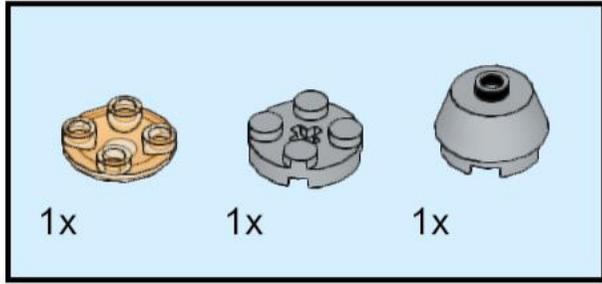
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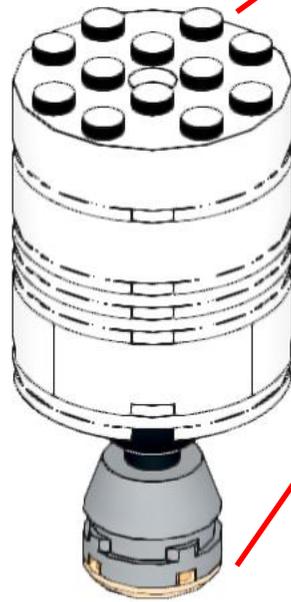
Image	Description	Condition	Max Price	Quantity
	Brick, Round 2 x 2 Dome Bottom 15395 ■ Black	-	-	Want: 1 Have: -
	Bar 4L (Lightsaber Blade / Wand) 30374 ■ Light Bluish Gray	-	-	Want: 1 Have: -
	Cone 2 x 2 Truncated 98100 ■ Light Bluish Gray	-	-	Want: 1 Have: -
	Plate, Round 2 x 2 with Axle Hole 4032 ■ Light Bluish Gray	-	-	Want: 1 Have: -
	Brick, Round 4 x 4 with Hole 87081 □ White	-	-	Want: 2 Have: -
	Brick, Round Corner 2 x 2 Macaroni with Stud Notch and Reinforced Underside 85080 □ White	-	-	Want: 4 Have: -
	Plate, Round 4 x 4 with Hole 60474 □ White	-	-	Want: 3 Have: -
	Brick, Round 2 x 2 with Axle Hole 3941 ■ Yellow	-	-	Want: 1 Have: -
	Plate, Round 2 x 2 with Rounded Bottom (Boat Stud) 2654 ■ Trans-Orange	-	-	Want: 1 Have: -
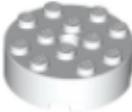
Proton-K fairing

1

4x 1x

2

2x

3

1x **1x** **1x**

4

Image	Description	Condition	Max Price	Quantity
	Brick, Round Corner 2 x 2 Macaroni with Stud Notch and Reinforced Underside 85080 Light Bluish Gray	-	-	Want: 4 Have: -
	Cone 2 x 2 Truncated 98100 Light Bluish Gray	-	-	Want: 1 Have: -
	Cone 4 x 4 x 2 with Axle Hole 3943b Light Bluish Gray	-	-	Want: 1 Have: -
	Cylinder Half 2 x 4 x 2 with 1 x 2 Cutout 24593 Light Bluish Gray	-	-	Want: 2 Have: -
	Plate, Round 4 x 4 with Hole 60474 Light Bluish Gray	-	-	Want: 1 Have: -
	Tile, Round 1 x 1 98138 Light Bluish Gray	-	-	Want: 1 Have: -

Zarya fairing

1

2x   1x

2

10x   2x   2x

3

4x

4

5

2x   2x   1x

6

1x   1x

7

8

2x 2x 2x

Axle 3

9

2x   1x

Axle 6

10

11

12

2x   1x

13

10x 2x 2x

14

4x

15

16

1x   1x   1x

17

2x 2x

18

19

1x   1x
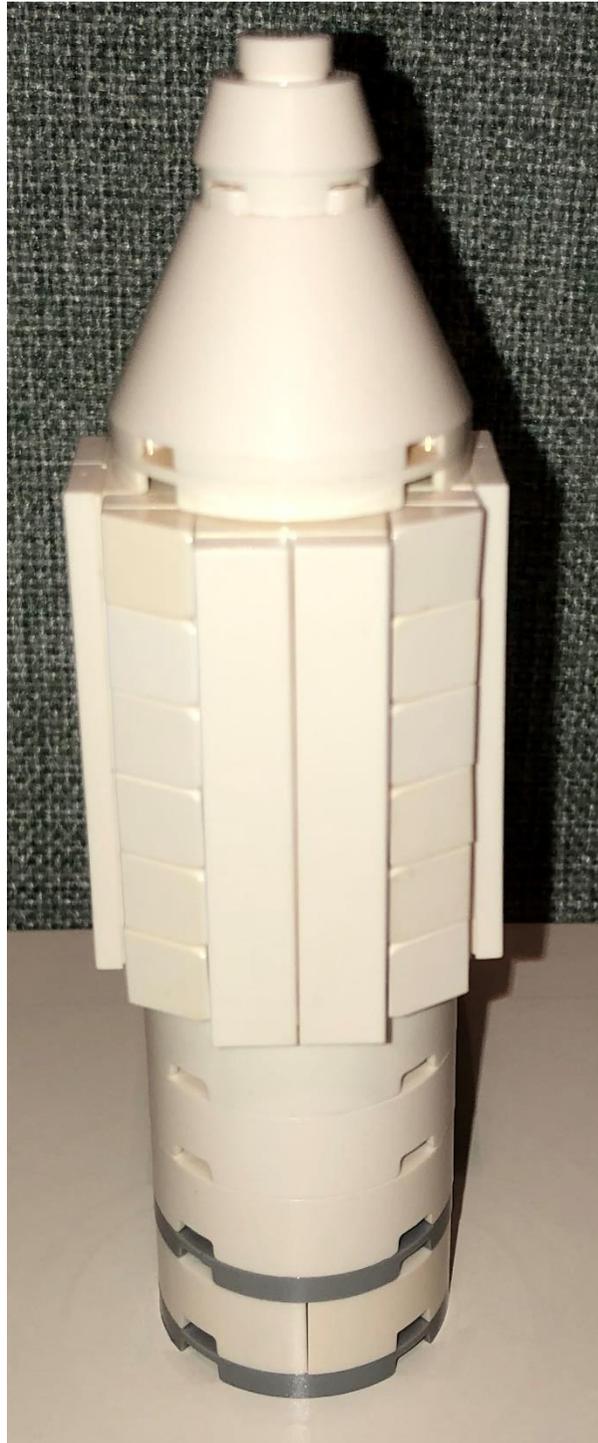
20

1x   1x   1x
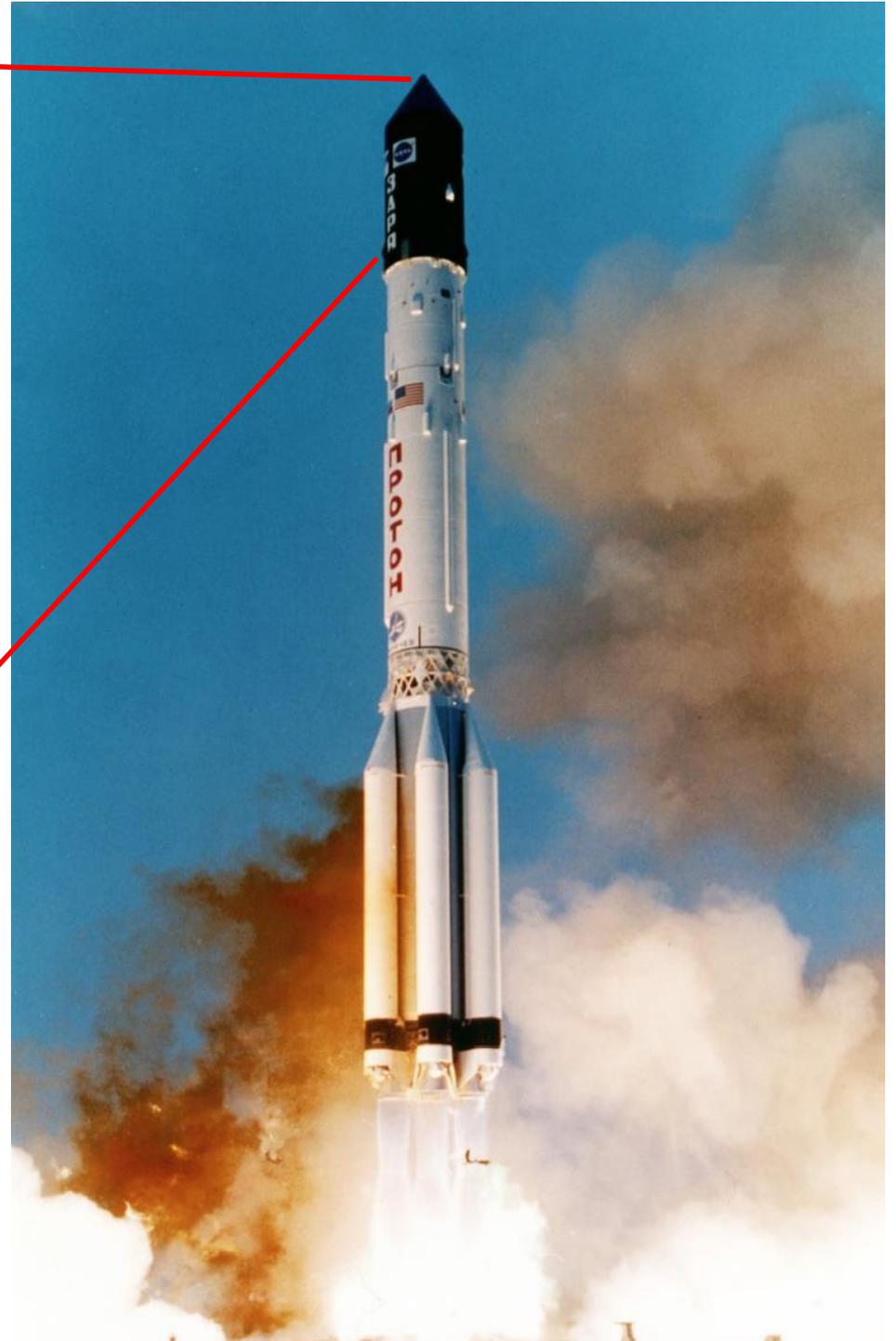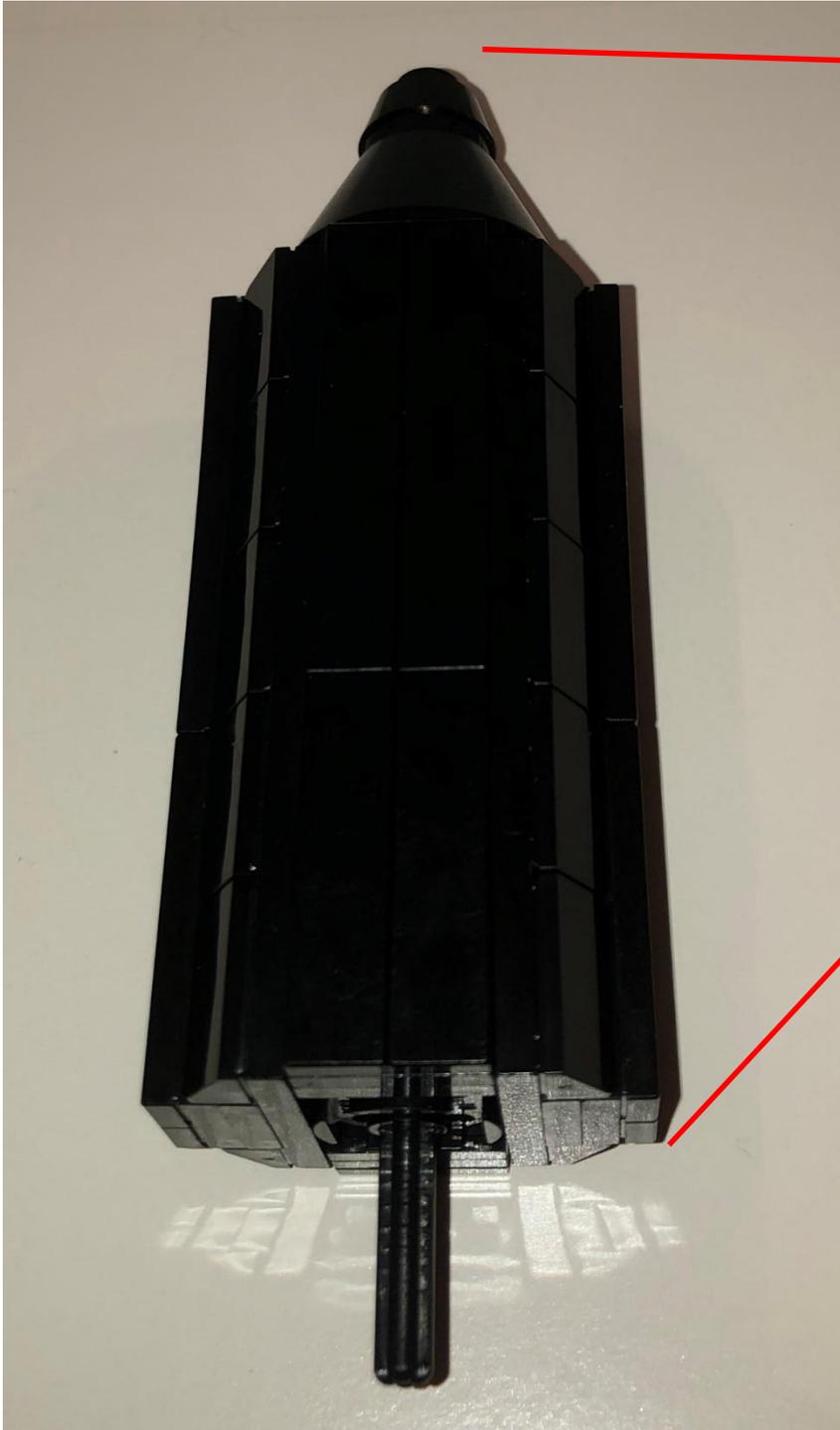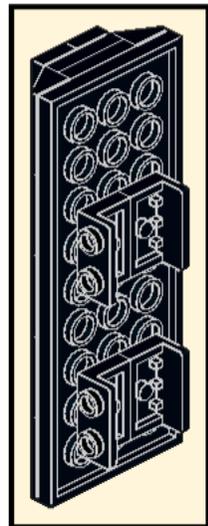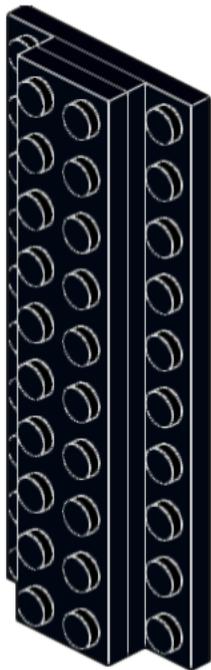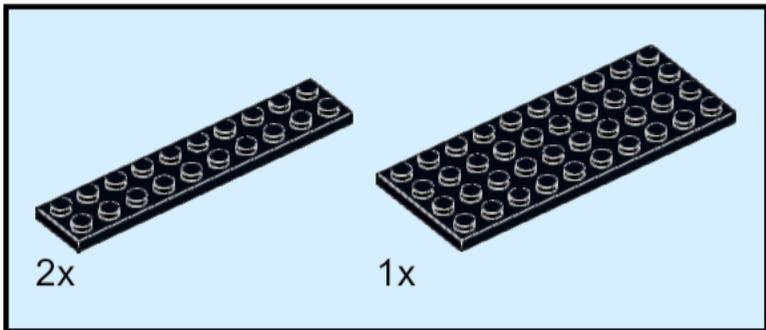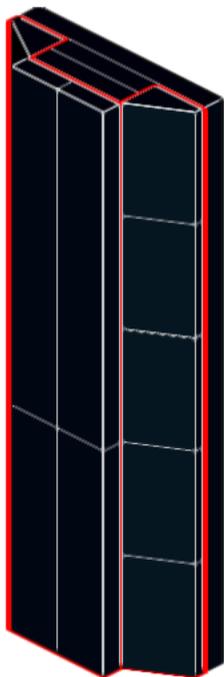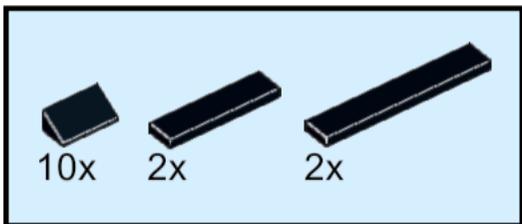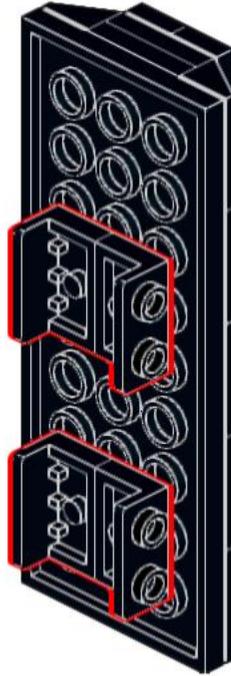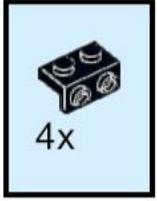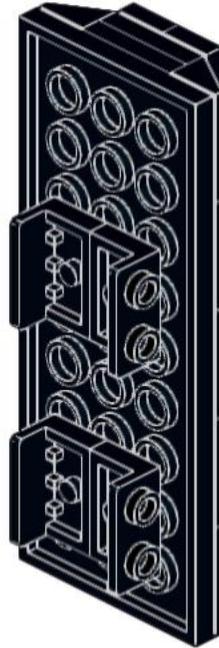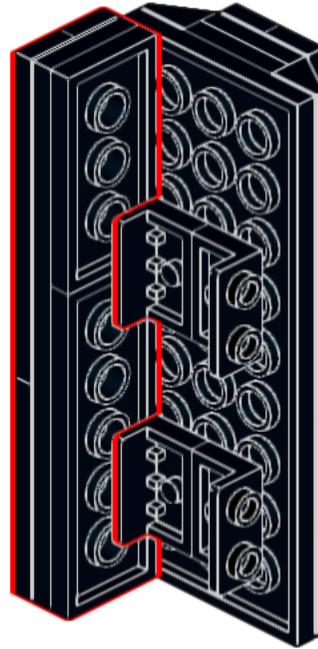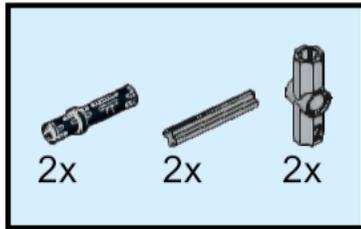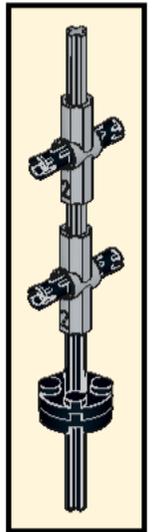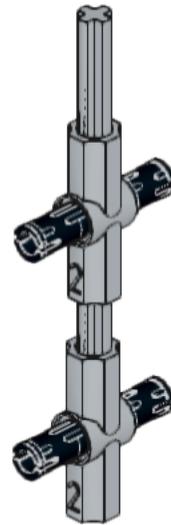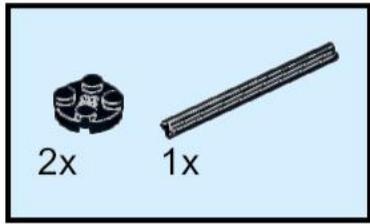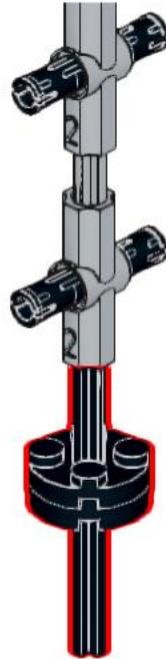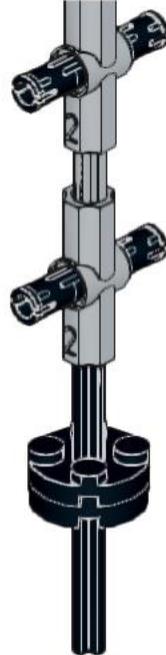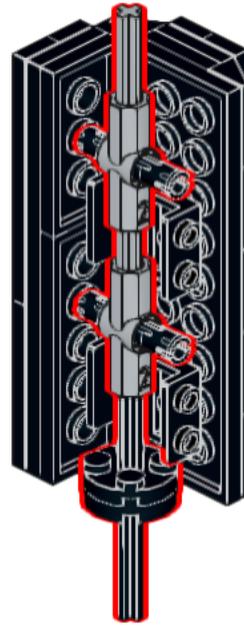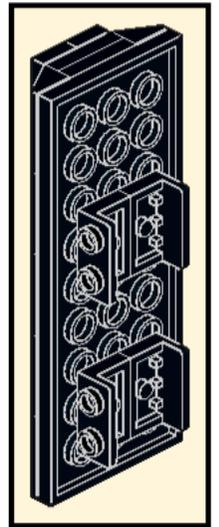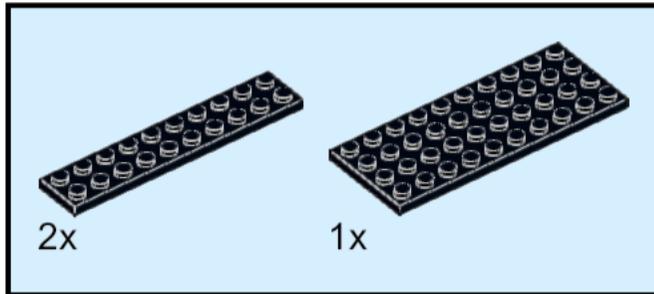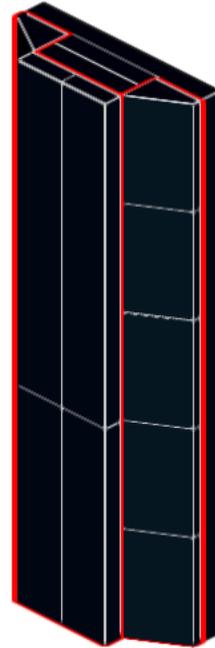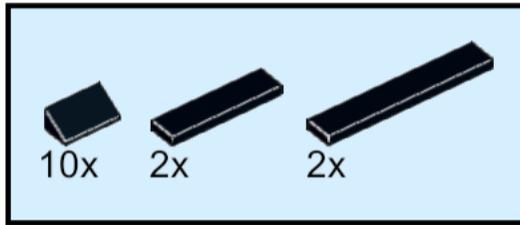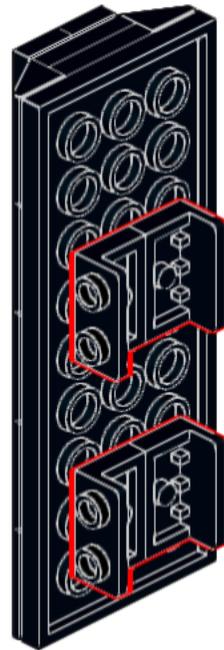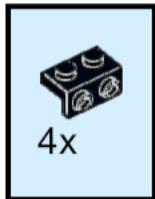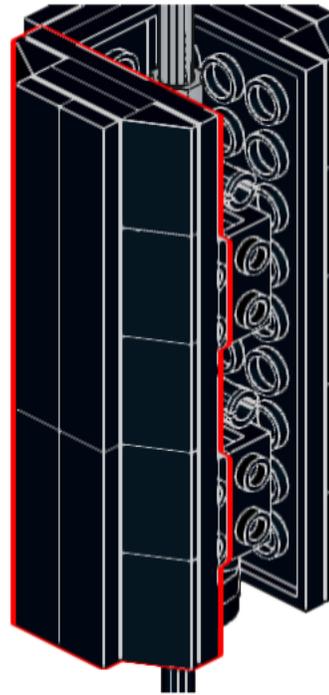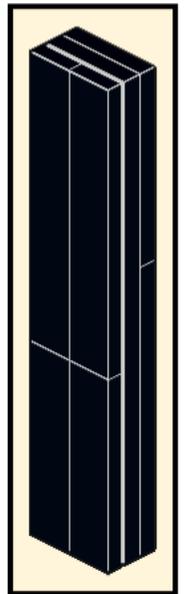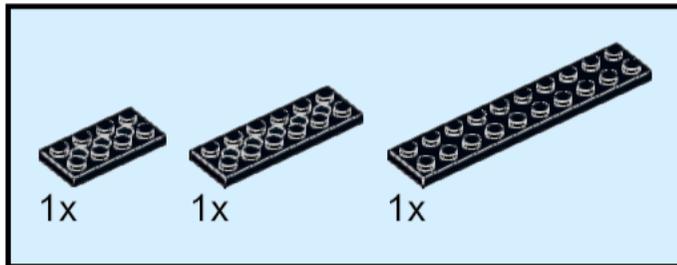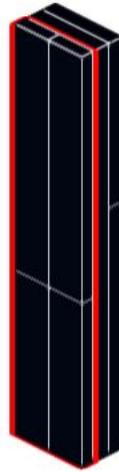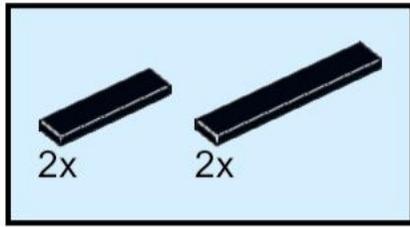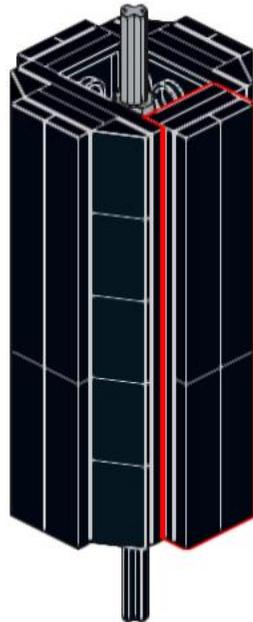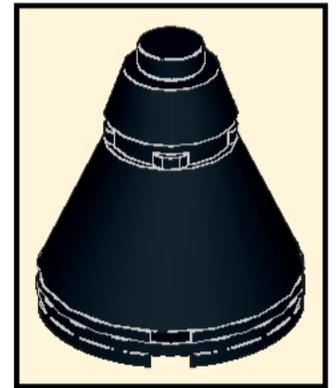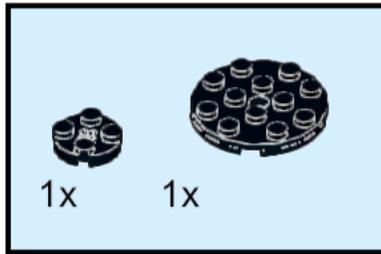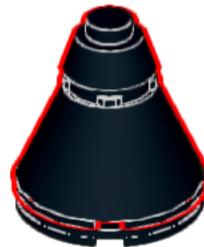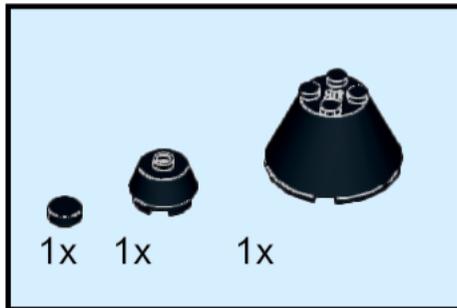
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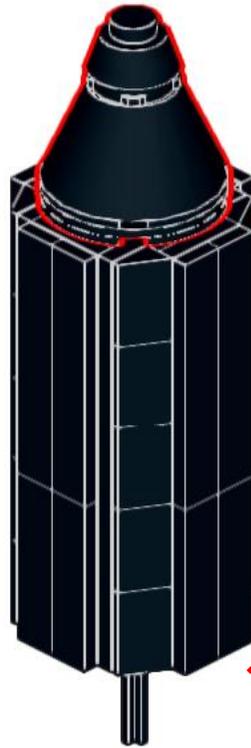
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	Bracket 1 x 2 - 1 x 2 99781 Black	-	-	Want: 8 Have: -		Technic, Plate 2 x 4 with 3 Holes 3709b Black	-	-	Want: 2 Have: -
	Cone 2 x 2 Truncated 98100 Black	-	-	Want: 1 Have: -		Technic, Plate 2 x 6 with 5 Holes 32001 Black	-	-	Want: 2 Have: -
	Cone 4 x 4 x 2 with Axle Hole 3943b Black	-	-	Want: 1 Have: -		Tile 1 x 4 2431 Black	-	-	Want: 8 Have: -
	Plate 2 x 10 3832 Black	-	-	Want: 6 Have: -		Tile 1 x 6 6636 Black	-	-	Want: 8 Have: -
	Plate 4 x 10 3030 Black	-	-	Want: 2 Have: -		Tile, Round 1 x 1 98138 Black	-	-	Want: 1 Have: -
	Plate, Round 2 x 2 with Axle Hole 4032 Black	-	-	Want: 3 Have: -		Technic, Axle 3 4519 Light Bluish Gray	-	-	Want: 2 Have: -
	Plate, Round 4 x 4 with Hole 60474 Black	-	-	Want: 1 Have: -		Technic, Axle and Pin Connector Angled #2 - 180 degrees 32034 Light Bluish Gray	-	-	Want: 2 Have: -
	Slope 30 1 x 2 x 2/3 85984 Black	-	-	Want: 20 Have: -					
	Technic, Axle 6 3706 Black	-	-	Want: 1 Have: -					
	Technic, Pin 3L with Friction Ridges Lengthwise 6558 Black	-	-	Want: 2 Have: -					
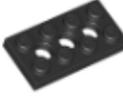
Blok D/DM, adapter and fairing

D-1, DM

RD-58M

Adapter

1

2x   1x

2

2x   1x

3

Blok D/DM

4

3x

5

1x   2x

6

7

2x   1x

8

6x   2x

9 2x

10

11

1x   1x

12

2x

13

1x

14

15

1x 2x 1x 1x 1x Axle 8

Axle 3

16

17

1x 1x

18

2x

19 1x

20

21

2x   1x

22

6x   2x

23

24

1x   1x

25

1x 1x

26

1x
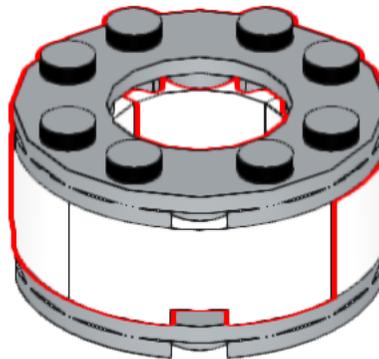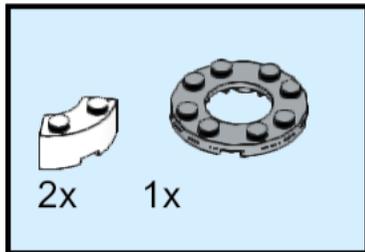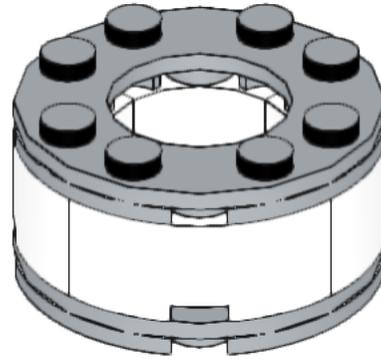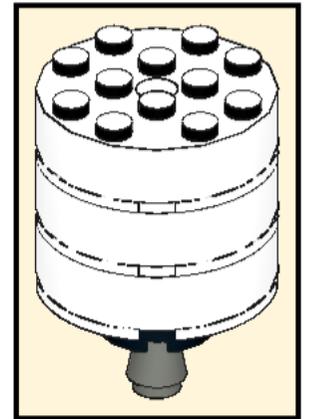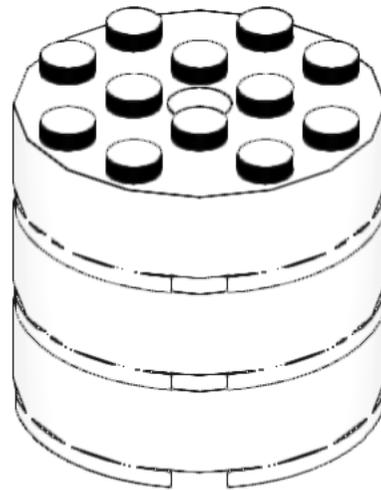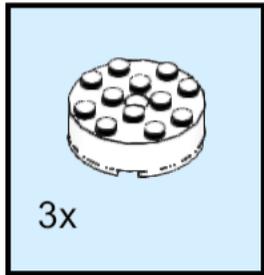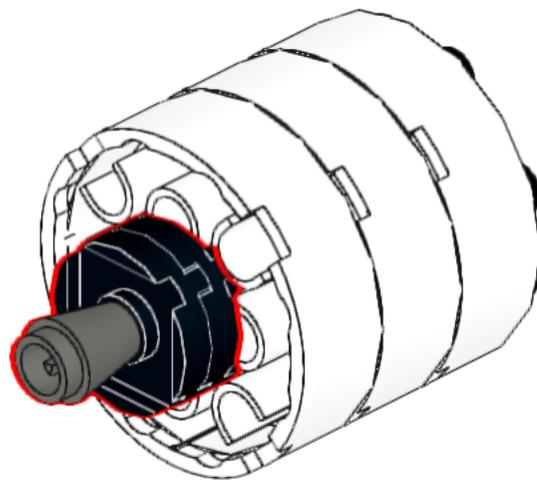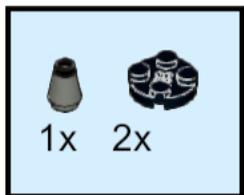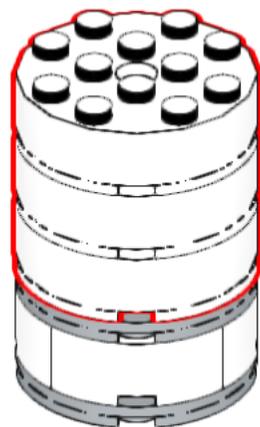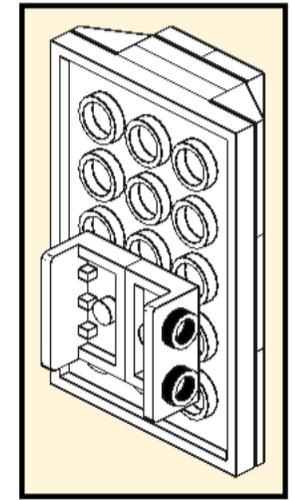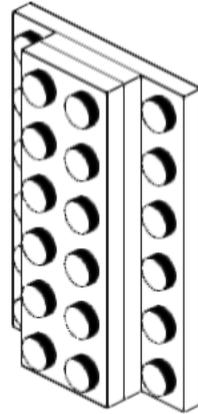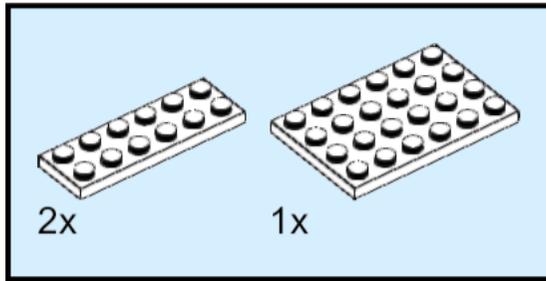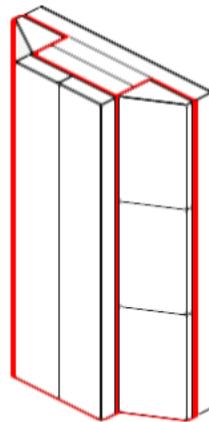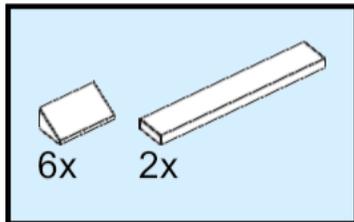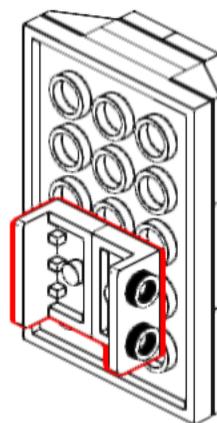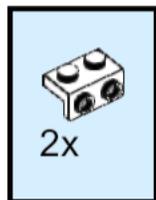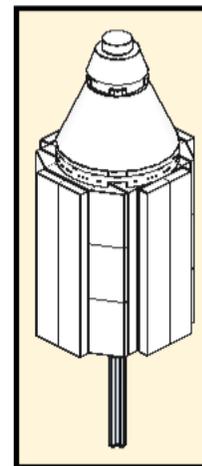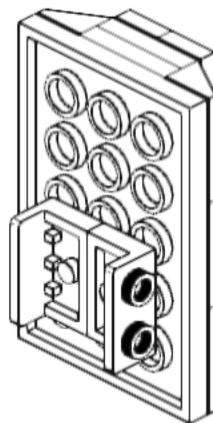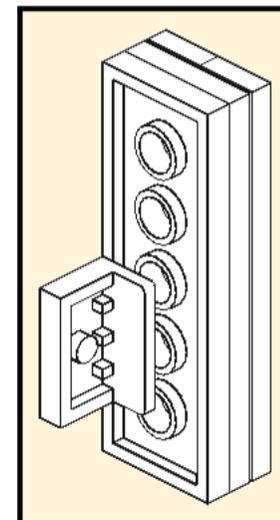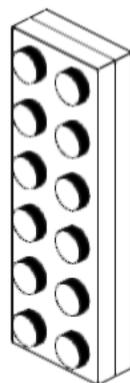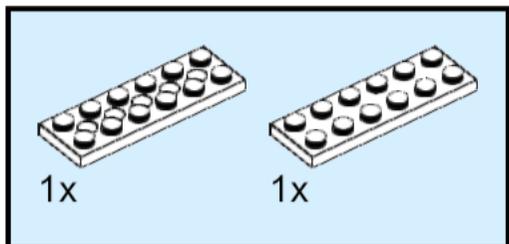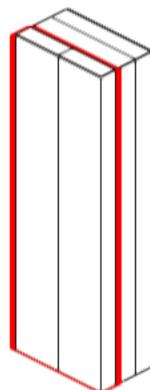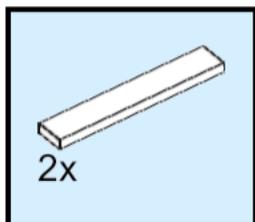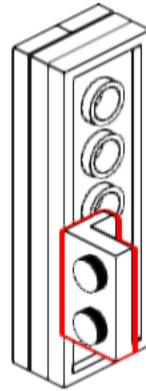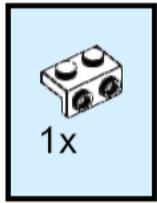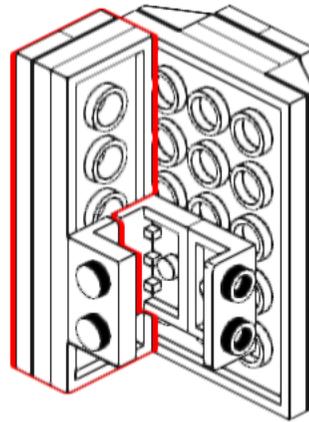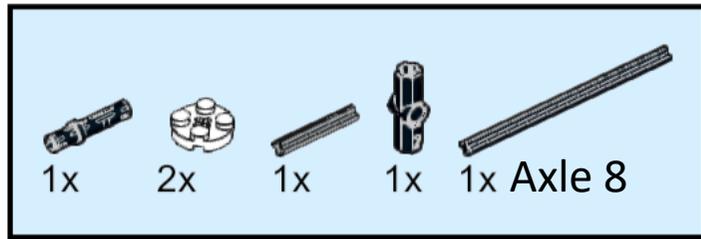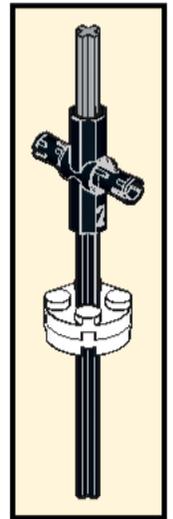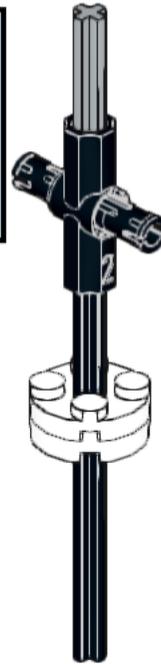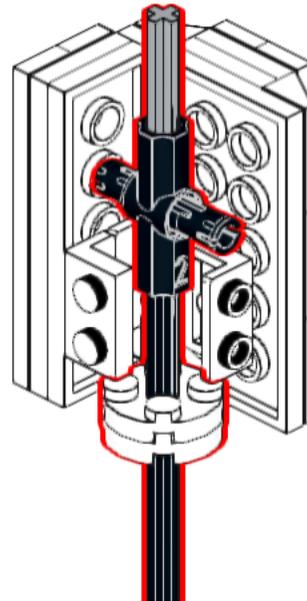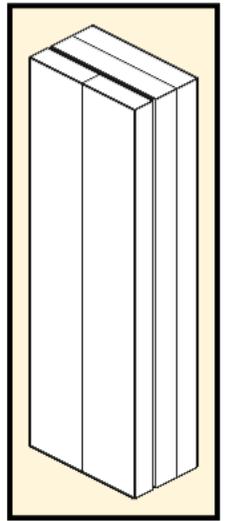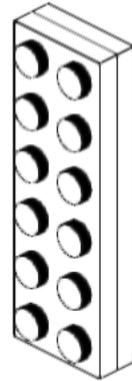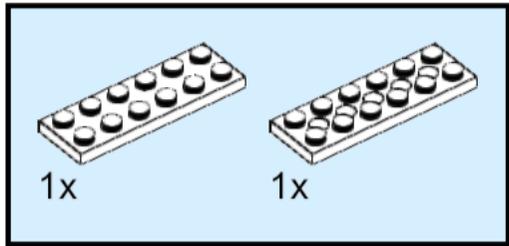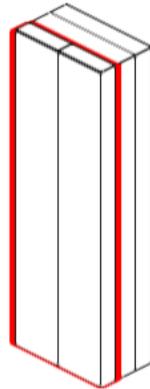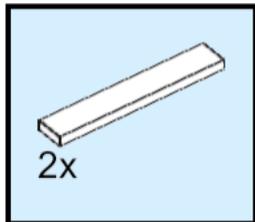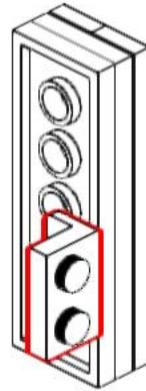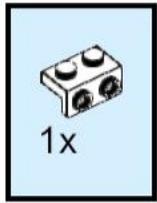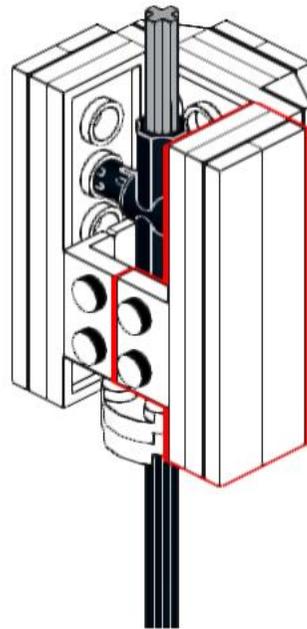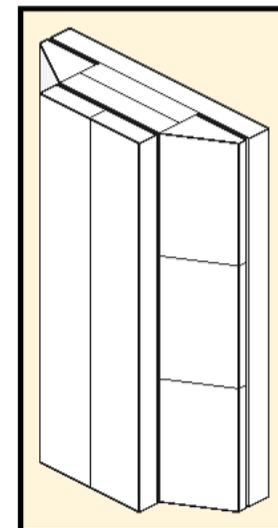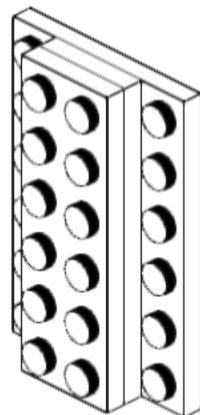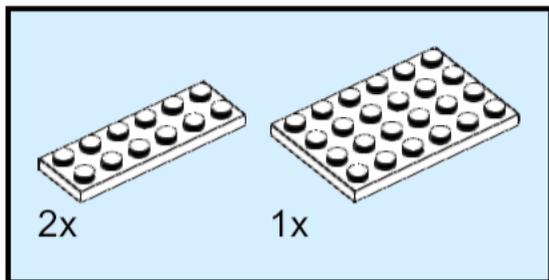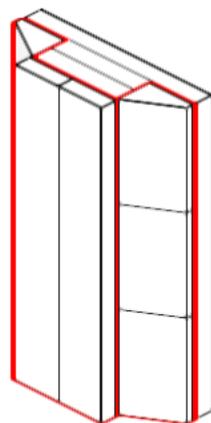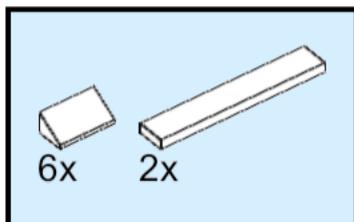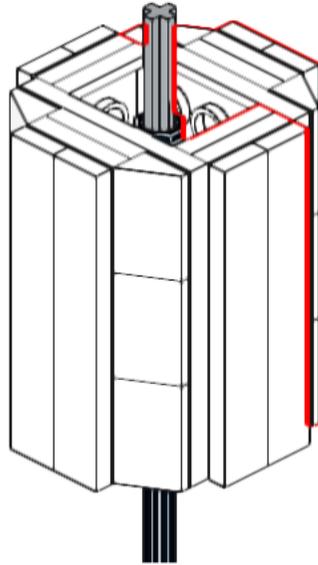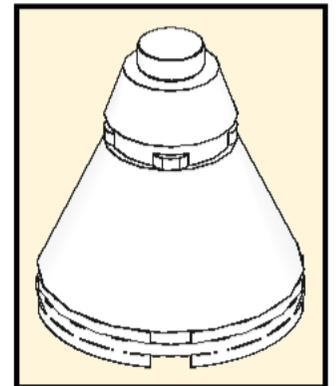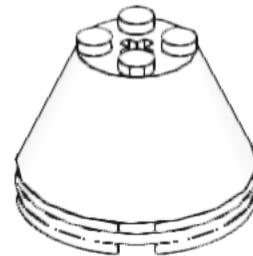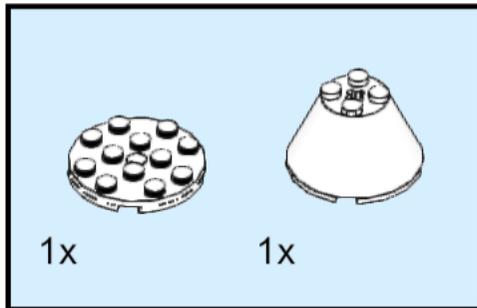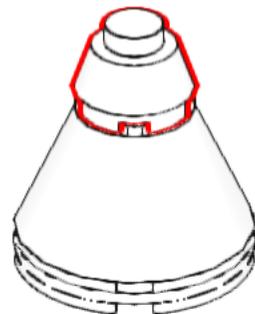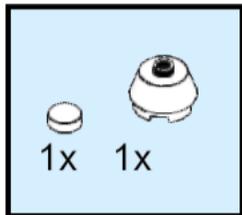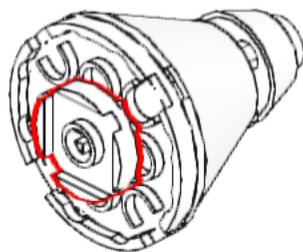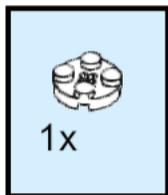
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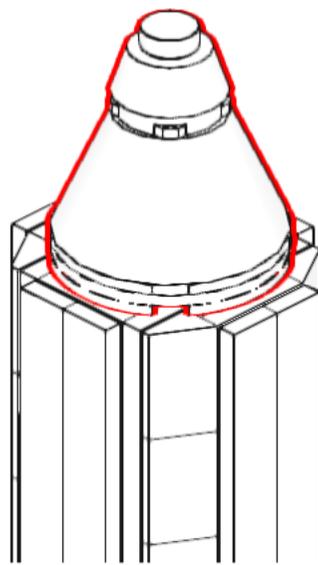
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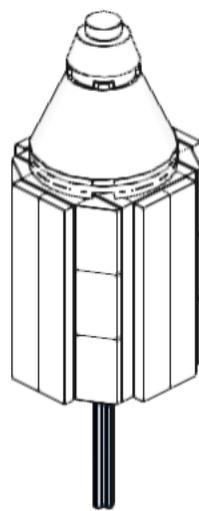
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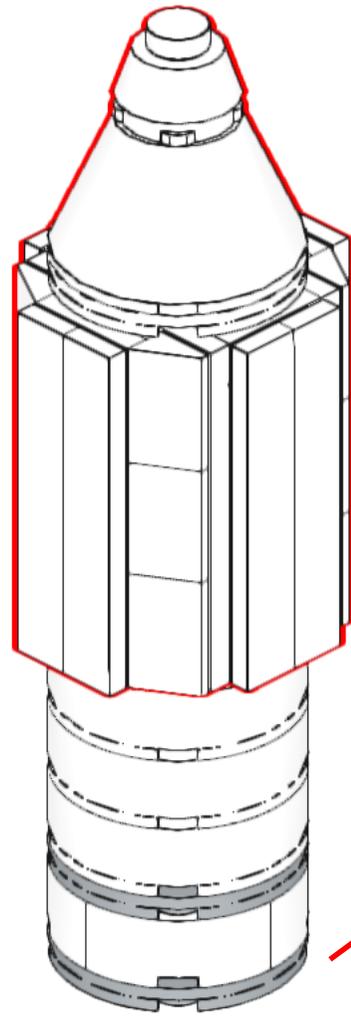
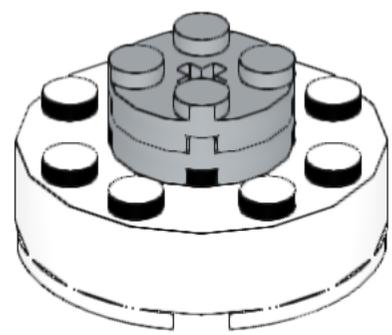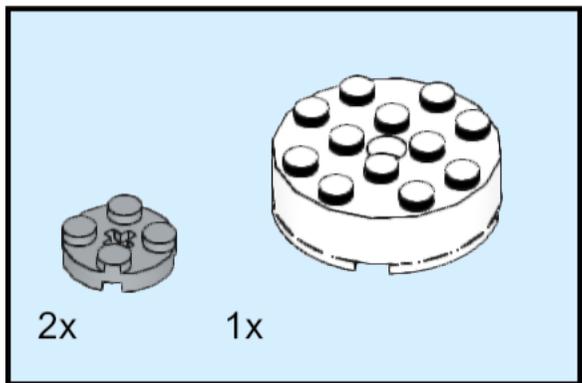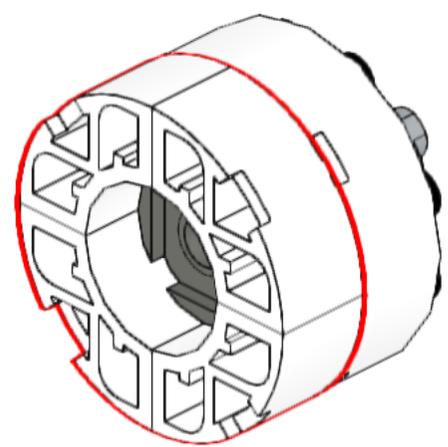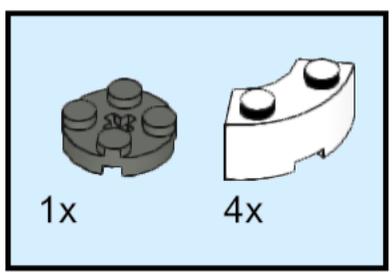| Image	Description	Condition	Max Price	Quantity
	Plate, Round 2 x 2 with Axle Hole 4032 ⬛ Black	-	-	Want: 2 Have: -
	Technic, Axle 8 3707 ⬛ Black	-	-	Want: 1 Have: -
	Technic, Axle and Pin Connector Angled #2 - 180 degrees 32034 ⬛ Black	-	-	Want: 1 Have: -
	Technic, Pin 3L with Friction Ridges Lengthwise 6558 ⬛ Black	-	-	Want: 1 Have: -
	Cone 1 x 1 with Top Groove 4589b ◼ Dark Bluish Gray	-	-	Want: 1 Have: -
	Plate, Round 4 x 4 with 2 x 2 Hole 11833 ◻ Light Bluish Gray	-	-	Want: 2 Have: -
	Technic, Axle 3 4519 ◻ Light Bluish Gray	-	-	Want: 1 Have: -
	Bracket 1 x 2 - 1 x 2 99781 ⬜ White	-	-	Want: 4 Have: -
	Brick, Round 4 x 4 with Hole 87081 ⬜ White	-	-	Want: 3 Have: -
	Brick, Round Corner 2 x 2 Macaroni with Stud Notch and Reinforced Underside 85080 ⬜ White	-	-	Want: 4 Have: -
	Cone 2 x 2 Truncated 98100 ⬜ White	-	-	Want: 1 Have: -
	Cone 4 x 4 x 2 with Axle Hole 3943b ⬜ White	-	-	Want: 1 Have: -
	Plate 2 x 6 3795 ⬜ White	-	-	Want: 6 Have: -
	Plate 4 x 6 3032 ⬜ White	-	-	Want: 2 Have: -
	Plate, Round 2 x 2 with Axle Hole 4032 ⬜ White	-	-	Want: 3 Have: -
	Plate, Round 4 x 4 with Hole 60474 ⬜ White	-	-	Want: 1 Have: -
	Slope 30 1 x 2 x 2/3 85984 ⬜ White	-	-	Want: 12 Have: -
	Technic, Plate 2 x 6 with 5 Holes 32001 ⬜ White	-	-	Want: 2 Have: -
	Tile 1 x 6 6636 ⬜ White	-	-	Want: 8 Have: -
	Tile, Round 1 x 1 98138 ⬜ White	-	-	Want: 1 Have: -

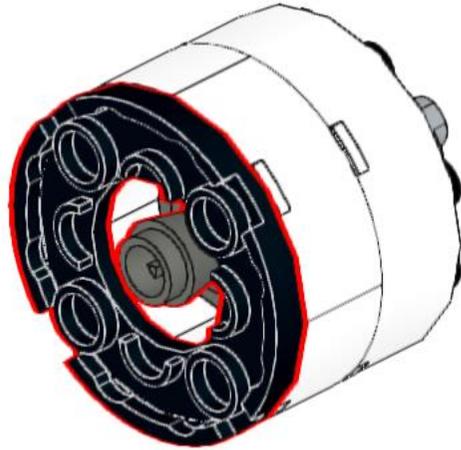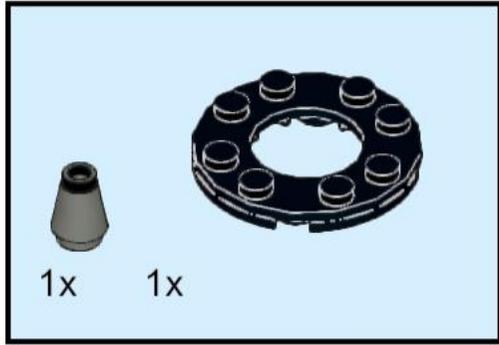# Breeze-M and fairing

Should be white – BrickLink seller let me down!

1

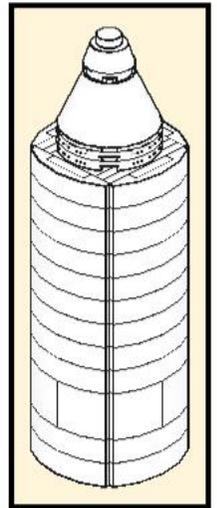2x 1x
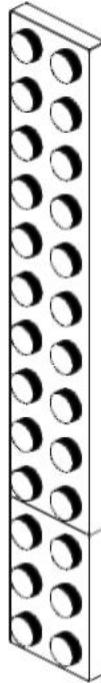
2

1x 4x

3

1x   1x

4

1x   1x

5

2x   11x

6

4x   1x

7

1x   4x

8

1x   1x

9

2x 11x

10

1x

11

2x **2x**

12

13

2x 2x 2x

Axle 3

14

15

1x 1x

16

2x 11x

17

4x 1x

18

1x 4x

19

20

1x   1x

21

2x   11x

22

1x

23

2x   2x

24

25

26

1x

27

1x 1x

28

1x 1x Axle 7

29

8x   1x

30

1x
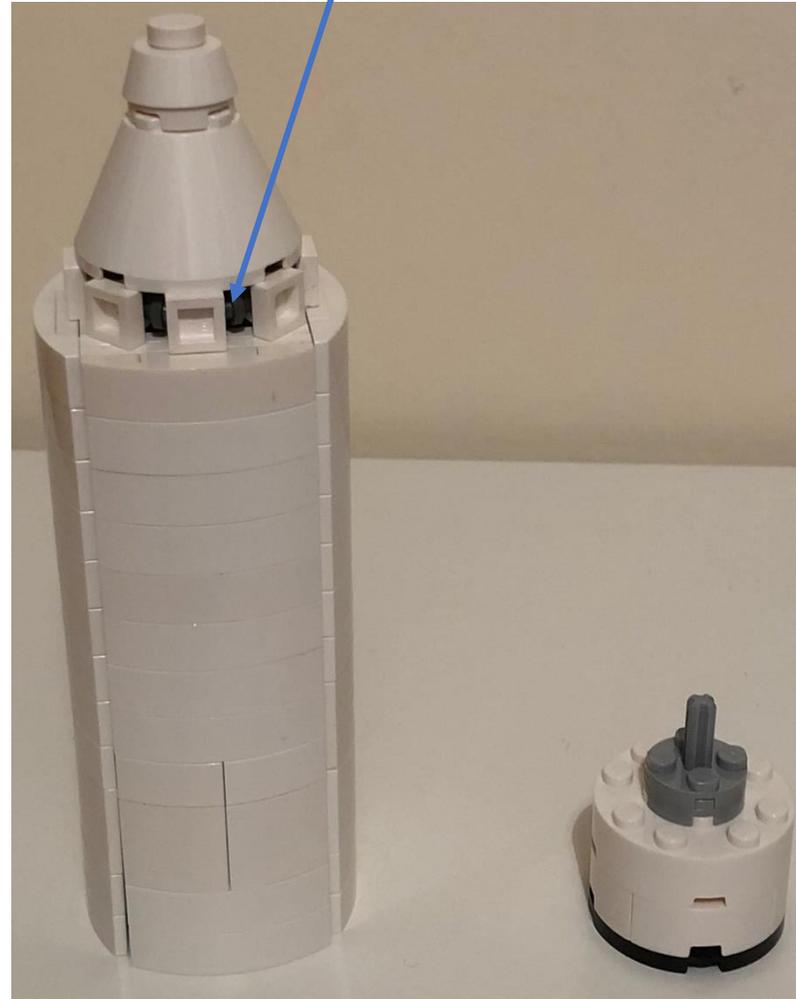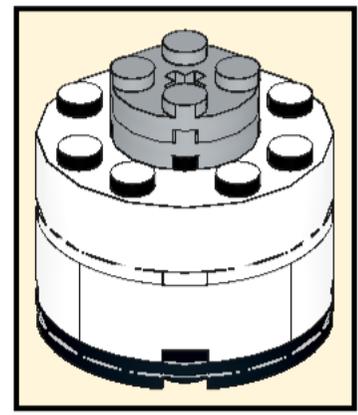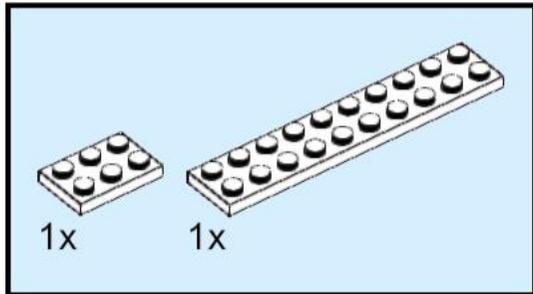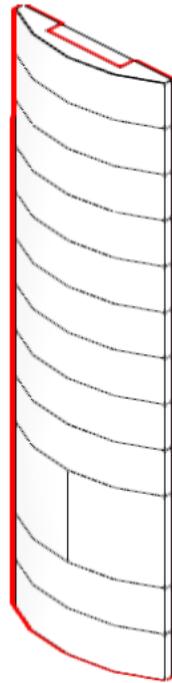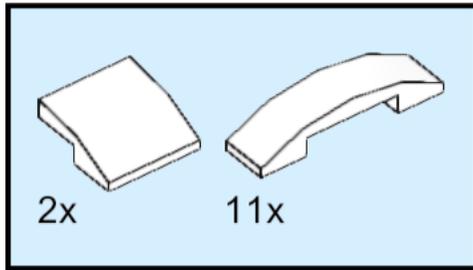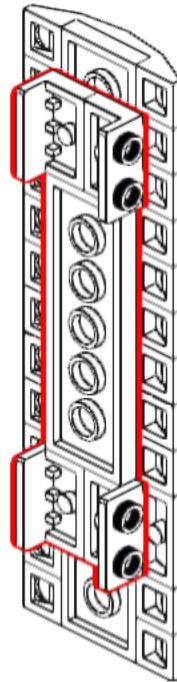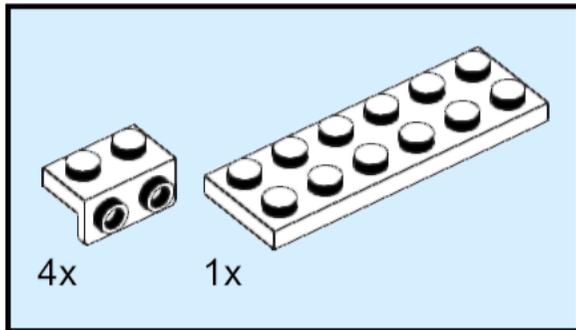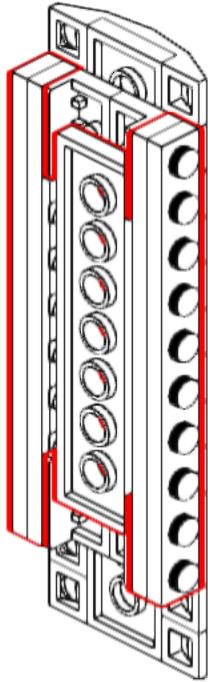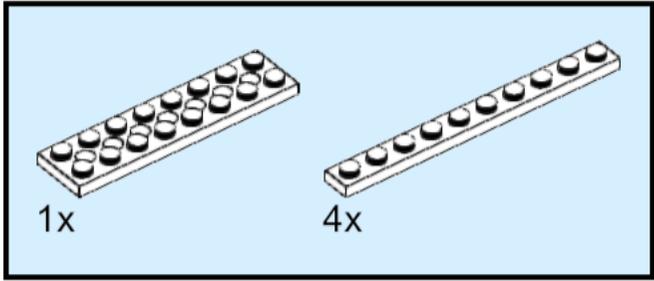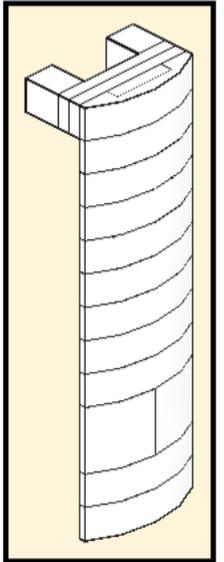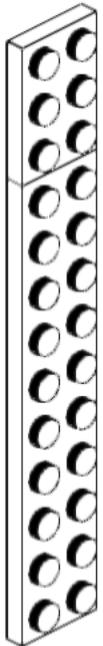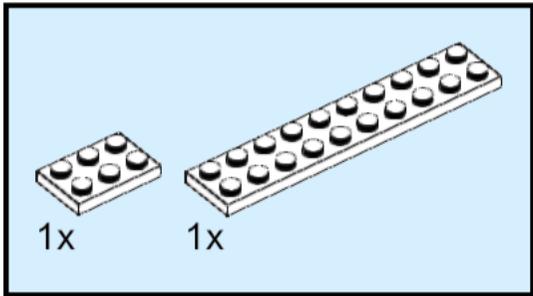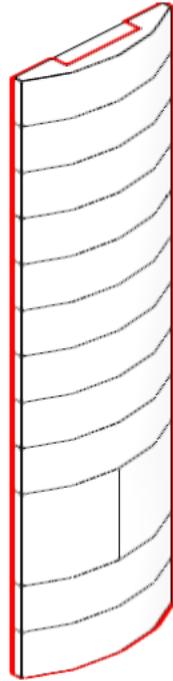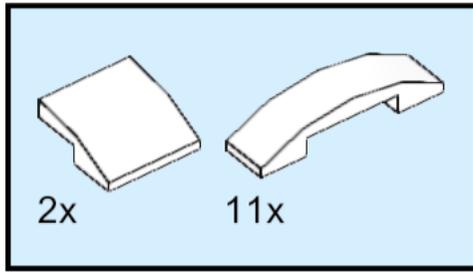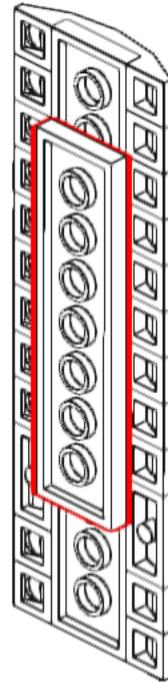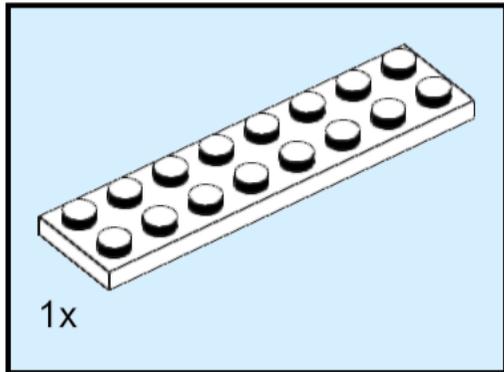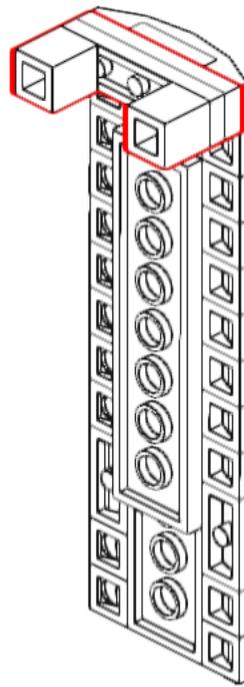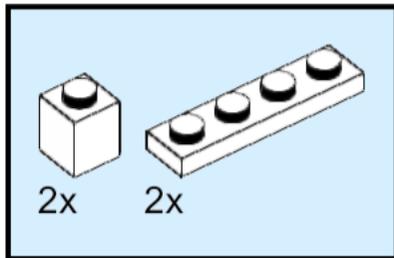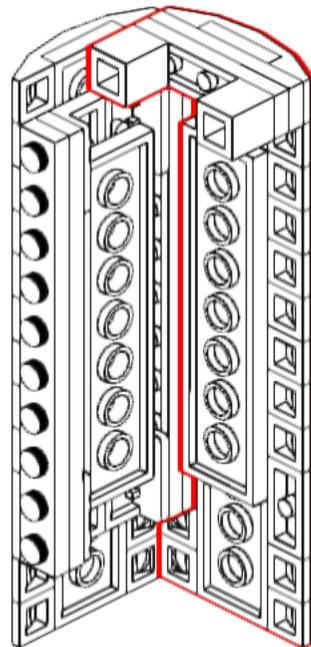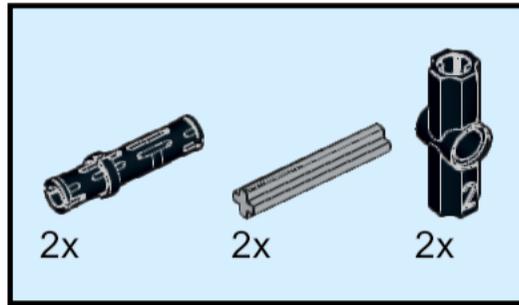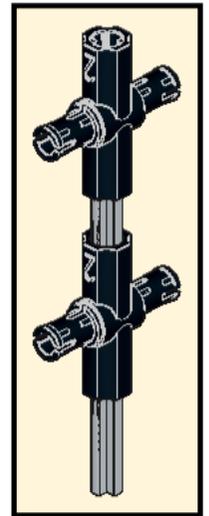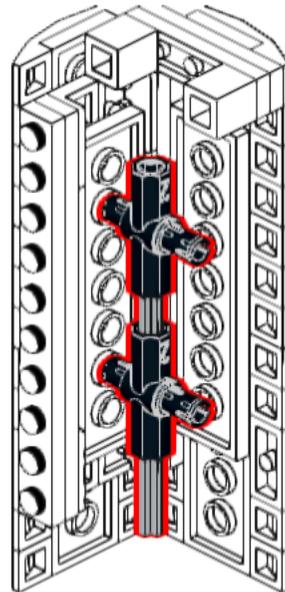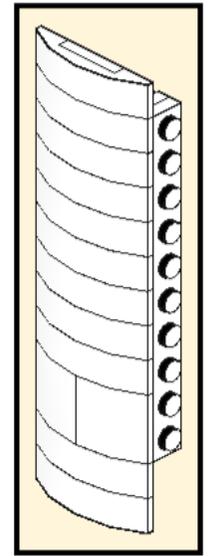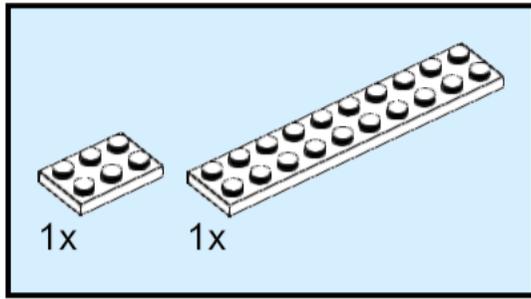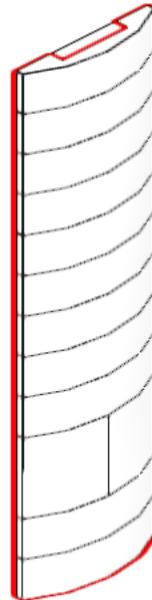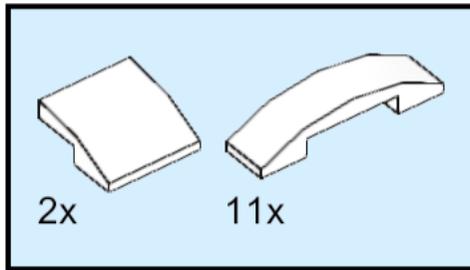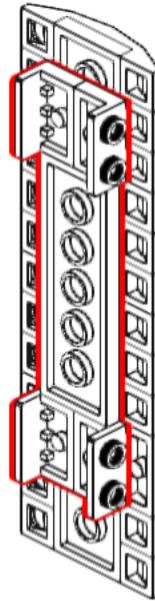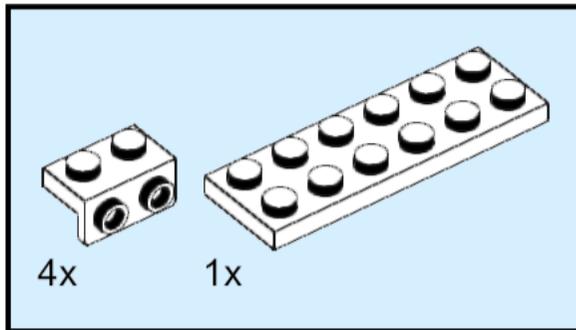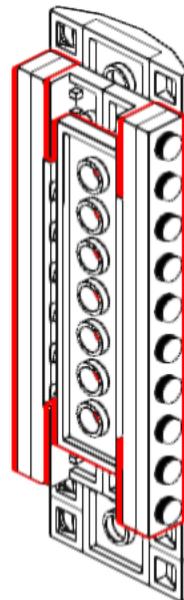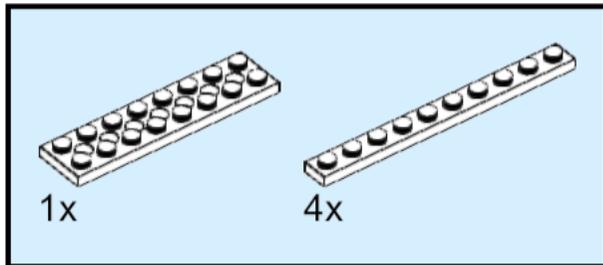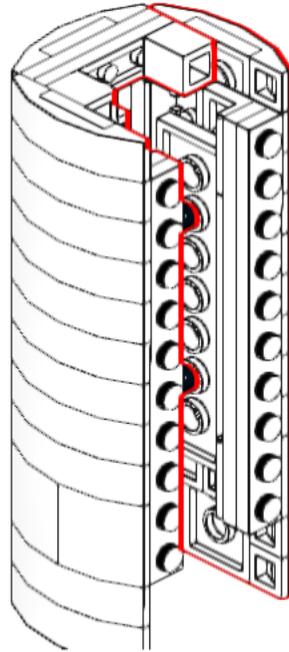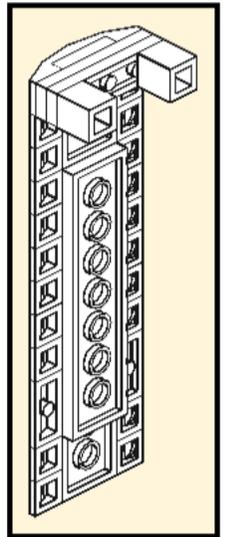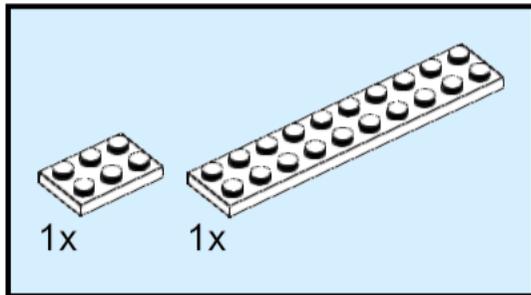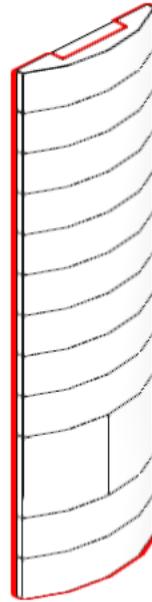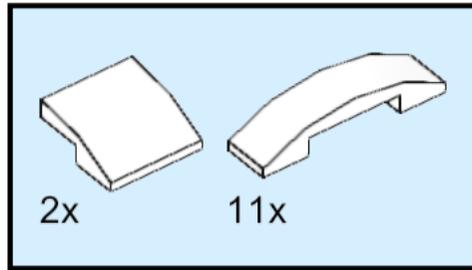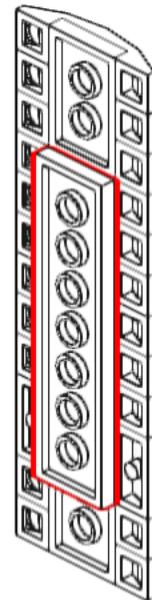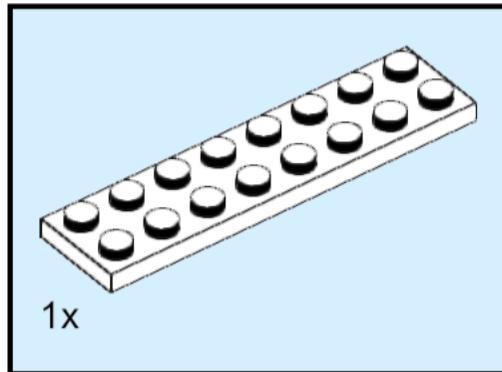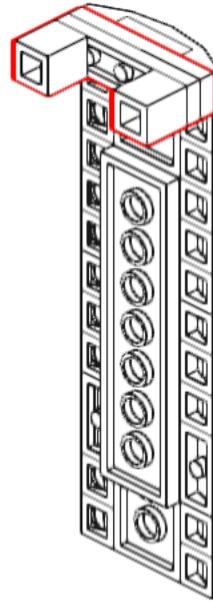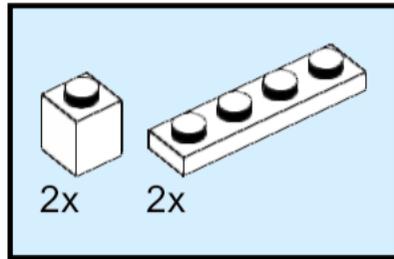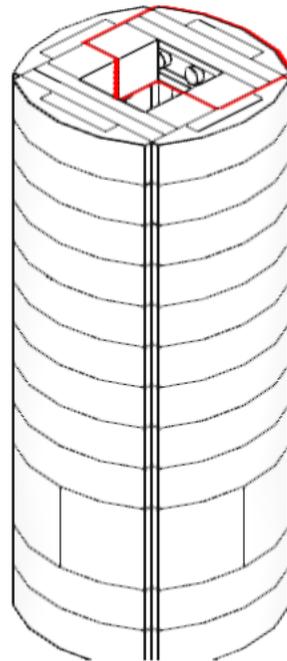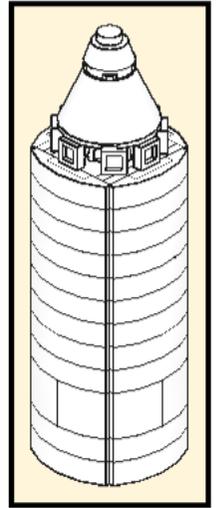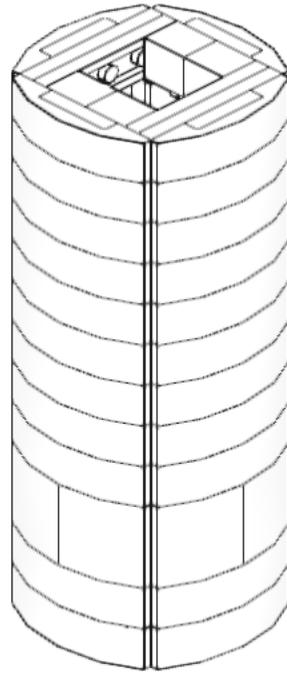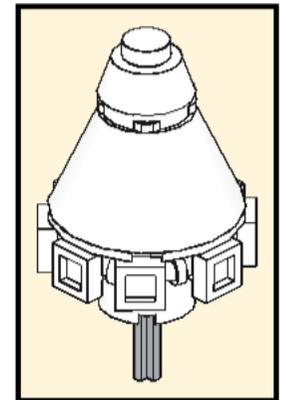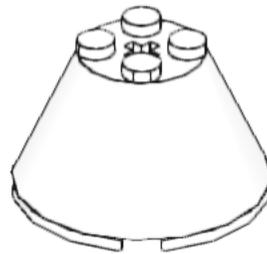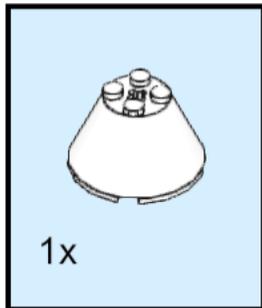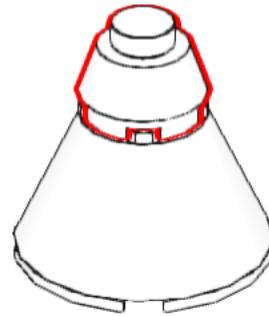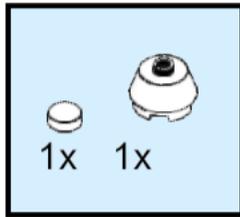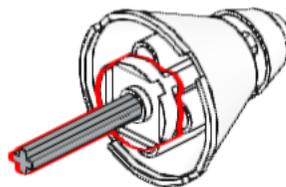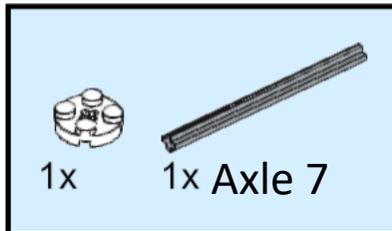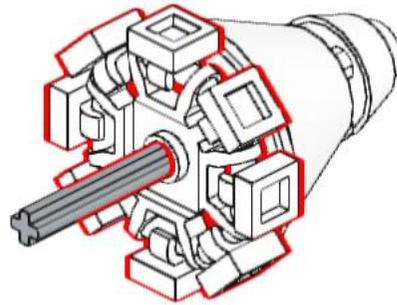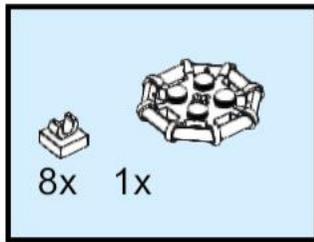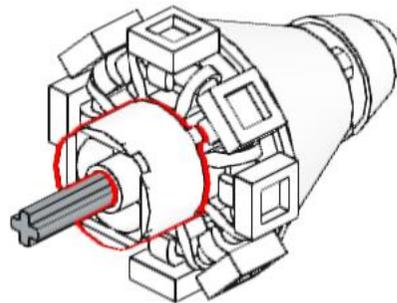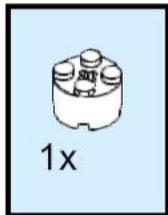
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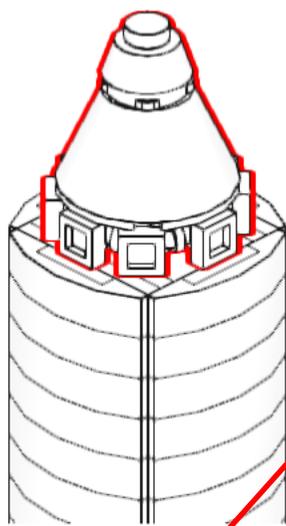
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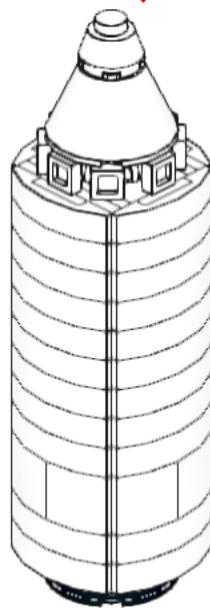
Image	Description	Condition	Max Price	Quantity
	Bracket 1 x 2 - 1 x 2 99781 White	-	-	Want: 8 Have: -
	Brick 1 x 1 3005 White	-	-	Want: 4 Have: -
	Brick, Round 2 x 2 with Axle Hole 3941 White	-	-	Want: 1 Have: -
	Brick, Round 4 x 4 with Hole 87081 White	-	-	Want: 1 Have: -
	Brick, Round Corner 2 x 2 Macaroni with Stud Notch and Reinforced Underside 85080 White	-	-	Want: 4 Have: -
	Cone 1 x 1 with Top Groove 4589b Dark Bluish Gray	-	-	Want: 1 Have: -
	Cone 2 x 2 Truncated 98100 White	-	-	Want: 1 Have: -
	Cone 4 x 4 x 2 with Axle Hole 3943b White	-	-	Want: 1 Have: -
	Plate 1 x 10 4477 White	-	-	Want: 8 Have: -
	Plate 1 x 4 3710 White	-	-	Want: 4 Have: -
	Plate 2 x 10 3832 White	-	-	Want: 4 Have: -
	Plate 2 x 3 3021 White	-	-	Want: 4 Have: -
	Plate 2 x 6 3795 White	-	-	Want: 2 Have: -
	Plate 2 x 8 3034 White	-	-	Want: 2 Have: -

Image	Description	Condition	Max Price	Quantity
	Plate, Modified 2 x 2 with Bar Frame Octagonal, Reinforced, Completely Round Studs 75937 White	-	-	Want: 1 Have: -
	Plate, Round 2 x 2 with Axle Hole 4032 White	-	-	Want: 1 Have: -
	Plate, Round 2 x 2 with Axle Hole 4032 Dark Bluish Gray	-	-	Want: 1 Have: -
	Plate, Round 2 x 2 with Axle Hole 4032 Light Bluish Gray	-	-	Want: 2 Have: -
	Plate, Round 4 x 4 with 2 x 2 Hole 11833 Black	-	-	Want: 1 Have: -
	Slope, Curved 2 x 2 15068 White	-	-	Want: 8 Have: -
	Slope, Curved 4 x 1 Double 93273 White	-	-	Want: 44 Have: -
	Technic, Axle 3 4519 Light Bluish Gray	-	-	Want: 2 Have: -
	Technic, Axle 7 44294 Light Bluish Gray	-	-	Want: 1 Have: -
	Technic, Axle and Pin Connector Angled #2 - 180 degrees 32034 Black	-	-	Want: 2 Have: -
	Technic, Pin 3L with Friction Ridges Lengthwise 6558 Black	-	-	Want: 2 Have: -
	Technic, Plate 2 x 8 with 7 Holes 3738 White	-	-	Want: 2 Have: -
	Tile, Modified 1 x 1 with Clip - Rounded Edges 15712 White	-	-	Want: 8 Have: -
	Tile, Round 1 x 1 98138 White	-	-	Want: 1 Have: -

The collection

First stage

Proton-K fairing

Second stage

Zarya fairing

UR-500-2

Third stage

Fairing Blok-D/DM Adapter

Fairing Breeze-M

Credits

You because anyone who gets to the last page of these instructions deserves a medal ☺
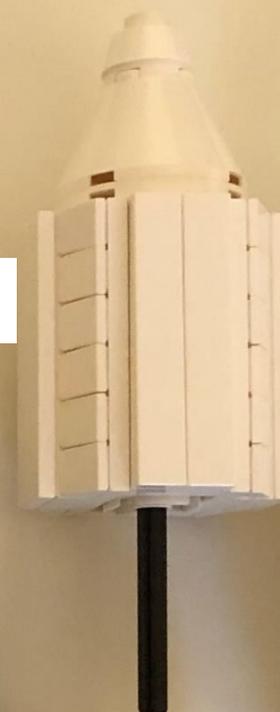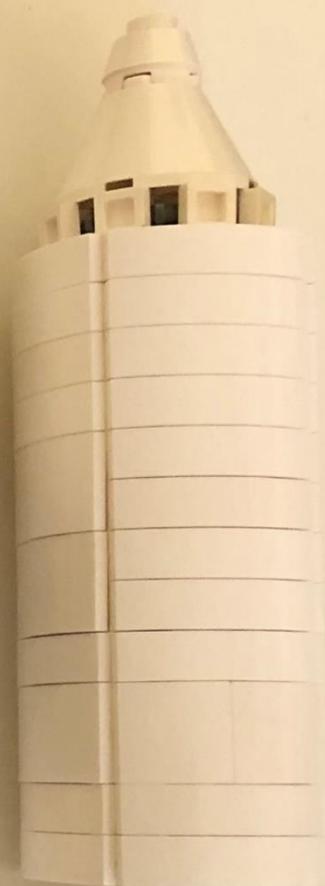
Dan Fallon's Zarya piqued my curiosity into the Proton.

Sebastian Schoen reverse engineered Sunder_59's original Proton which gave me a place to start. He has also offered quite a few pointers as my Proton collection gained pace.

Lorenzo Montanari was the first to declare that he'd built a Proton Zarya from my original instructions (yay!) and his solution uses the 56145 wheel to 'pinch' the rocket. I decided not to use this modification as I wanted the rocket to be stageable but if you are displaying it as a complete rocket then it is worth investigating.

Wolf Brozies gave encouragement and technical information on both the Proton and Sebastian Schoen's model.

Everyone who has uploaded a design must be a little bit crazy to invest this much time and effort in replicating rockets, space stations and assorted space-related paraphernalia in little plastic bricks, especially at what my daughters call 'teeny-tiny scale'. My collection so far consists of creations by Nico Daams, Andrew Harkins, Grant Passmore, Christoph Ruge, Simon Paul, Moppe Stone and Valerie Roche. Thank you for sharing, even if you're gradually driving my wife nuts!