

CASE 05 · SPACE SCIENCE KIT

# LUNAR EXPLORATION VEHICLE

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ASSEMBLY GUIDE · Techtelligence- Elecbreaks

**187 STEPS**

# DESIGN BRIEF

## OBJECTIVE

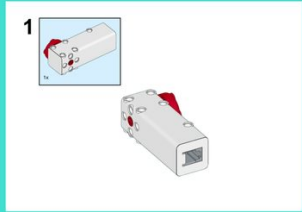
Assemble the most advanced model in the Space Science Kit series — the Lunar Exploration Vehicle. This comprehensive 187-step build features multi-wheel drive, sensors, a display panel, and a full articulated robotic arm.

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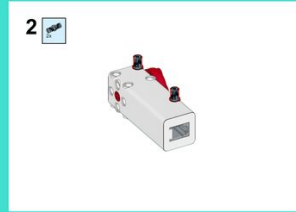
## DESIGN PRINCIPLES

- |                                 |   |
|---------------------------------|---|
| <b>01. Structural Integrity</b> | Robust modular frame ensures stability across 187 assembly steps and full operation.        |
| <b>02. Step-by-Step Build</b>   | Sequential design guides students from individual components to a complete working vehicle. |
| <b>03. STEM Integration</b>     | Hands-on mechanics reinforce space science, engineering, and robotics at every stage.       |
| <b>04. Scalable Design</b>      | Standardised connectors allow reconfiguration and adaptation of the final model.            |

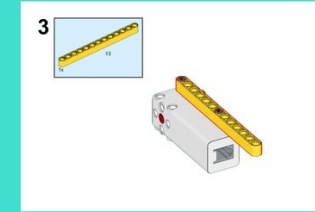
PROGRESS: 3% (6 of 187 steps)



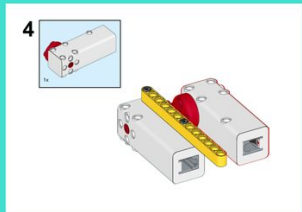
STEP 1



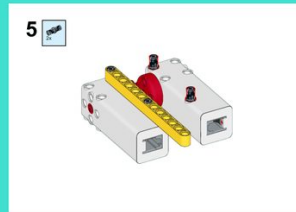
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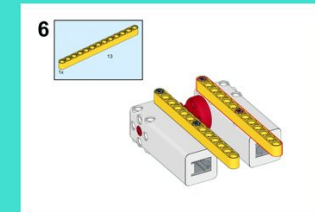
STEP 3



STEP 4

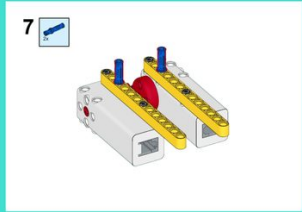


STEP 5

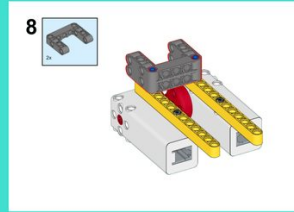


STEP 6

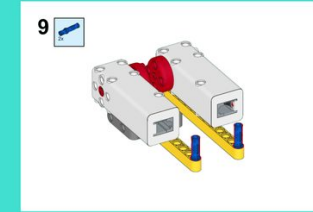
PROGRESS: 6% (12 of 187 steps)



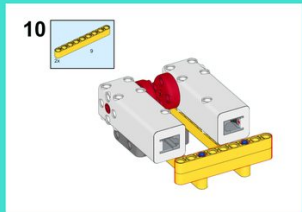
STEP 7



STEP 8



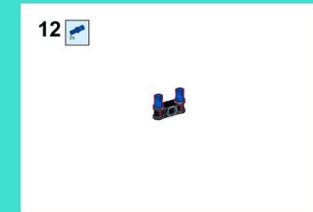
STEP 9



STEP 10



STEP 11



STEP 12

PROGRESS: 10% (18 of 187 steps)

13



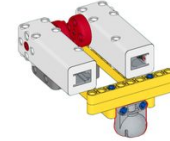
STEP 13

14



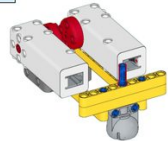
STEP 14

15



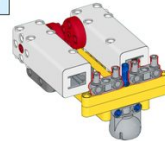
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16



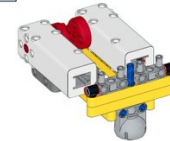
STEP 16

17



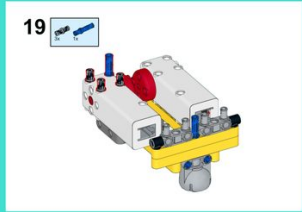
STEP 17

18

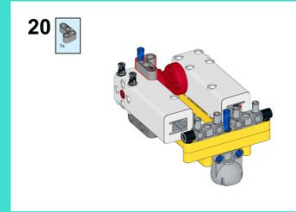


STEP 18

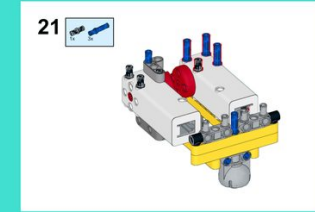
PROGRESS: 13% (24 of 187 steps)



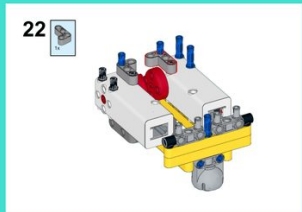
STEP 19



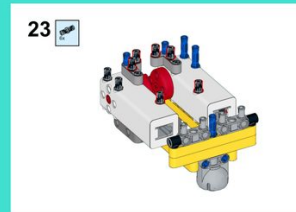
STEP 20



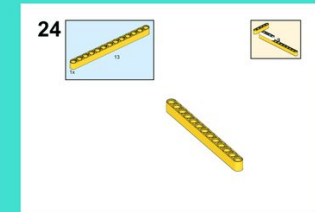
STEP 21



STEP 22



STEP 23



STEP 24

PROGRESS: 16% (30 of 187 steps)

25



STEP 25

26



STEP 26

27



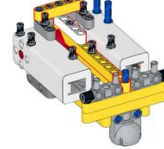
STEP 27

28



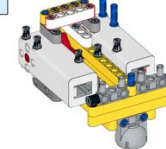
STEP 28

29



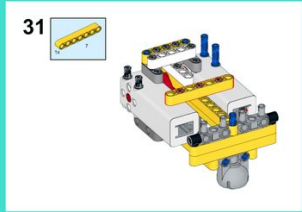
STEP 29

30

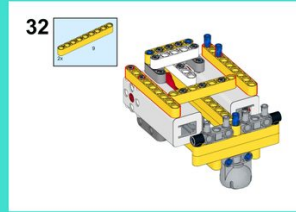


STEP 30

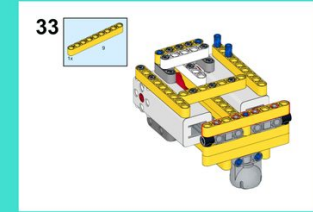
PROGRESS: 19% (36 of 187 steps)



STEP 31



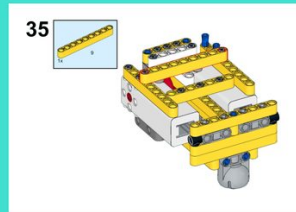
STEP 32



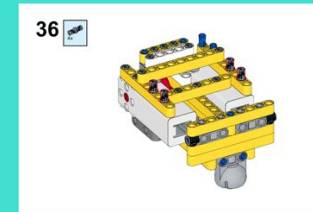
STEP 33



STEP 34

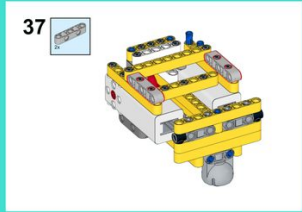


STEP 35



STEP 36

PROGRESS: 22% (42 of 187 steps)



STEP 37



STEP 38



STEP 39



STEP 40



STEP 41



STEP 42

PROGRESS: 26% (48 of 187 steps)

43



STEP 43

44



STEP 44

45



STEP 45

46



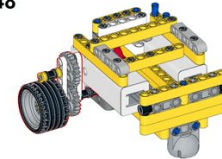
STEP 46

47



STEP 47

48

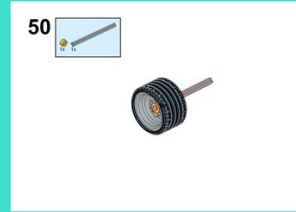


STEP 48

PROGRESS: 29% (54 of 187 steps)



STEP 49



STEP 50



STEP 51



STEP 52



STEP 53



STEP 54

PROGRESS: 32% (60 of 187 steps)

55



STEP 55

56



STEP 56

57



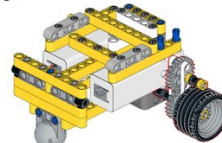
STEP 57

58



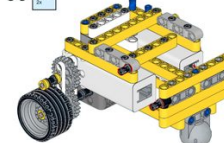
STEP 58

59



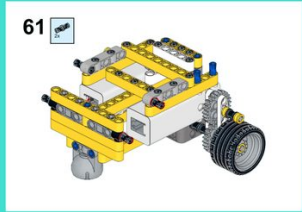
STEP 59

60

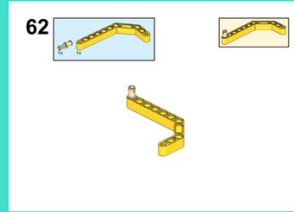


STEP 60

PROGRESS: 35% (66 of 187 steps)



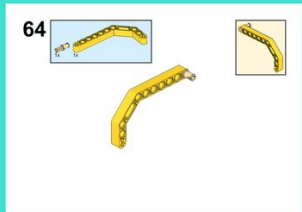
STEP 61



STEP 62



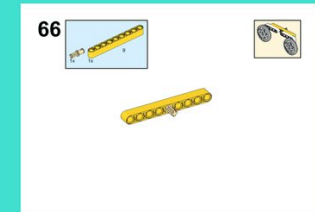
STEP 63



STEP 64



STEP 65



STEP 66

PROGRESS: 39% (72 of 187 steps)

67 



STEP 67

68 



STEP 68

69 



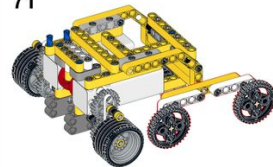
STEP 69

70 



STEP 70

71



STEP 71

72  



STEP 72

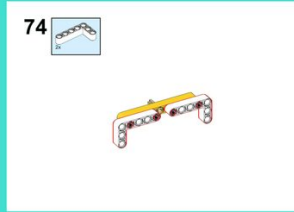
PROGRESS: 42% (78 of 187 steps)

73 



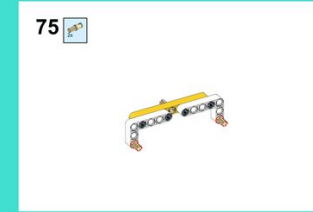
STEP 73

74 



STEP 74

75 



STEP 75

76 



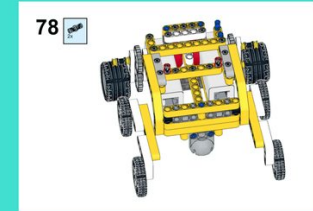
STEP 76

77



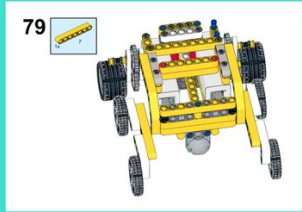
STEP 77

78 



STEP 78

PROGRESS: 45% (84 of 187 steps)



STEP 79



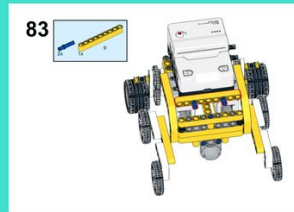
STEP 80



STEP 81



STEP 82



STEP 83



STEP 84

PROGRESS: 48% (90 of 187 steps)



STEP 85



STEP 86



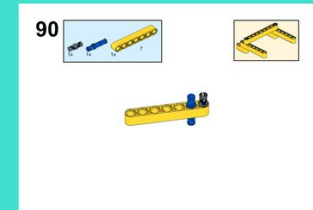
STEP 87



STEP 88



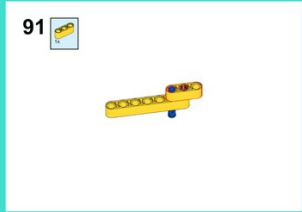
STEP 89



STEP 90

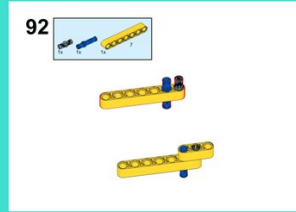
PROGRESS: 51% (96 of 187 steps)

91



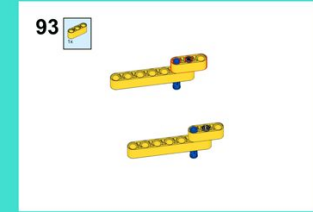
STEP 91

92



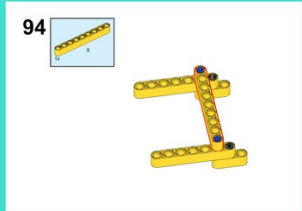
STEP 92

93



STEP 93

94



STEP 94

95



STEP 95

96



STEP 96

PROGRESS: 55% (102 of 187 steps)

97



STEP 97

98



STEP 98

99



STEP 99

100



STEP 100

101



STEP 101

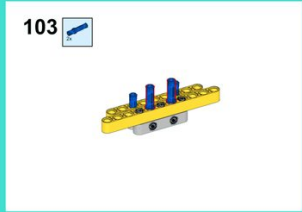
102



STEP 102

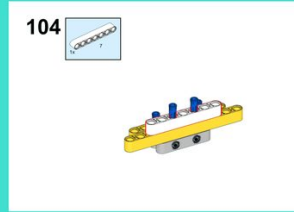
PROGRESS: 58% (108 of 187 steps)

103 



STEP 103

104 



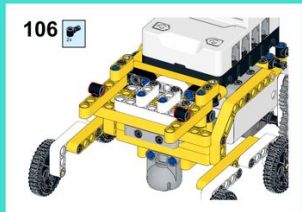
STEP 104

105 



STEP 105

106 



STEP 106

107 



STEP 107

108 

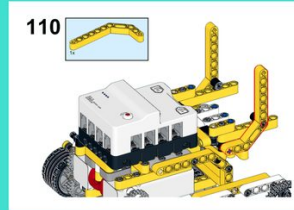


STEP 108

PROGRESS: 61% (114 of 187 steps)



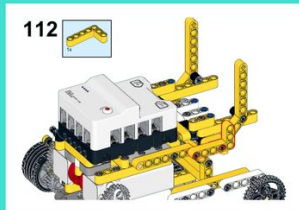
STEP 109



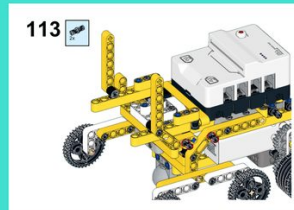
STEP 110



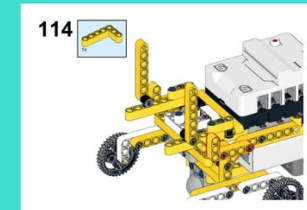
STEP 111



STEP 112

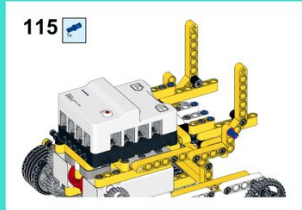


STEP 113

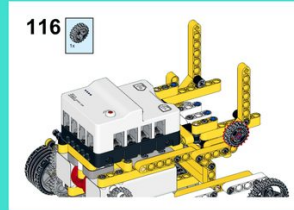


STEP 114

PROGRESS: 64% (120 of 187 steps)



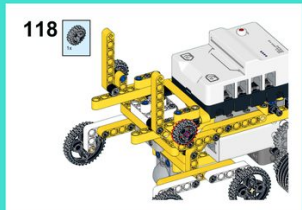
STEP 115



STEP 116



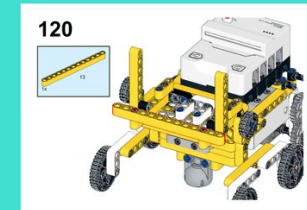
STEP 117



STEP 118

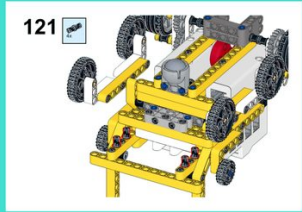


STEP 119

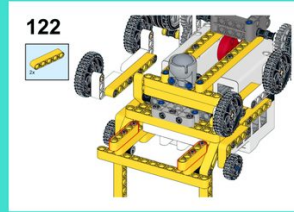


STEP 120

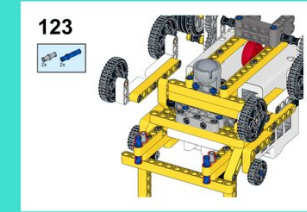
PROGRESS: 67% (126 of 187 steps)



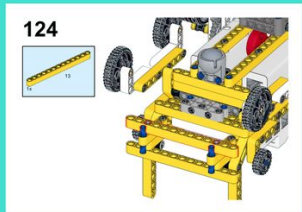
STEP 121



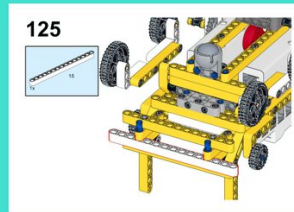
STEP 122



STEP 123



STEP 124

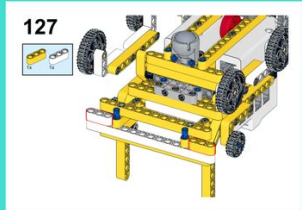


STEP 125

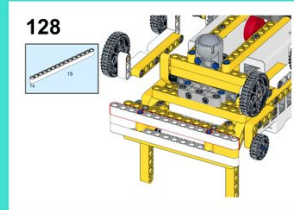


STEP 126

PROGRESS: 71% (132 of 187 steps)



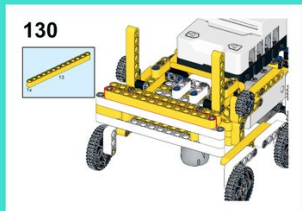
STEP 127



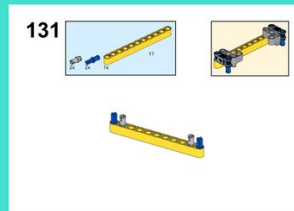
STEP 128



STEP 129



STEP 130



STEP 131



STEP 132

PROGRESS: 74% (138 of 187 steps)

133 



STEP 133

134 



STEP 134

135 



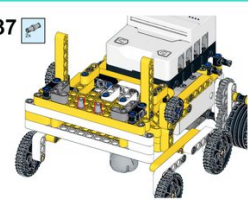
STEP 135

136



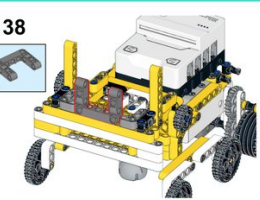
STEP 136

137 



STEP 137

138 



STEP 138

PROGRESS: 77% (144 of 187 steps)



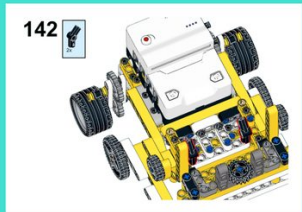
STEP 139



STEP 140



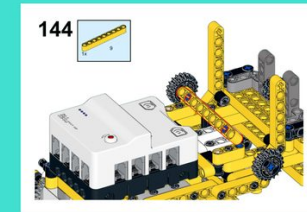
STEP 141



STEP 142



STEP 143

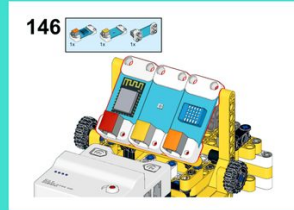


STEP 144

PROGRESS: 80% (150 of 187 steps)



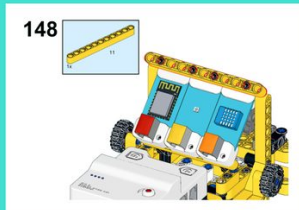
STEP 145



STEP 146



STEP 147



STEP 148



STEP 149



STEP 150

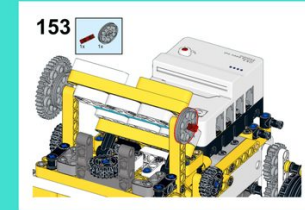
PROGRESS: 83% (156 of 187 steps)



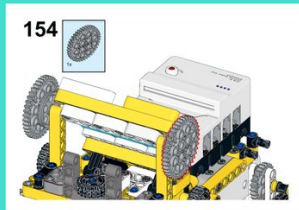
STEP 151



STEP 152



STEP 153



STEP 154



STEP 155



STEP 156

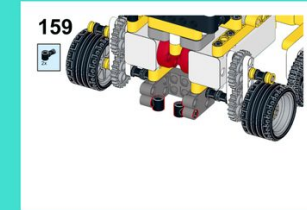
PROGRESS: 87% (162 of 187 steps)



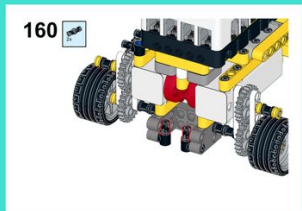
STEP 157



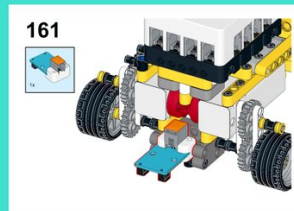
STEP 158



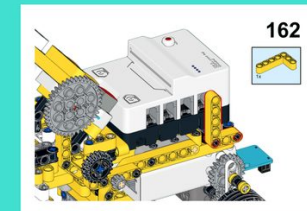
STEP 159



STEP 160

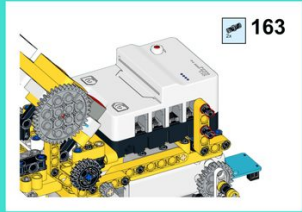


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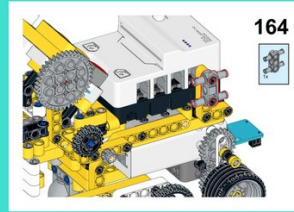


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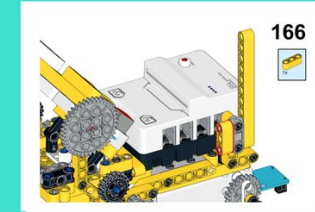
PROGRESS: 90% (168 of 187 steps)



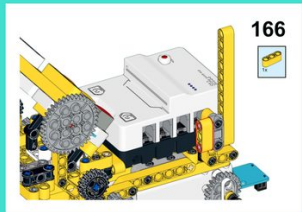
STEP 163



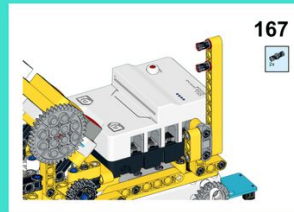
STEP 164



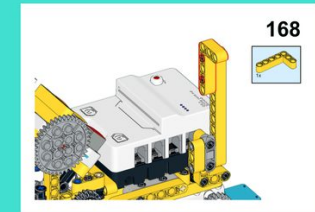
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STEP 166

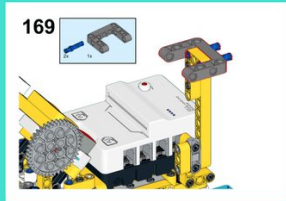


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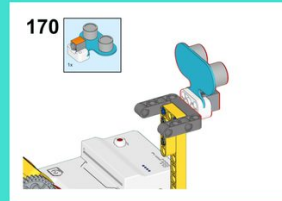


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PROGRESS: 93% (174 of 187 steps)



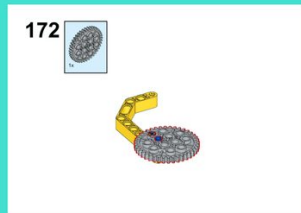
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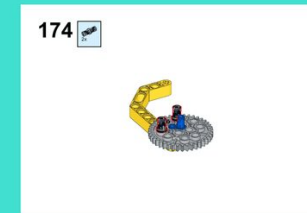
STEP 171



STEP 172

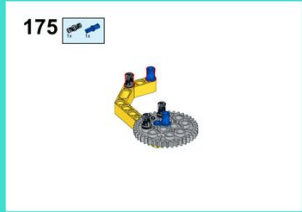


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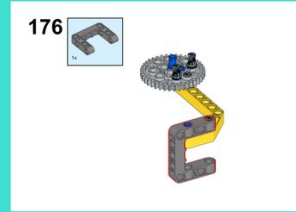


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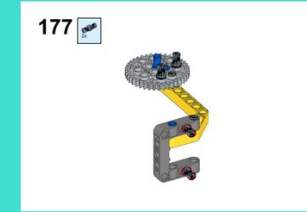
PROGRESS: 96% (180 of 187 steps)



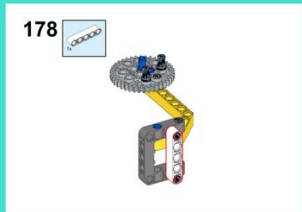
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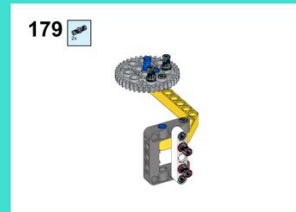
STEP 176



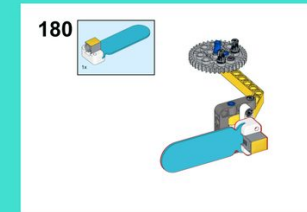
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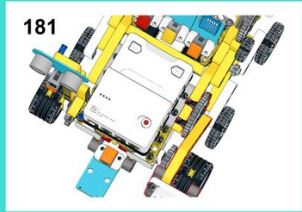


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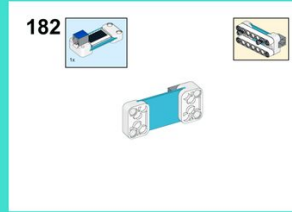


STEP 180

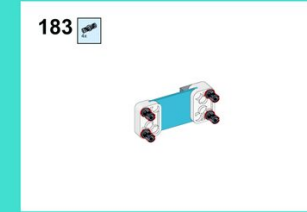
PROGRESS: 99% (186 of 187 steps)



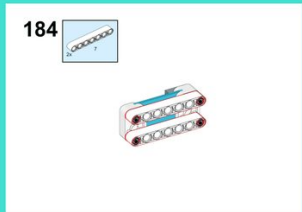
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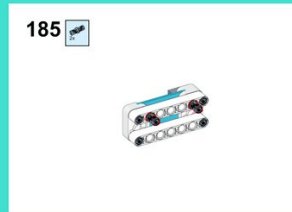
STEP 182



STEP 183



STEP 184



STEP 185



STEP 186

PROGRESS: 100% (187 of 187 steps)



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