

Robot Body Stage 3: Assembly guide

Concept assembly guide derived from the staged build plan. Not a certified engineering drawing. Prices are estimates (Oct 2026); nothing here is a purchase.

Stage 3



Concept render (illustrative).

1

Cut and bolt the 2020 extrusion into the torso spine.

Part R16: 2020 aluminum extrusion (torso) + printed shell x1 (\$40) Buy: [Amazon search](#)

2

Fasten the spine battery cradle to the extrusion.

Part R22: Spine battery cradle + hardware x1 (\$16) Buy: [Amazon search](#)

3

Move the main pack from the deck into the spine cradle.

Part R12: 3S 5000 mAh LiPo + BMS + nylon-standoff thermal break x1 (\$51) Buy: [Amazon search](#)

4

Mount the MG996R pan servo under the lazy-susan bearing.

Part R17: MG996R pan servo on lazy-susan bearing x1 (\$12) Buy: [Amazon search](#)

5

Thread the head wiring through the slip ring.

Part R18: MG90S tilt servo + slip ring x1 (\$17) Buy: [Amazon search](#)

6

Mount the MG90S tilt servo in the dome/head.

Part R18: MG90S tilt servo + slip ring x1 (\$17) Buy: [Amazon search](#)

7

Bolt one MG996R shoulder servo on each side of the torso.

Part R19: MG996R shoulder servos x2 (\$14) Buy: [Amazon search](#)

8

Wire all servos to the PCA9685 channels 0-3.

Part R20: PCA9685 16-ch servo driver x1 (\$10) Buy: [Adafruit 815](#)

9

Feed the PCA9685 servo rail from the 6V 10A UBEC.

Part R21: 6V 10A servo UBEC x1 (\$15) Buy: [Amazon search](#)

10

Clip the printed shell panels onto the torso.

Part R16: 2020 aluminum extrusion (torso) + printed shell x1 (\$40) Buy: [Amazon search](#)