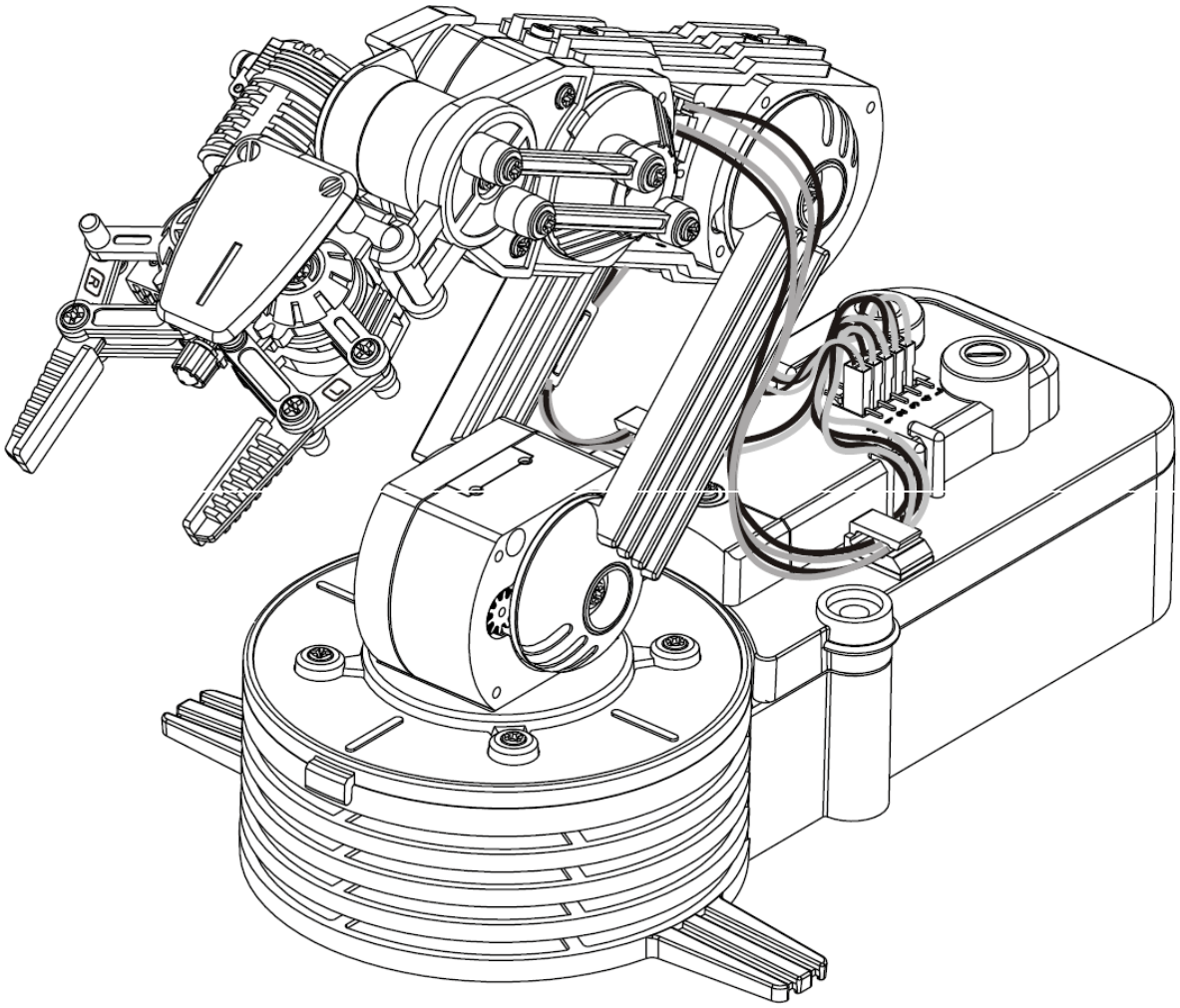
velleman®

KSR10

Referencia Electrónica Embajadores: KV6A010

ROBOTIC ARM
ROBOTARM
BRAS ROBOTIQUE
BRAZO ROBÓTICO
ROBOTERARM

CE



USER MANUAL
GEBRUIKERSHANDLEIDING
NOTICE D'EMPLOI
MANUAL DEL USUARIO
BEDIENUNGSANLEITUNG

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KSR10 – ROBOTIC ARM

1 Introduction

Referencia Electrónica Embajadores: KV6A010

To all residents of the European Union
Important environmental information about this product

This symbol on the device or the package indicates that disposal of the device after its lifecycle could harm the environment. Do not dispose of the unit (or batteries) as unsorted municipal waste; it should be taken to a specialized company for recycling. This device should be returned to your distributor or to a local recycling service. Respect the local environmental rules.

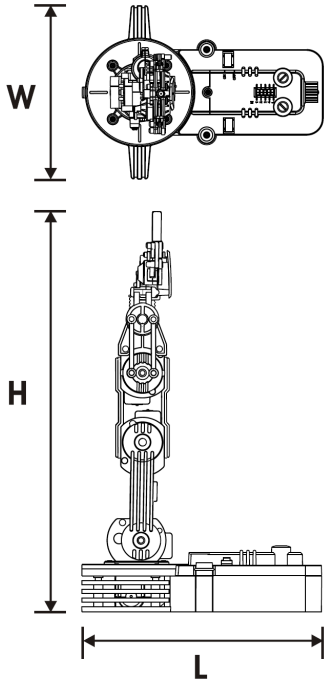
If in doubt, contact your local waste disposal authorities.

Thank you for choosing Velleman! Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, do not install or use it and contact your dealer.

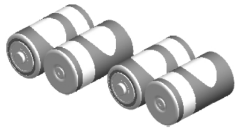
Enter the world of basic robotic technology and build your own robotic arm with five motors and five joints. The arm features a five-switch hard-wired control unit, a rotating base, elbow and wrist articulations, and a functional gripper. The built-in searchlight brings more fun when operated in the dark.

Specifications

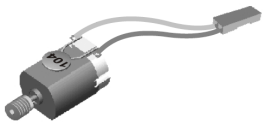
Max. Lift Capacity	100g
Power Supply	4 x D batteries (order code **LR20C**, not incl.)
Full Extension Height	38cm
Weight	660g
Dimensions	22.85cm (L) x 16cm (W) x 38cm (H)

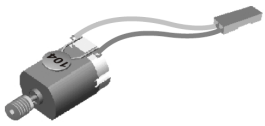


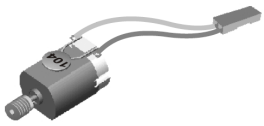
2 Tools You May Need

Long Nose Pliers	Diagonal Cutter	Screwdriver	D Battery x 4
			

3 Mechanical Parts List

P1	Motor (M4.M5) *	Qty
		2

P2	Motor (M2.M3) *	Qty
		2

P3	Motor (M1) *	Qty
		1

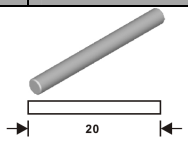
P4	Gear 32/10T (Grey)	Qty
		10

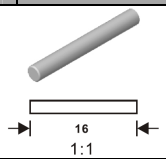
P5	Gear 32/10T (Brown)	Qty
		5

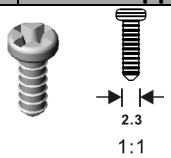
P6	Gear 32T (Blue)	Qty
		5

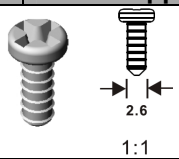
P7	Output Gear 10T (Black)	Qty
		4

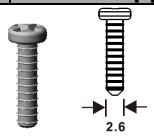
P8	Output Gear 10T (White)	Qty
		1

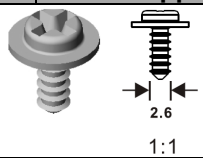
P9	Round Shaft	Qty
		9 (2x20)

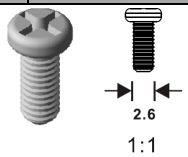
P10	Round Shaft	Qty
		1 (2x16)

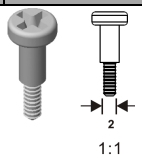
P11	Tapping Screw	Qty
		5 (2.3x7)

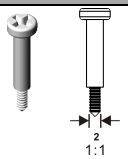
P12	Tapping Screw	Qty
		11 (2.6x6)

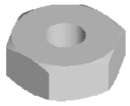
P13	Tapping Screw	Qty
		19 (2.6x10)

P14	Tapping Screw	Qty
		12 (2.6x6)

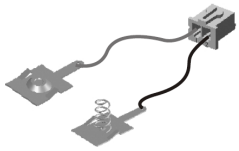
P15	Machine Screw	Qty
		10 (2.6x6)

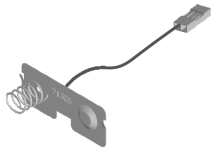
P16	Self Tapping Screw	Qty
		4 (3x11)

P17	Self Tapping Screw	Qty
		3 (3x16)

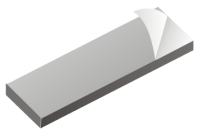
P18	Nut	Qty
		16

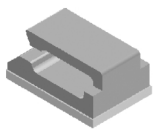
P19	Washer	Qty
		3

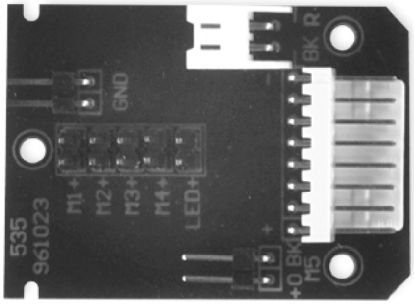
P20	Battery Terminal	Qty
		1

P21	Battery Terminal	Qty
		1

P22	LED With Wire	Qty
		1

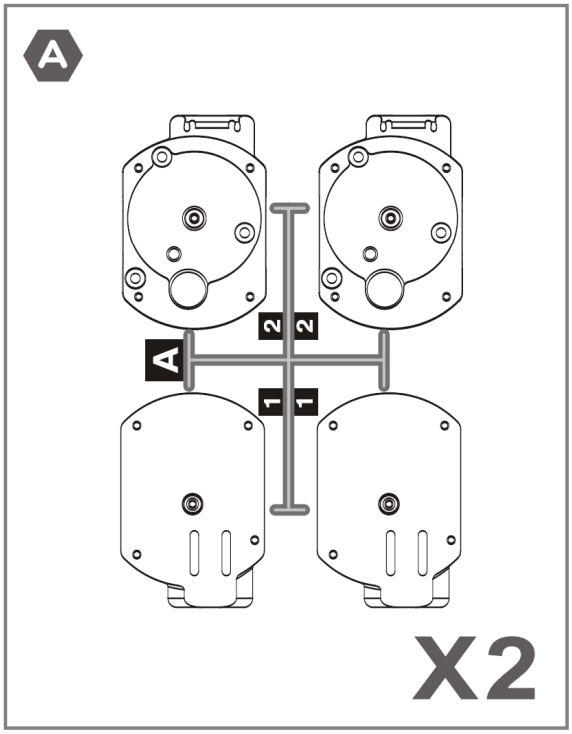
P23	Sponge (Black)	Qty
		2

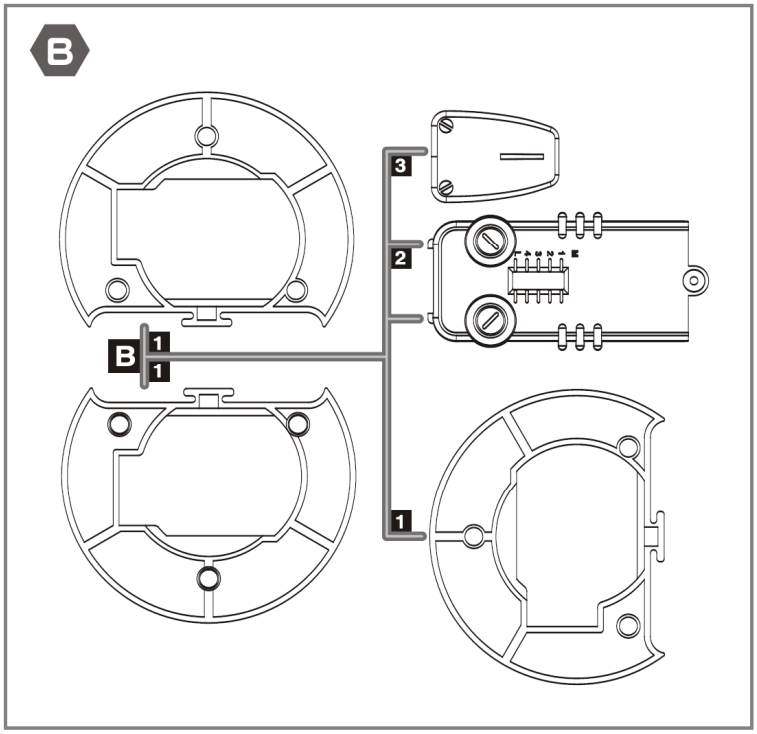
P24	Wire Clip	Qty
		3

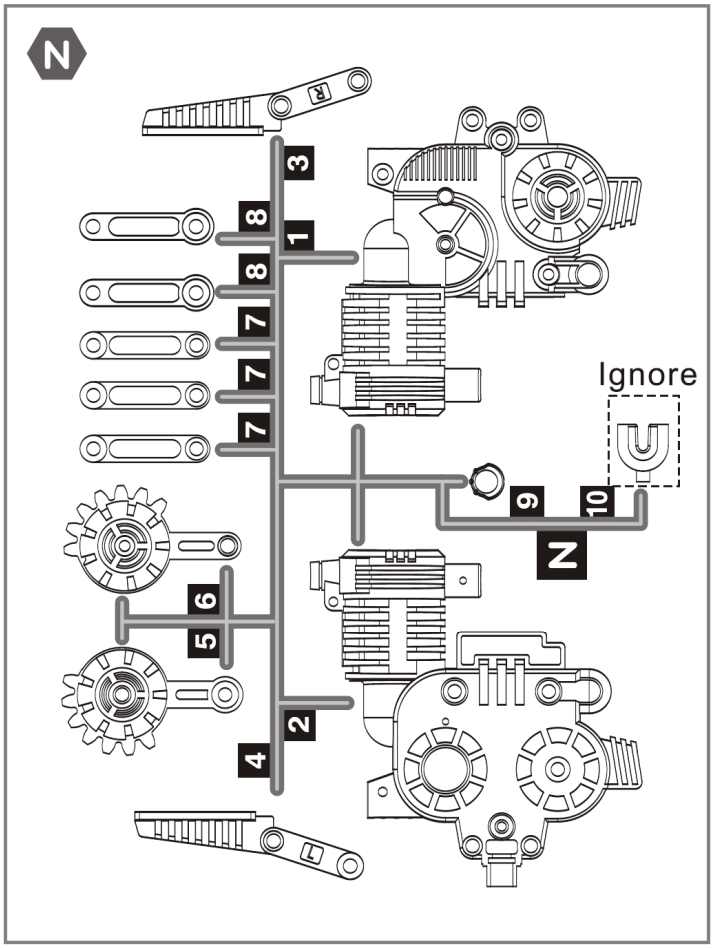
P25	PCB	Qty
		1

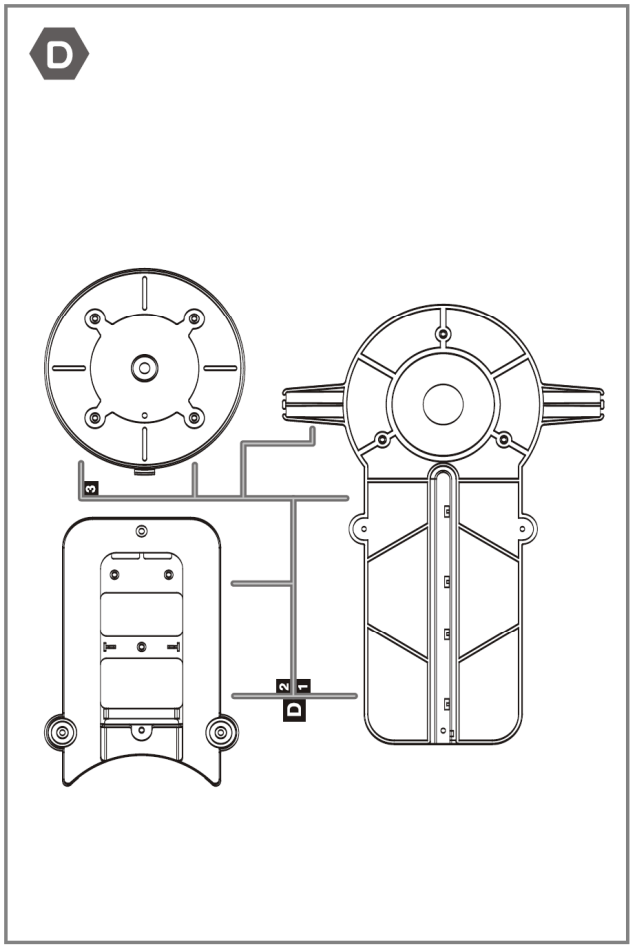
*** P1 = orange + black; P2 = blue + black; P3 = yellow + black**

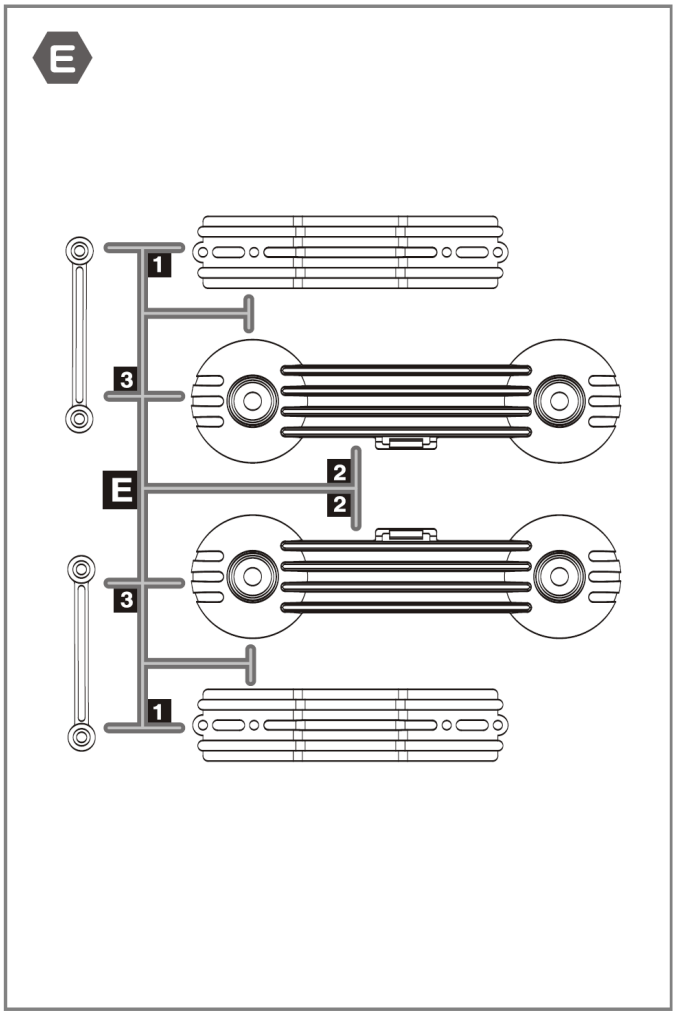
4 Plastic Parts

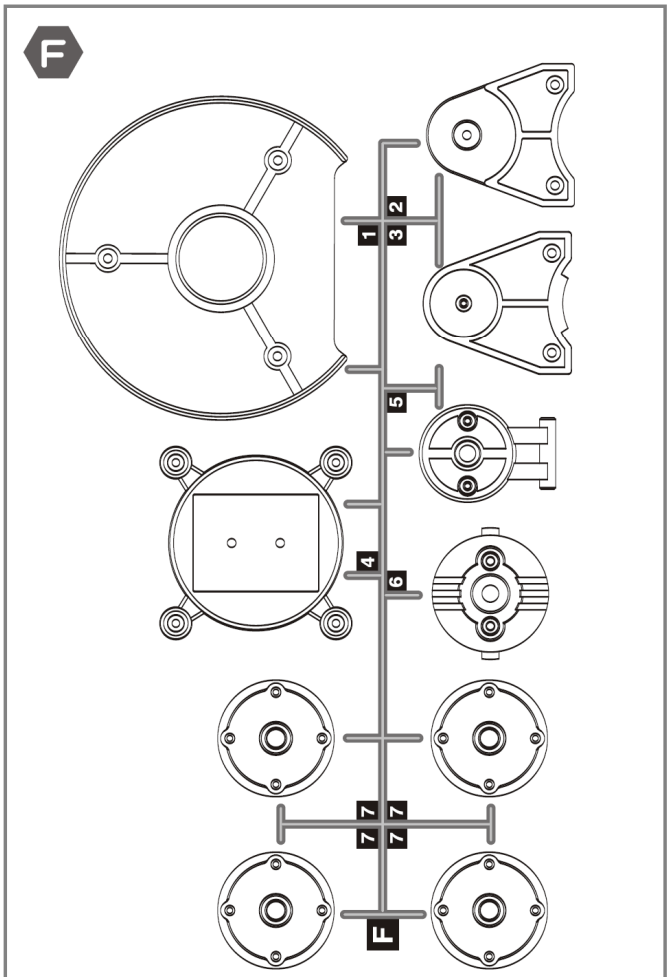




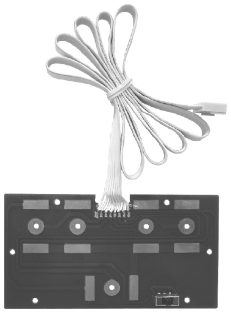
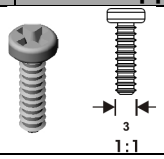




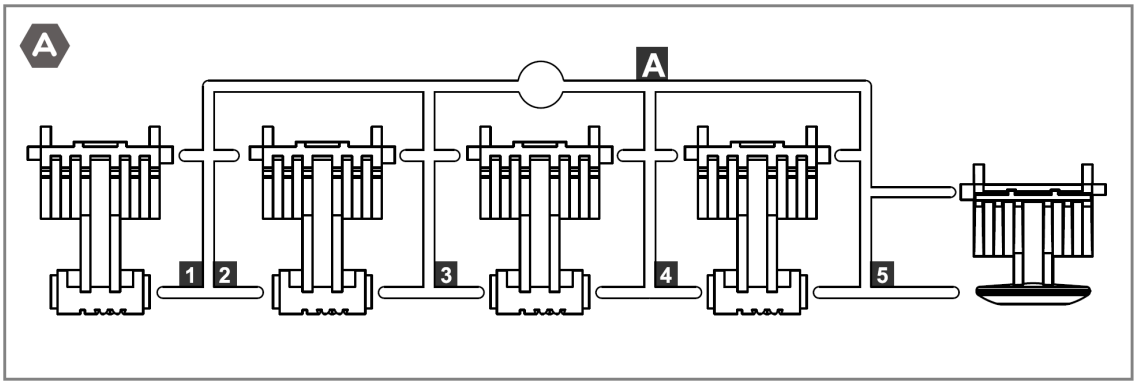


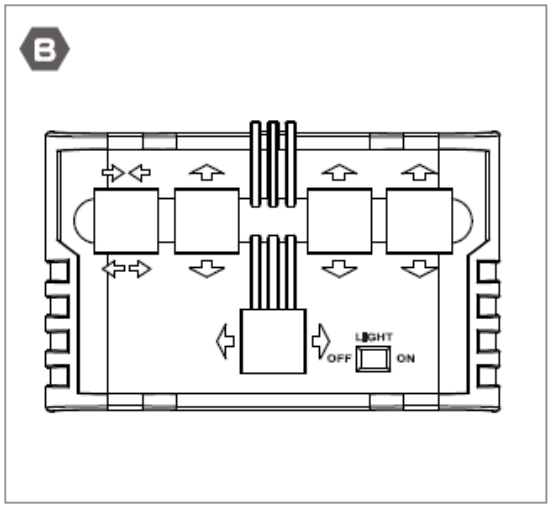


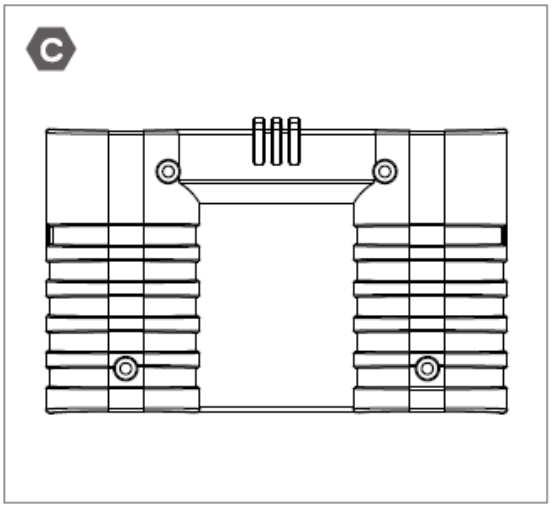
5 Mechanical Parts List Control Box

P1	Metal Plate	P3	PCB
	Qty: 5		Qty: 1
P2	**Tapping Screw**		
	Qty: 9 (3x10)		

6 Plastic Parts Control Box





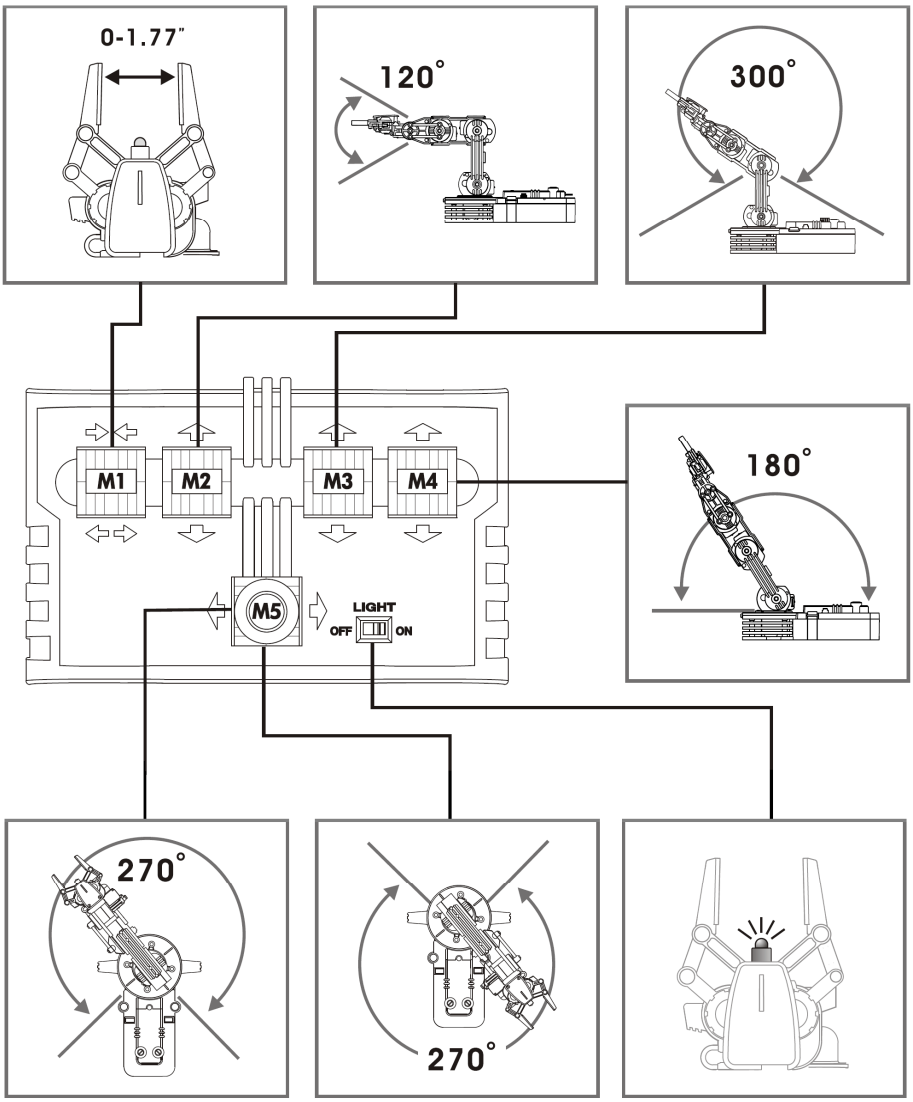


7 Mechanical Assembly

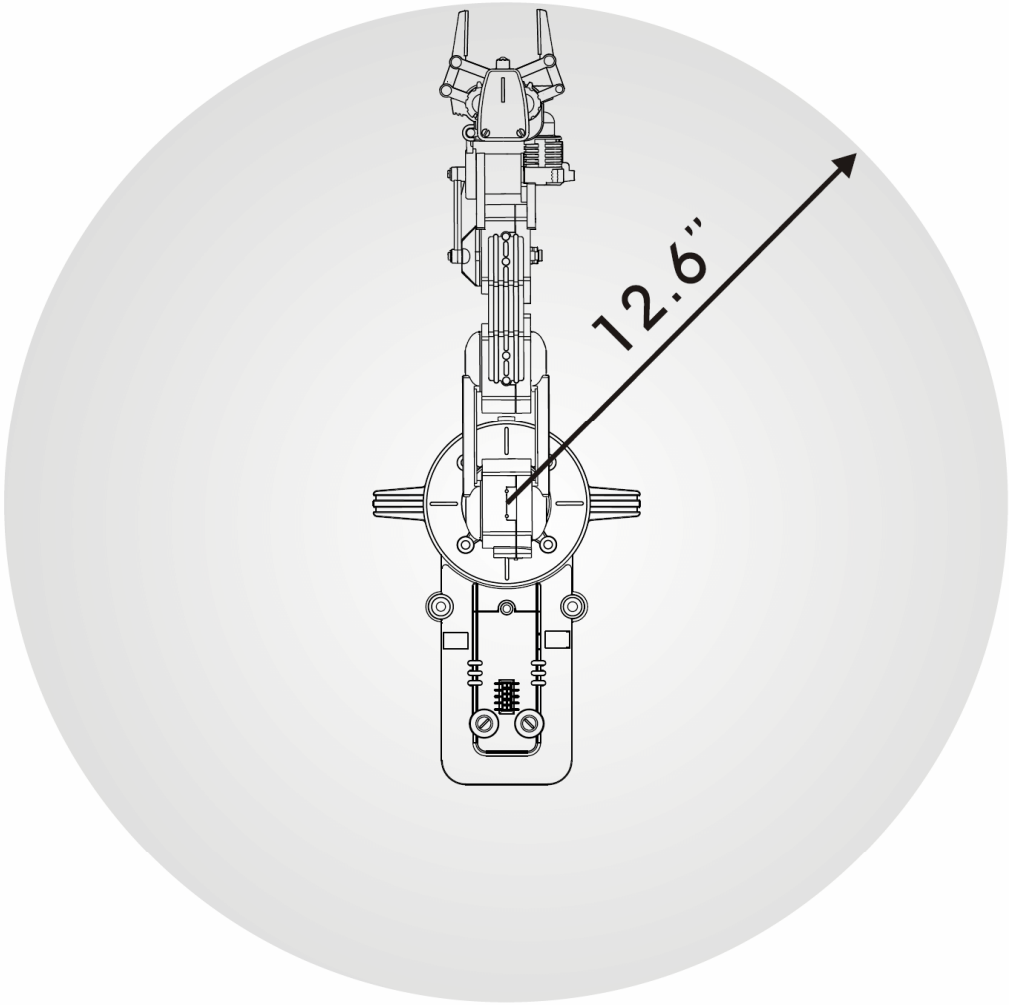
Please refer to pages 38 ~ 59.

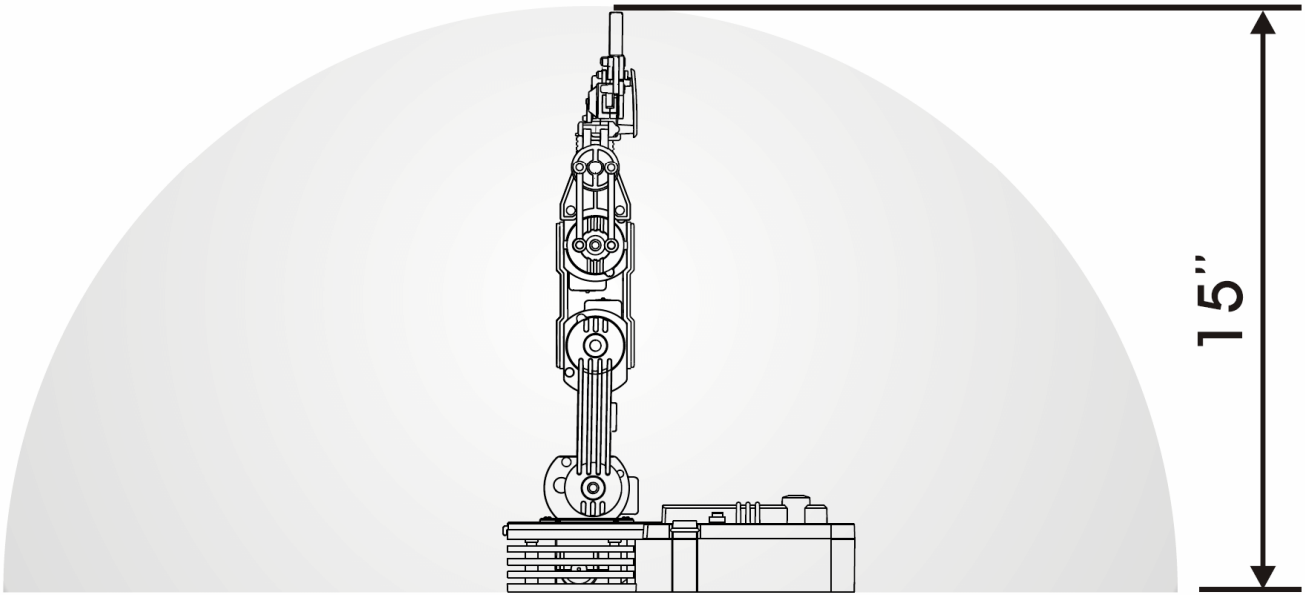
8 How It Works

1. Push any lever on the wired controller to start operation.
2. The 12 movements of the robotic arm are shown below:



3. Working area:





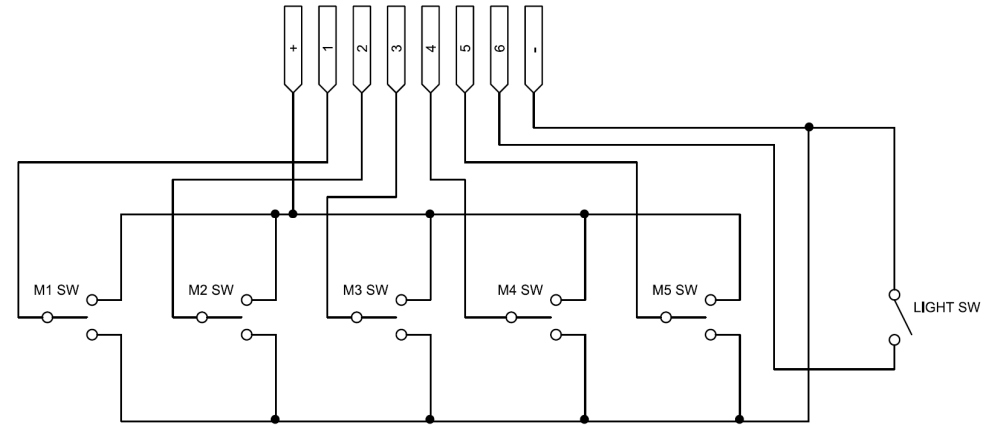
4. All the gearboxes are equipped with safety devices which will kick in as soon as the maximum movement range has been reached.
5. To extend the life of the gearboxes, release the control buttons as soon as the maximum movement range has been reached.

9 Troubleshooting

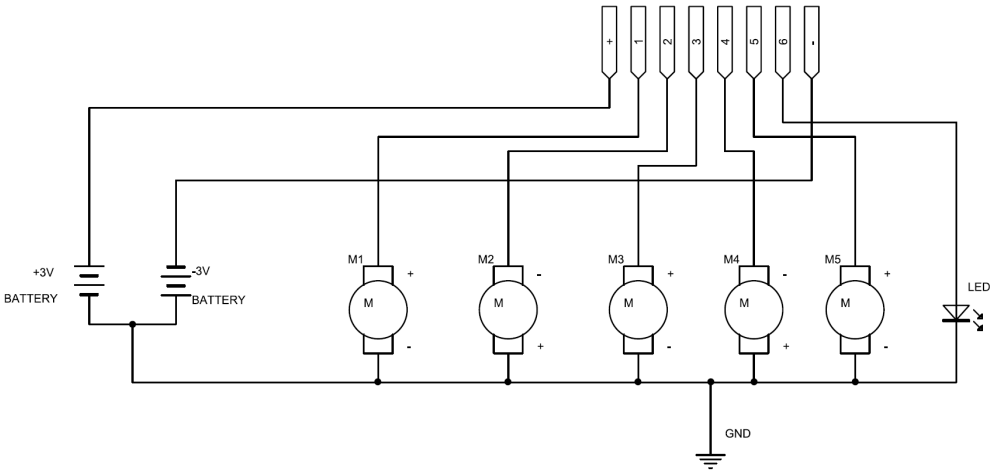
1. Ensure all wirings are correct. Please refer to 41 44 on pages 56 ~ 57.
2. If the robotic arm does not respond to any of the controls, check the BATTERY and GND connectors. Also check if the batteries are correctly inserted. Please refer to 19 on page 46.
3. If the robotic arm moves in the opposite direction of the desired control, check if wirings M1, M2, M3, M4 and M5 have not been inversed. Please refer to 41 44 on pages 56 ~ 57.
4. If the searchlight does not function, check if the L connector is correctly wired. Please refer to 41 44 on pages 56 ~ 57.

10 Circuit Diagram

Wired Control Box



Robotic Arm



11 Safety Prescriptions

- Removal and replacement of batteries should be carried out by an adult or under adult supervision.
- Do not recharge non-rechargeable batteries. Remove exhausted batteries from the product to avoid leakage.
- Do not mix old and new batteries or batteries of different types.
- The use of rechargeable batteries or mercury-oxide batteries is not recommended for this product.
- Avoid short-circuiting the contacts.

Use this device with original accessories only. Velleman nv cannot be held responsible in the event of damage or injury resulted from (incorrect) use of this device.

For more info concerning this product, please visit our website www.velleman.eu.
The information in this manual is subject to change without prior notice.

KSR10 – ROBOTARM

1 Inleiding

Referencia Electrónica Embajadores: KV6A010

Aan alle ingezetenen van de Europese Unie
Belangrijke milieu-informatie betreffende dit product

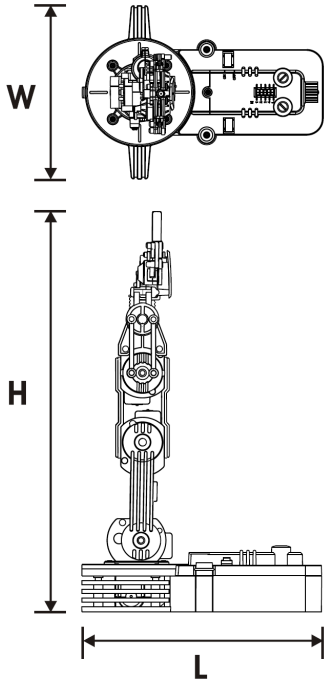
Dit symbool op het toestel of de verpakking geeft aan dat, als het na zijn levenscyclus wordt weggeworpen, dit toestel schade kan toebrengen aan het milieu. Gooi dit toestel (en eventuele batterijen) niet bij het gewone huishoudelijke afval; het moet bij een gespecialiseerd bedrijf terechtkomen voor recyclage. U moet dit toestel naar uw verdeler of naar een lokaal recyclagepunt brengen. Respecteer de plaatselijke milieuwetgeving.
Hebt u vragen, contacteer dan de plaatselijke autoriteiten inzake verwijdering.

Dank u voor uw aankoop! Lees deze handleiding grondig voor u het toestel in gebruik neemt. Werd het toestel beschadigd tijdens het transport, installeer het dan niet en raadpleeg uw dealer.

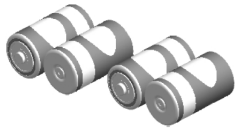
Stap de wereld van de robotica binnen dankzij deze robotarm met vijf motors en vijf gewrichten. De arm wordt bediend vanaf een besturingseenheid en is uitgerust met een roterende basis, beweegbare elleboog en pols, en een functionele hand. De ingebouwde schijnwerper is handig bij gebruik in het donker.

Specificaties

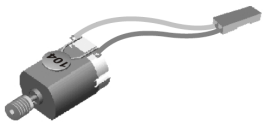
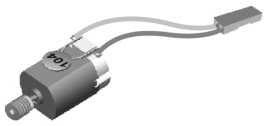
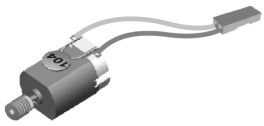
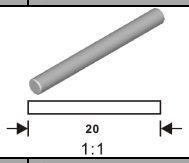
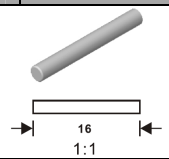
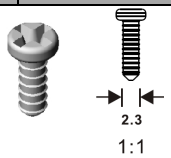
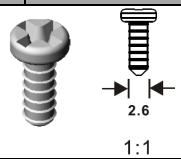
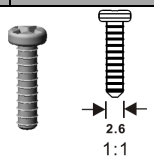
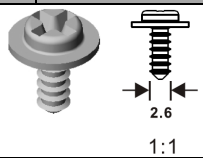
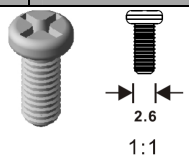
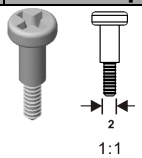
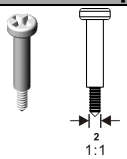
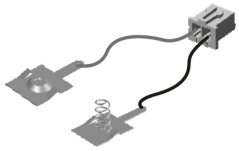
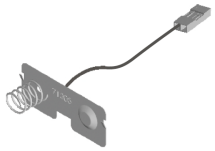
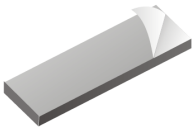
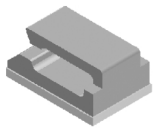
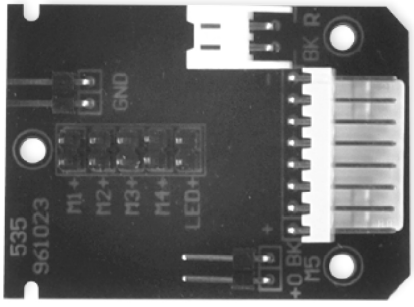
Max. hefvermogen	100 g
Voeding	4 x D-batterijen (ordercode **LR20C**, niet meegelev.)
Reikhoogte	38 cm
Gewicht	660 g
Afmetingen	22,85 cm (L) x 16 cm (W) x 38 cm (H)



2 Benodigdheden

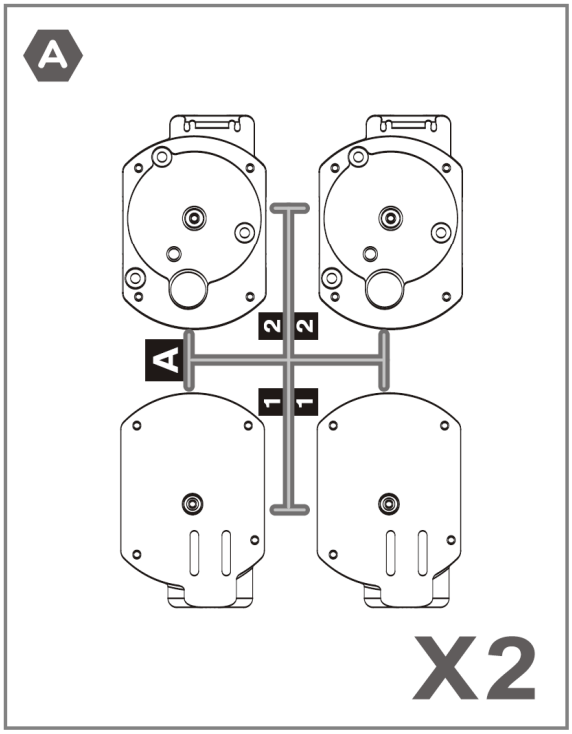
Ronde bektang	Zijkniptang	Schroevendraaier	D-batterij x 4
			

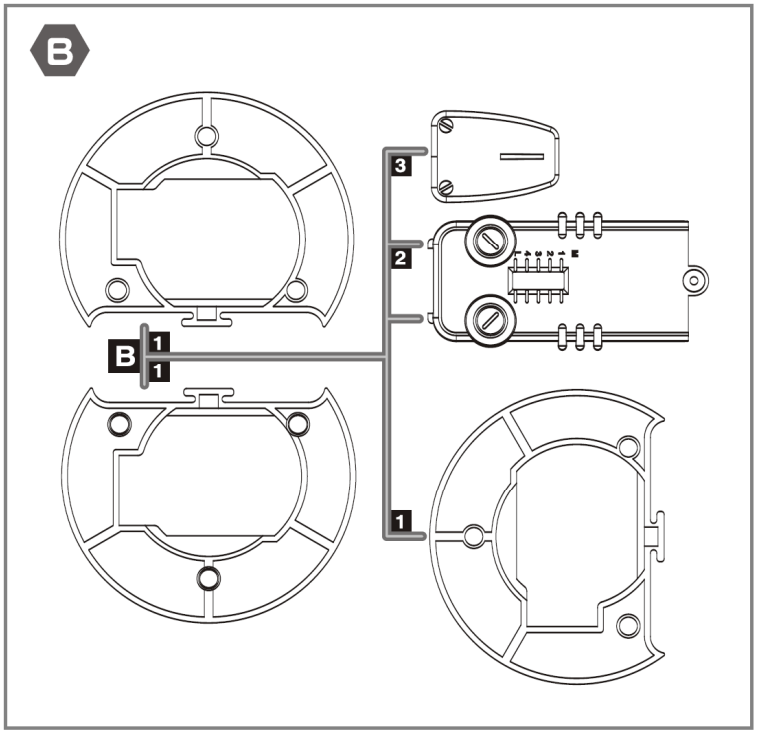
3 Mechanische Onderdelen

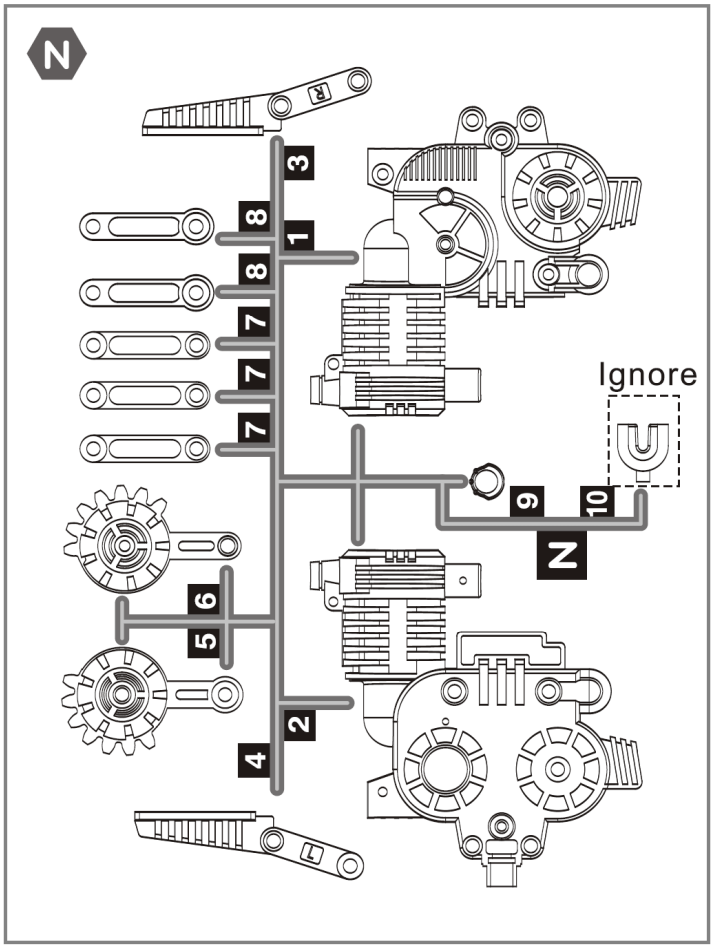
P1	Motor (M4.M5) *	P2	Motor (M2.M3) *	P3	Motor (M1) *
	Hoev. 2		Hoev. 2		Hoev. 1
P4	**Tandwiel 32/10T (grijs)**	**P5**	**Tandwiel 32/10T (bruin)**	**P6**	**Tandwiel 32T (blauw)**
	Hoev. 10		Hoev. 5		Hoev. 5
P7	**Tandwiel 10T (zwart)**	**P8**	**Tandwiel 10T (wit)**	**P9**	**Ronde as**
	Hoev. 4		Hoev. 1		Hoev. 9 (2x20)
P10	**Ronde as**	**P11**	**Schroef**	**P12**	**Schroef**
	Hoev. 1 (2x16)		Hoev. 5 (2.3x7)		Hoev. 11 (2.6x6)
P13	**Schroef**	**P14**	**Schroef**	**P15**	**Schroef**
	Hoev. 19 (2.6x10)		Hoev. 12 (2.6x6)		Hoev. 10 (2.6x6)
P16	**Zelftappende schroef**	**P17**	**Zelftappende schroef**	**P18**	**Moer**
	Hoev. 4 (3x11)		Hoev. 3 (3x16)		Hoev. 16
P19	**Afdichtingring**	**P20**	**Batterijterminal**	**P21**	**Batterijterminal**
	Hoev. 3		Hoev. 1		Hoev. 1
P22	**Led met aansluiting**	**P23**	**Spons (zwart)**	**P24**	**Clip**
	Hoev. 1		Hoev. 2		Hoev. 3
P25	**Printplaat**				
	Hoev. 1				

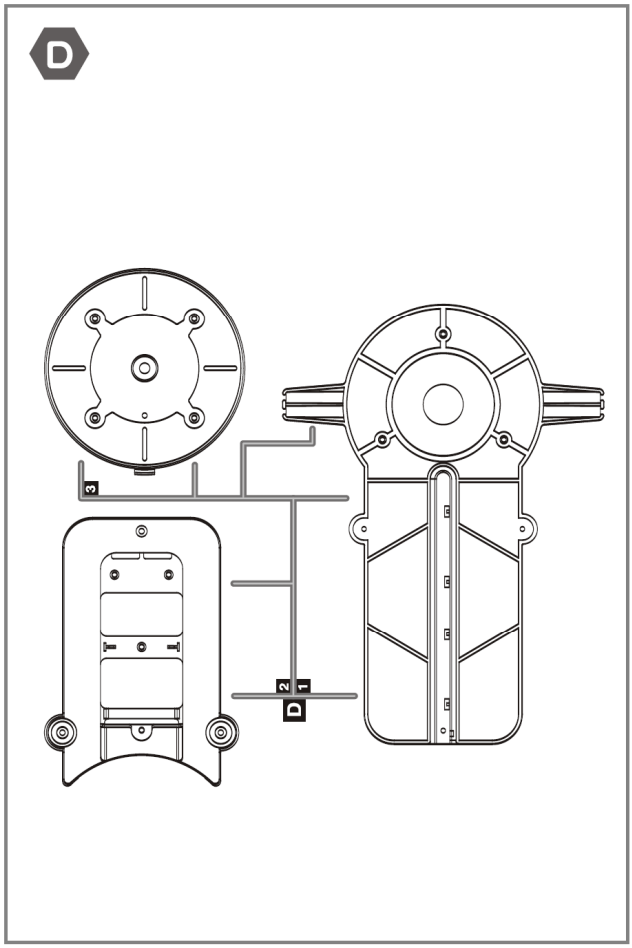
*** P1 = oranje + zwart; P2 = blauw + zwart; P3 = geel + zwart**

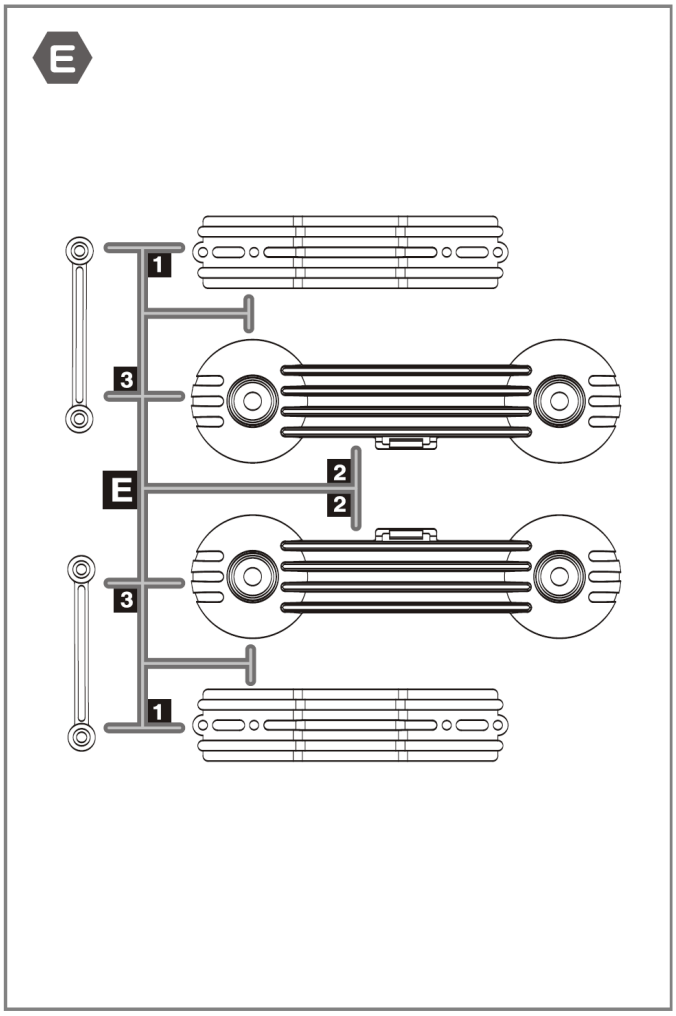
4 Plastic onderdelen

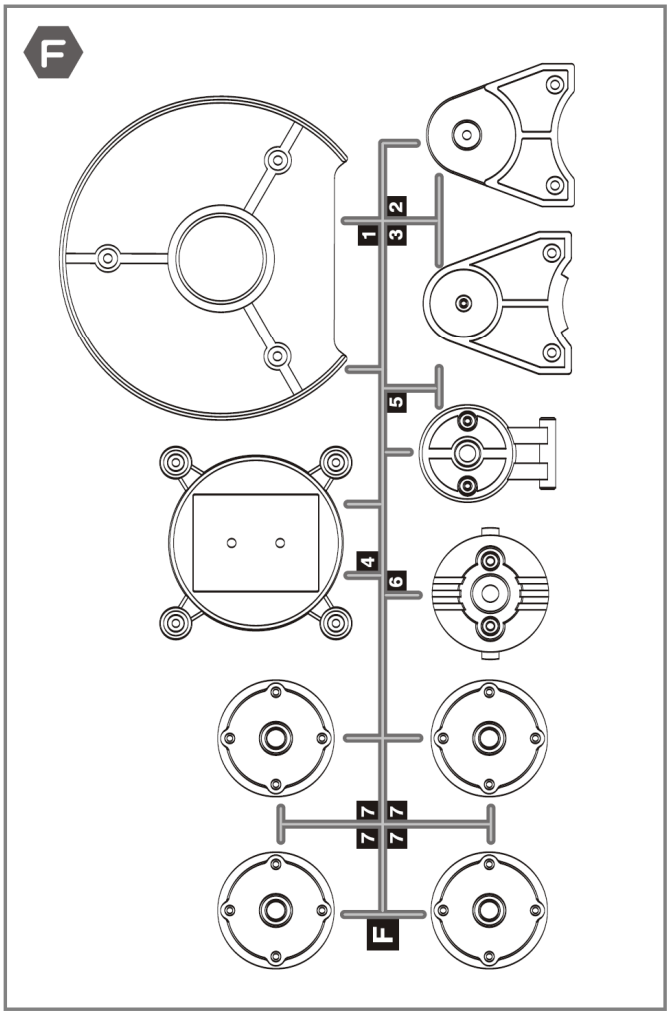




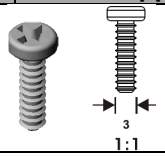


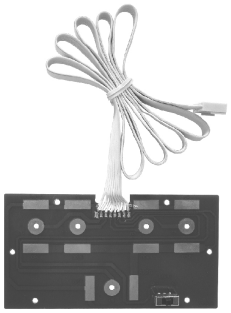




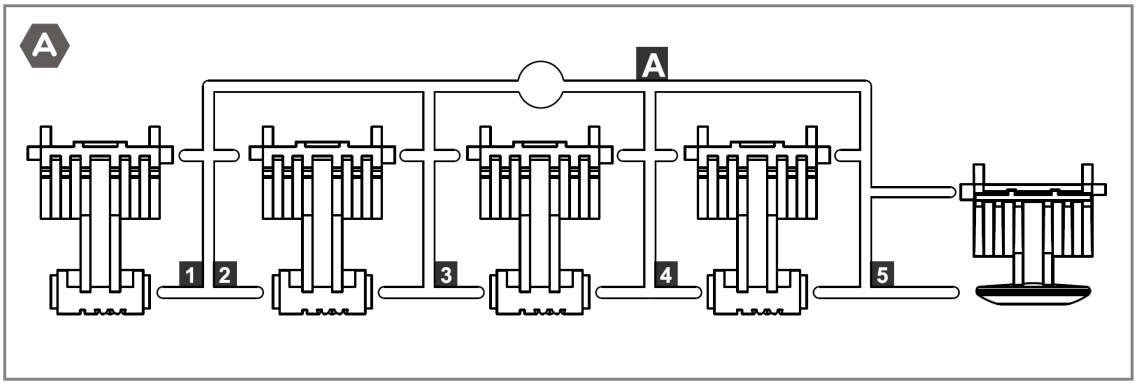


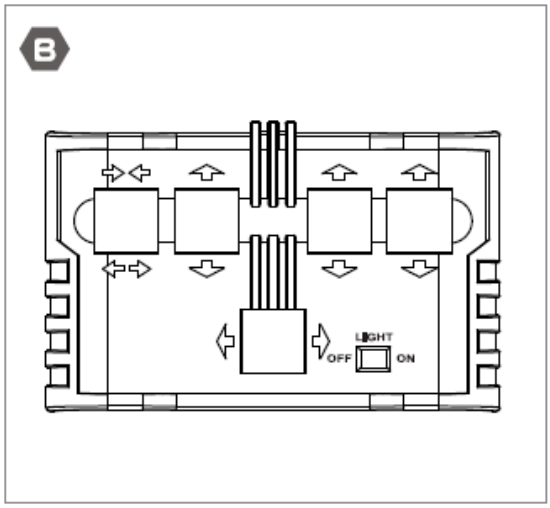
5 Onderdelen afstandsbediening

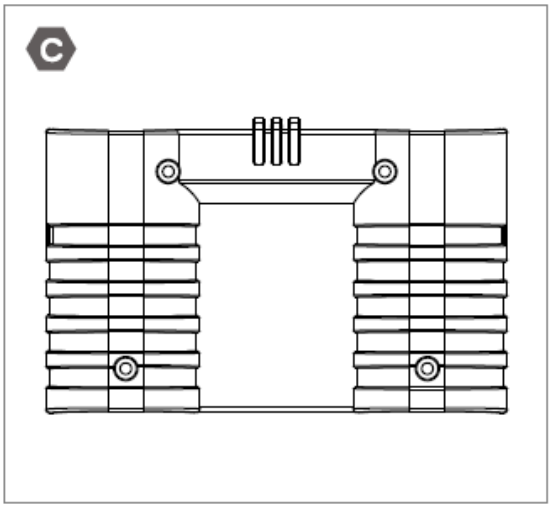
P1	Metalen plaat	Hoev.
		5
P2	**Zelftappende schroef**	Hoev.
		9 (3x10)

P3	Printplaat	Hoev.
		1

6 Plastic onderdelen afstandsbediening





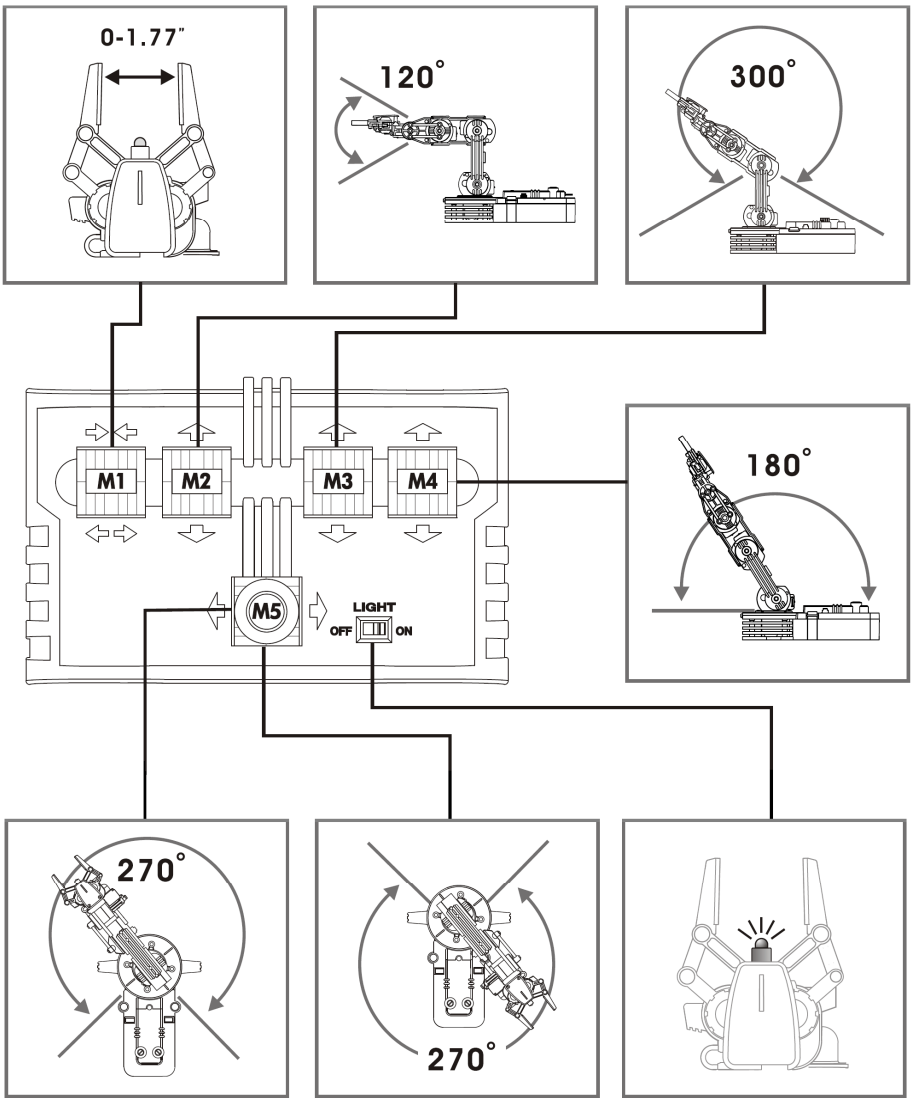


7 Assemblage

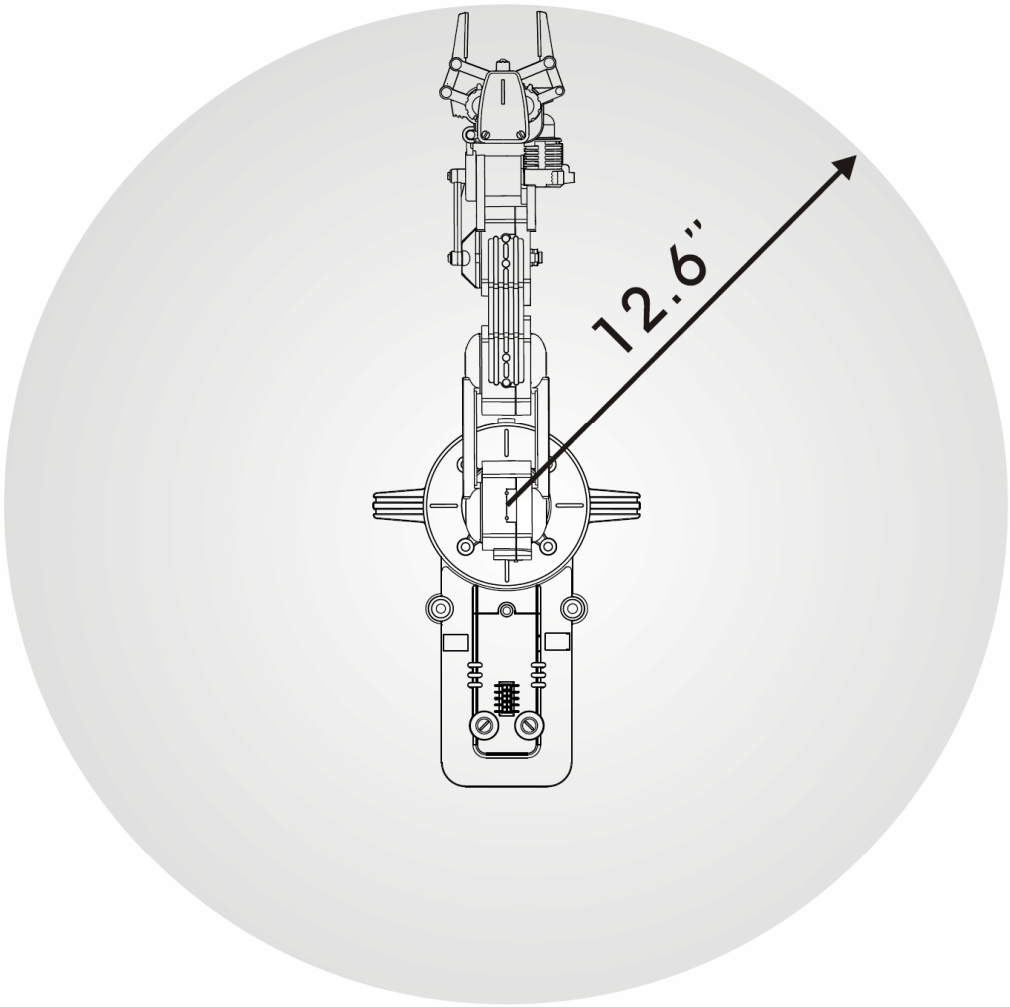
Zie pagina's 38 ~ 59.

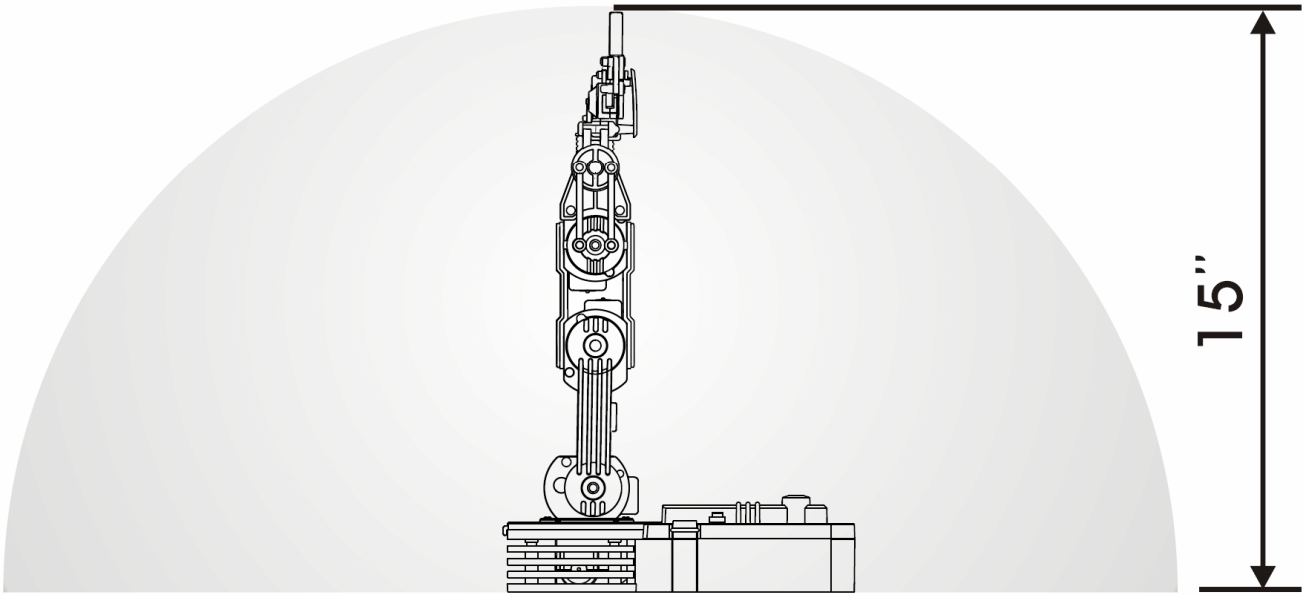
8 Hoe stuurt u de robotarm

1. Bedien een hendel om de robotarm te starten.
2. De 12 bewegingen van de robotarm staan hieronder afgebeeld:



3. Werkbereik:





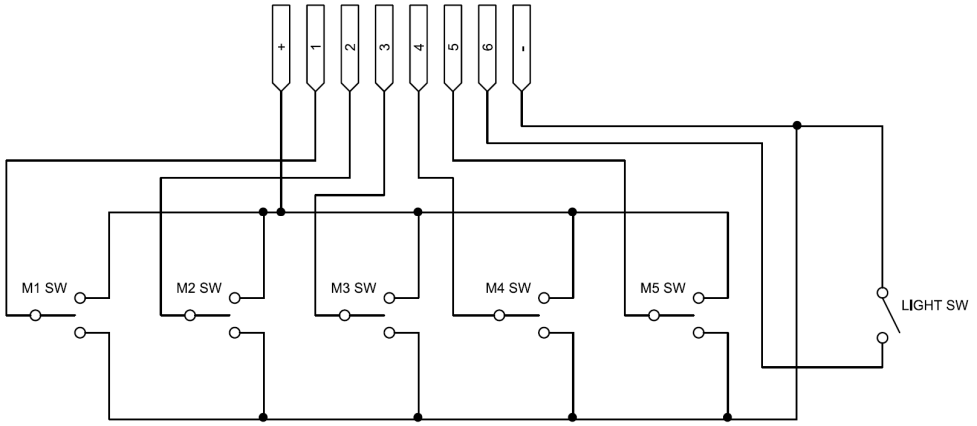
4. Elke tandwielkast is uitgerust met een veiligheidssysteem dat wordt ingeschakeld als de maximale beweging werd bereikt.
5. Om de levensduur van deze tandwielkasten te verlengen, laat u best de hendel los van zodra de maximale beweging werd bereikt.

9 Problemen en oplossingen

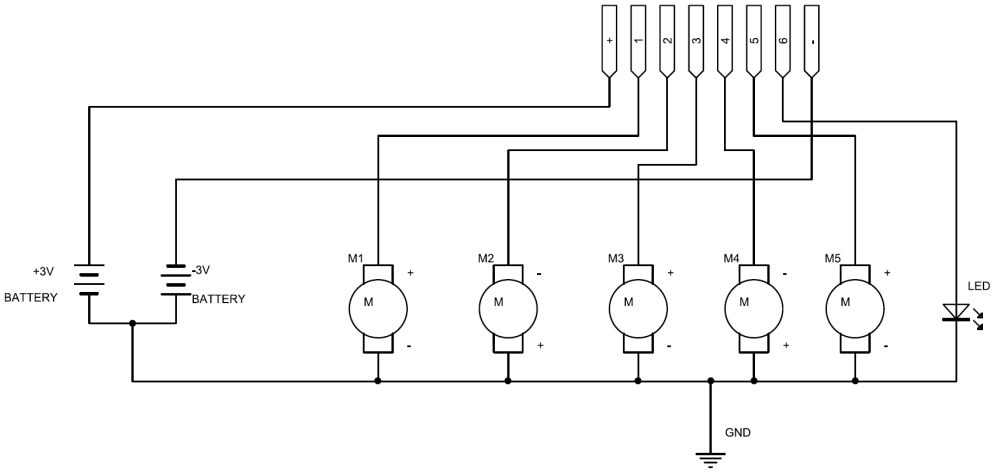
1. Zorg voor een correcte elektrische aansluiting. Raadpleeg 41 44 op pagina's 56 ~ 57.
2. Controleer de BATTERIJ- en de GND-aansluitingen indien de robotarm niet op de bedieningen reageert. Controleer eveneens of de batterij correct zijn geplaatst. Raadpleeg 19 op pagina 46.
3. Een tegenovergestelde beweging bij een bediening wijst vaak op een verkeerde aansluiting. Controleer aansluitingen M1, M2, M3, M4 en M5 op inversie. Raadpleeg 41 44 op pagina's 56 ~ 57.
4. Controleer of de L-aansluiting correct werd uitgevoerd indien het zoeklicht niet functioneert. Raadpleeg 41 44 op pagina's 56 ~ 57.

10 Circuitschema

Afstandsbediening



Robotarm



11 Veiligheidsinstructies

- Laat het verwijderen en het vervagen van de batterijen aan een volwassen persoon over.
- Herlaad geen niet-herlaadbare batterijen. Verwijder zwakke batterijen om lekken te verwijden.
- Gebruik geen oude en nieuwe batterijen of batterijen van een verschillend type door elkaar.
- Het gebruik van herlaadbare of kwikbatterijen is niet aan te bevelen.
- Vermijd kortsluiting van de contacten.

Gebruik dit toestel enkel met originele accessoires. Velleman nv is niet aansprakelijk voor schade of kwetsuren bij (verkeerd) gebruik van dit toestel.

Voor meer informatie omtrent dit product, zie www.velleman.eu.
De informatie in deze handleiding kan te allen tijde worden gewijzigd zonder voorafgaande kennisgeving.

KSR10 – BRAS ROBOTIQUE

1 Introduction

Referencia Electrónica Embajadores: KV6A010

Aux résidents de l'Union européenne
Des informations environnementales importantes concernant ce produit

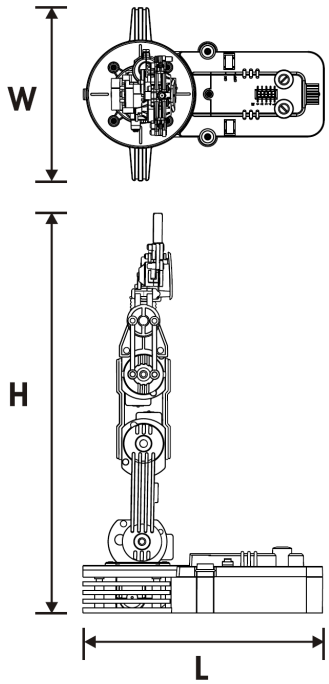
Ce symbole sur l'appareil ou l'emballage indique que l'élimination d'un appareil en fin de vie peut polluer l'environnement. Ne pas jeter un appareil électrique ou électronique (et des piles éventuelles) parmi les déchets municipaux non sujets au tri sélectif ; une déchèterie traitera l'appareil en question. Renvoyer les équipements usagés à votre fournisseur ou à un service de recyclage local. Il convient de respecter la réglementation locale relative à la protection de l'environnement.
En cas de questions, contacter les autorités locales pour élimination.

Nous vous remercions de votre achat ! Lire la présente notice attentivement avant la mise en service de l'appareil. Si l'appareil a été endommagé pendant le transport, ne pas l'installer et consulter votre revendeur.

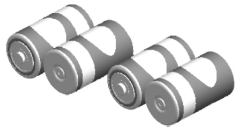
Découvrez le monde de la robotique grâce à ce bras de manipulation à cinq moteurs et cinq articulations. Le bras est piloté à partir d'une unité de contrôle à cinq commandes et intègre un socle rotatif, coude et poignet articulés, et un grappin fonctionnel. Le projecteur s'avère bien pratique pour une manipulation dans l'obscurité.

Spécifications

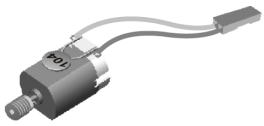
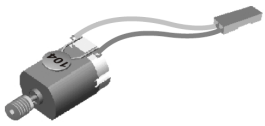
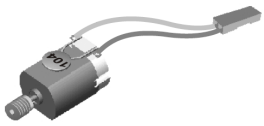
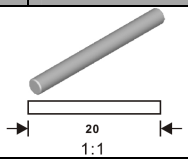
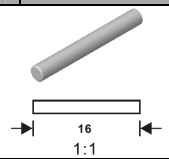
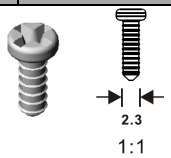
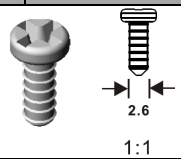
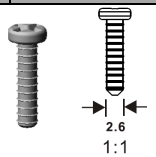
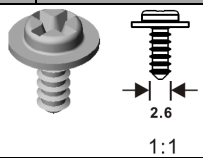
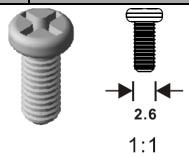
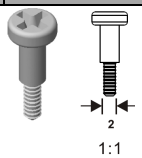
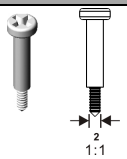
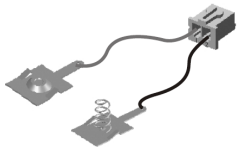
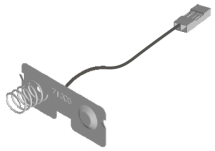
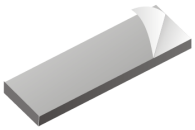
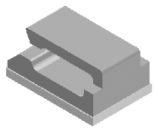
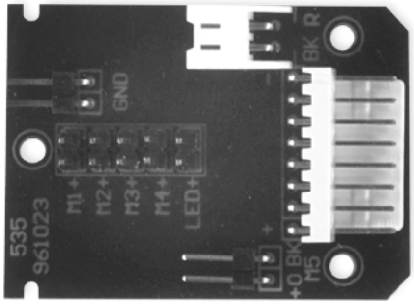
Puissance de levage max.	100 g
Alimentation	4 piles type R20 (référence **LR20C**, non incl.)
Hauteur max. à bras déployé	38 cm
Poids	660 g
Dimensions	22,85 cm (L) x 16 cm (W) x 38 cm (H)



2 Outillage nécessaire

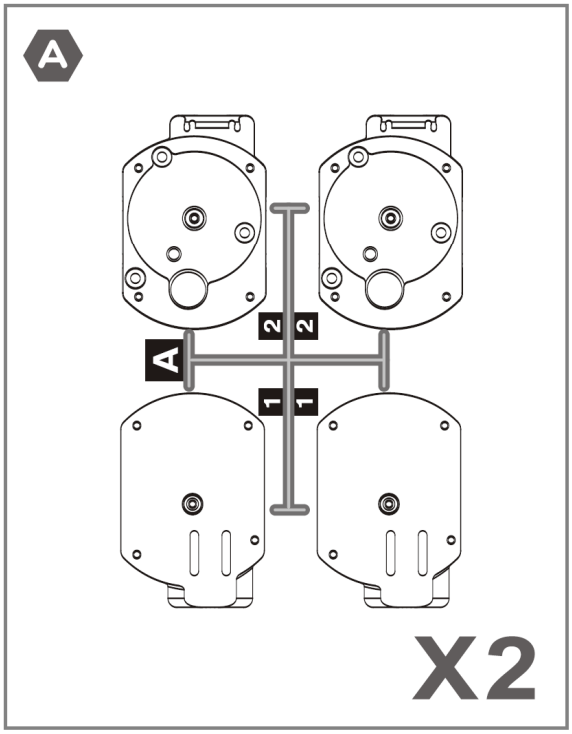
Pince plate	Pince coupante	Tournevis	4 x pile type R20 (D)
			

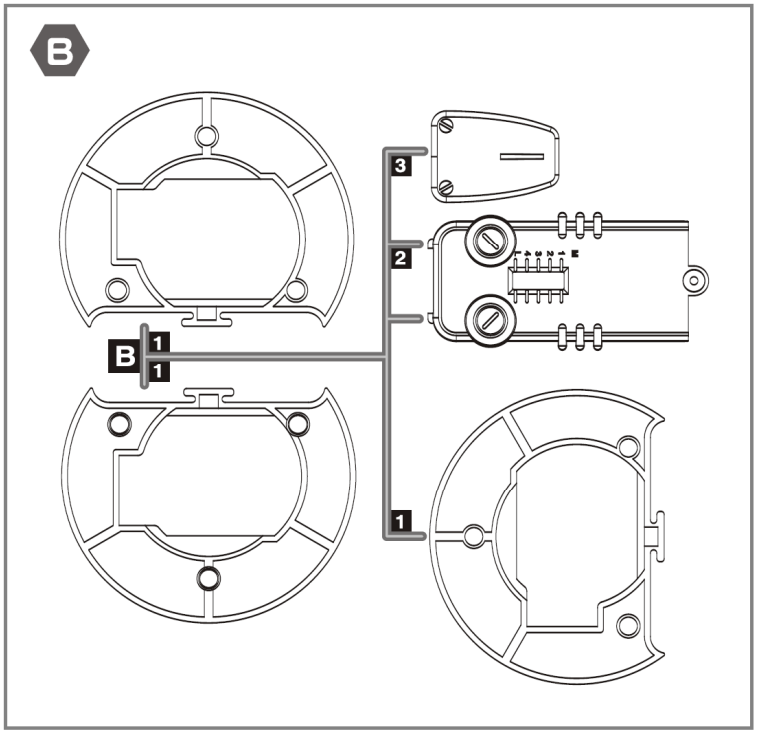
3 Pièces mécaniques

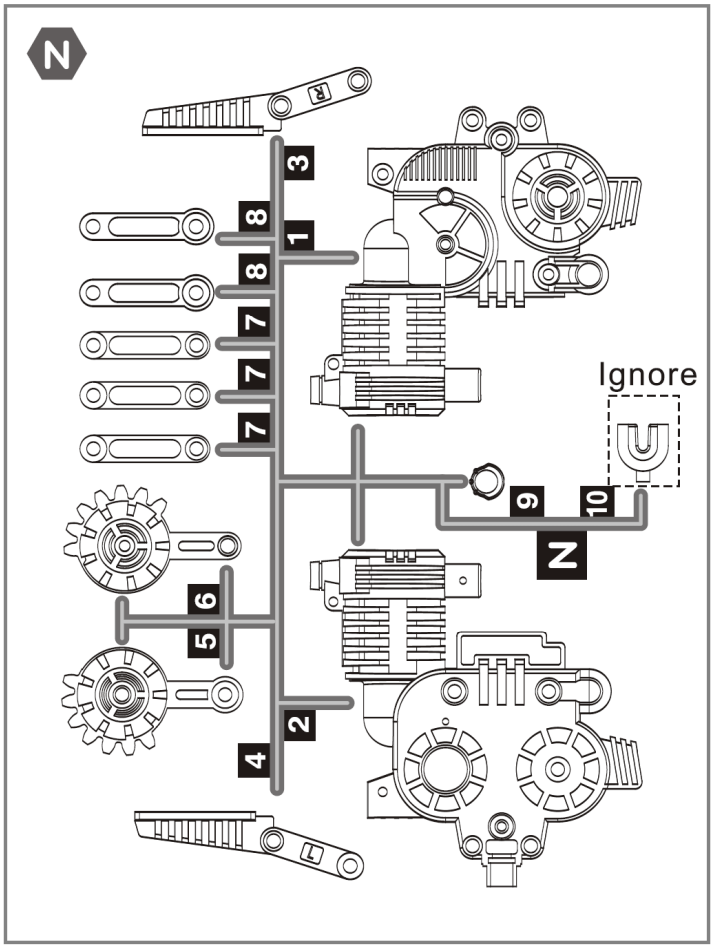
P1	Moteur (M4.M5) *	P2	Moteur (M2.M3) *	P3	Moteur (M1) *
	Qté: 2		Qté: 2		Qté: 1
P4	**Pignon 32/10T (gris)**	**P5**	**Pignon 32/10T (marron)**	**P6**	**Pignon 32T (bleu)**
	Qté: 10		Qté: 5		Qté: 5
P7	**Pignon de sortie 10T (noir)**	**P8**	**Pignon de sortie 10T (blanc)**	**P9**	**Essieu**
	Qté: 4		Qté: 1		Qté: 9 (2x20)
P10	**Essieu**	**P11**	**Vis taraudeuse**	**P12**	**Vis taraudeuse**
	Qté: 1 (2x16)		Qté: 5 (2.3x7)		Qté: 11 (2.6x6)
P13	**Vis taraudeuse**	**P14**	**Vis taraudeuse**	**P15**	**Vis**
	Qté: 19 (2.6x10)		Qté: 12 (2.6x6)		Qté: 10 (2.6x6)
P16	**Vis taraudeuse**	**P17**	**Vis taraudeuse**	**P18**	**Boulon**
	Qté: 4 (3x11)		Qté: 3 (3x16)		Qté: 16
P19	**Rondelle**	**P20**	**Borne pour pile**	**P21**	**Borne pour pile**
	Qté: 3		Qté: 1		Qté: 1
P22	**LED câblée**	**P23**	**Éponge (noir)**	**P24**	**Clips**
	Qté: 1		Qté: 2		Qté: 3
P25	**CI**				
	Qté: 1				

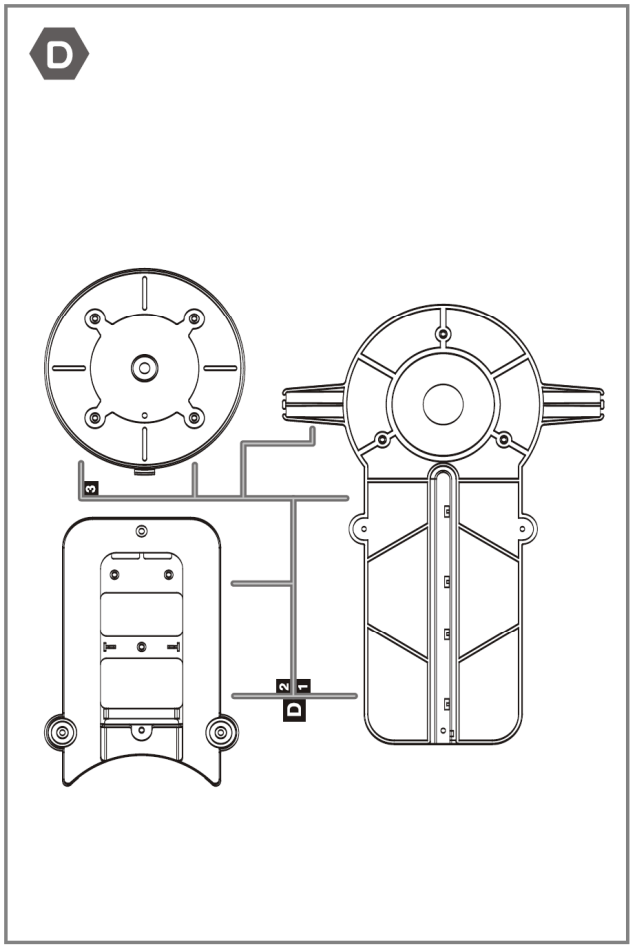
*** P1 = orange + noir ; P2 = bleu + noir ; P3 = jaune + noir**

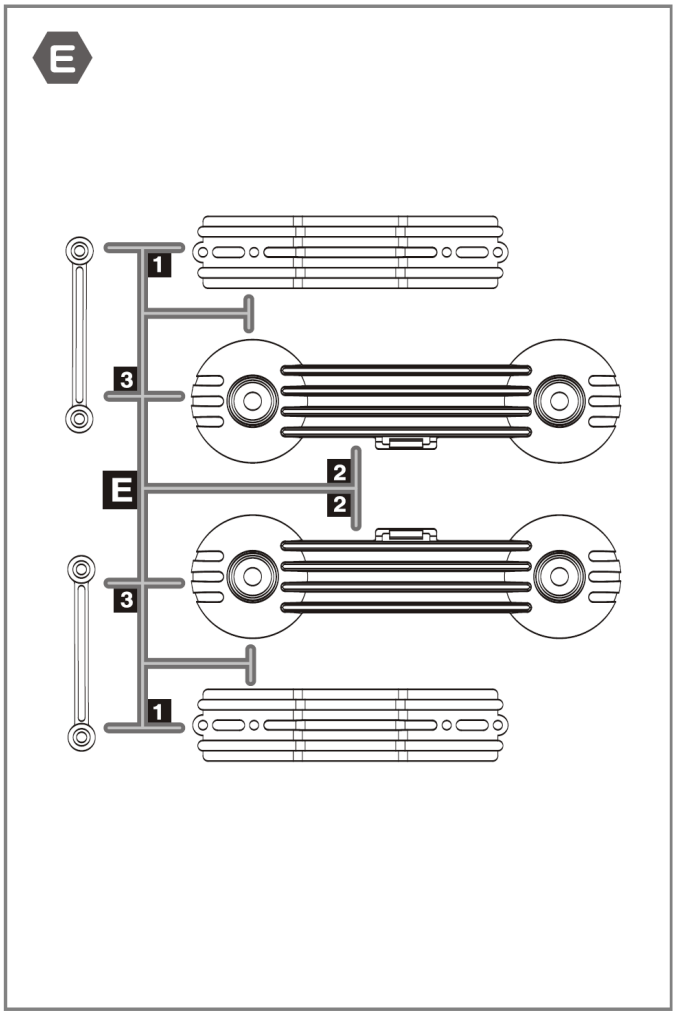
4 Pièces en plastique

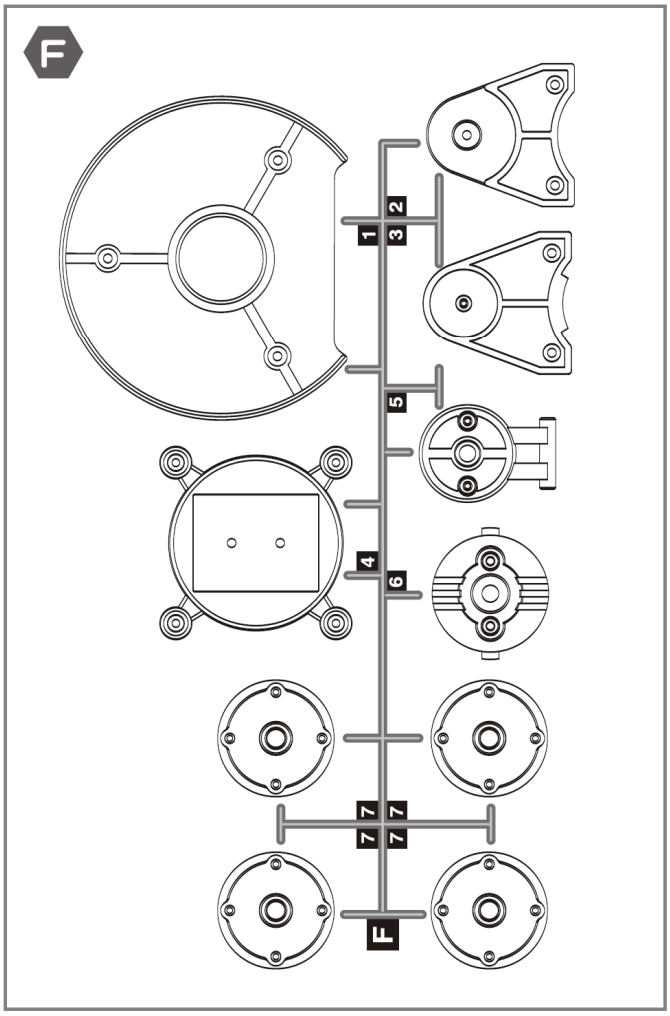




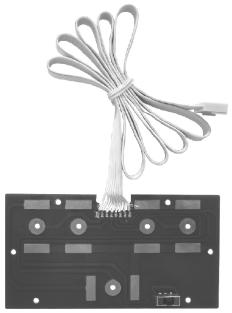
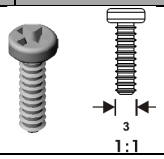




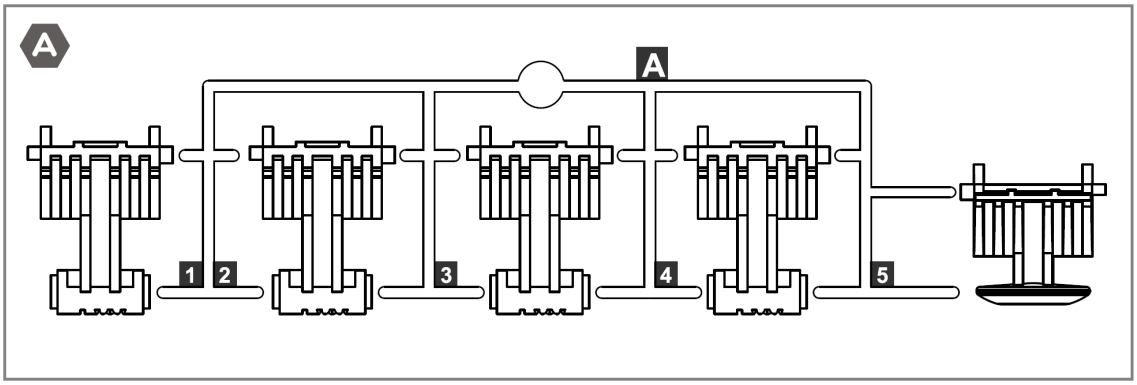


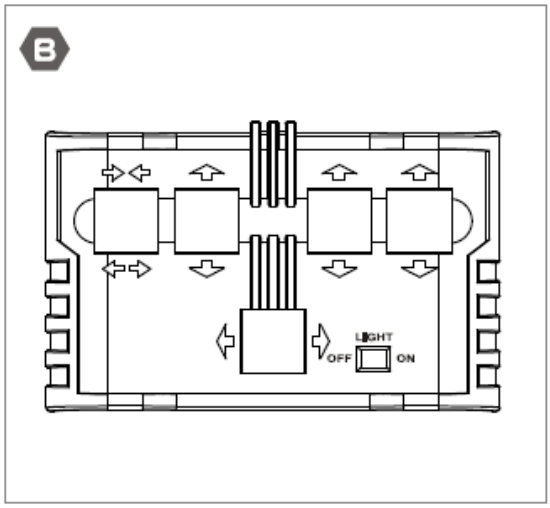


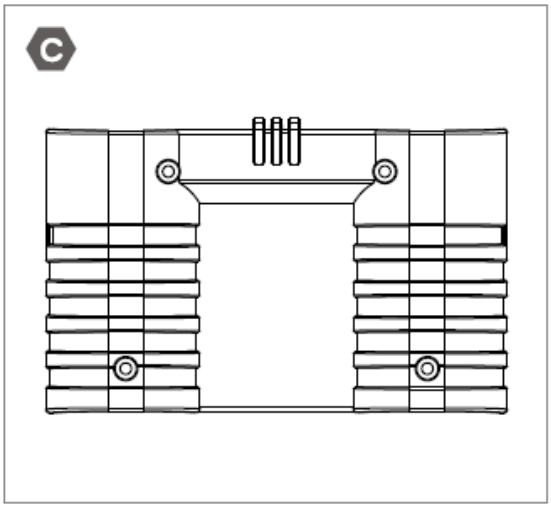
5 Pièces mécaniques unité de contrôle

P1	Plaque métallique	P3	PCB
	Qté 5		Qté 1
P2	**Vis taraudeuse**		
	Qté 9 (3x10)		

6 Pièces en plastique unité de contrôle





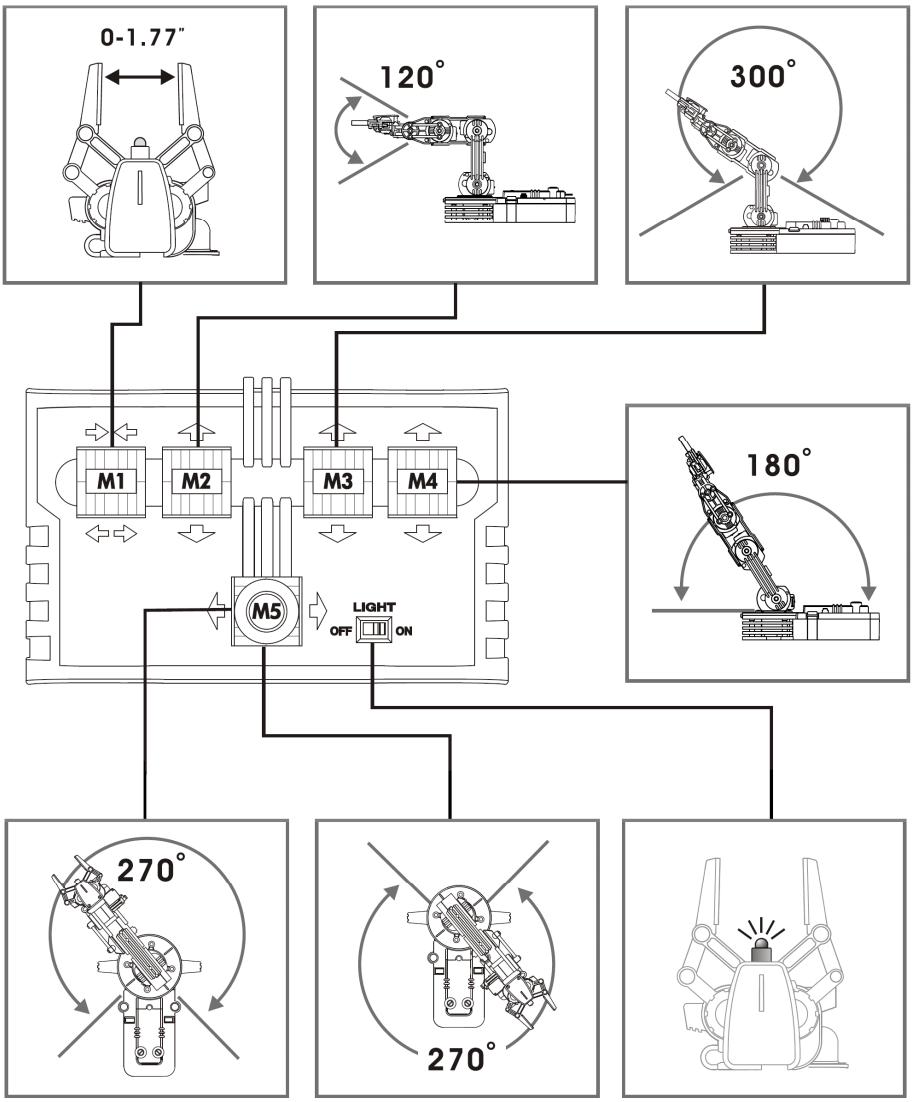


7 Assemblage

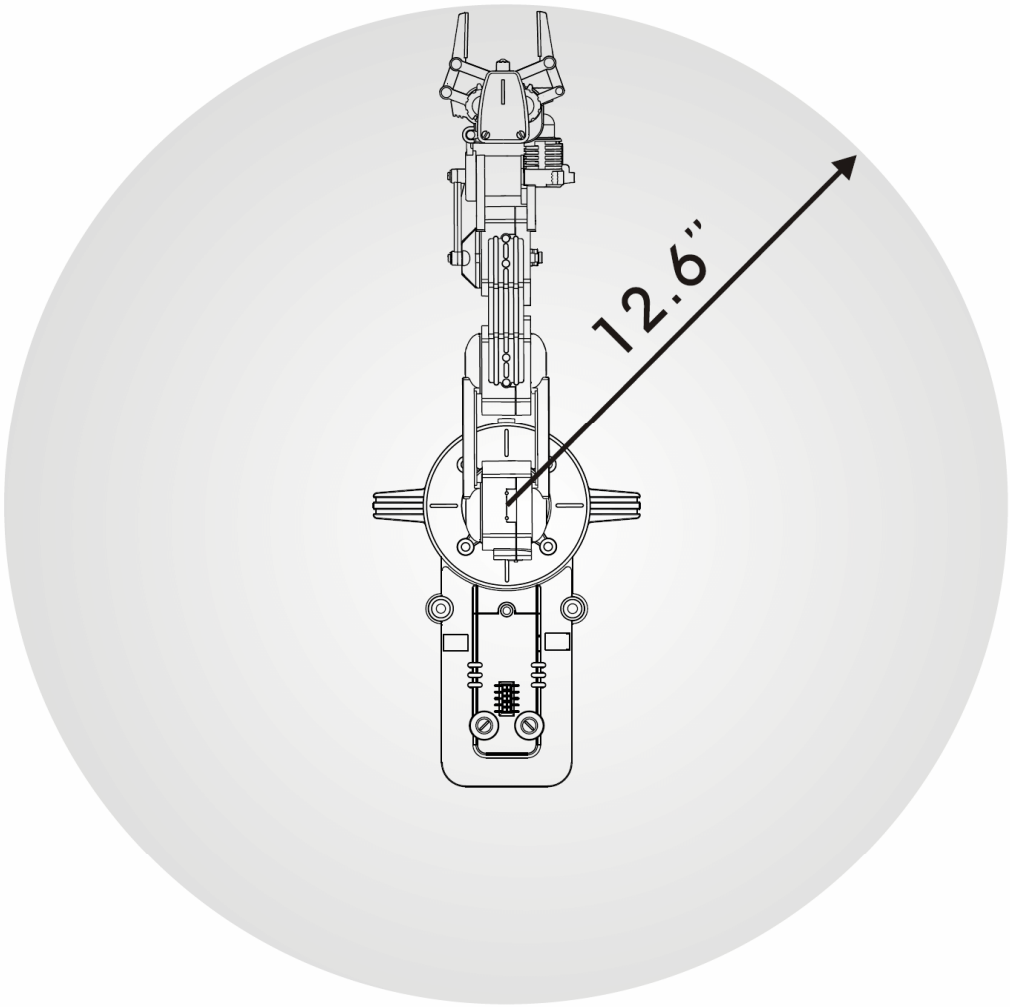
Voir les pages 38 ~ 59.

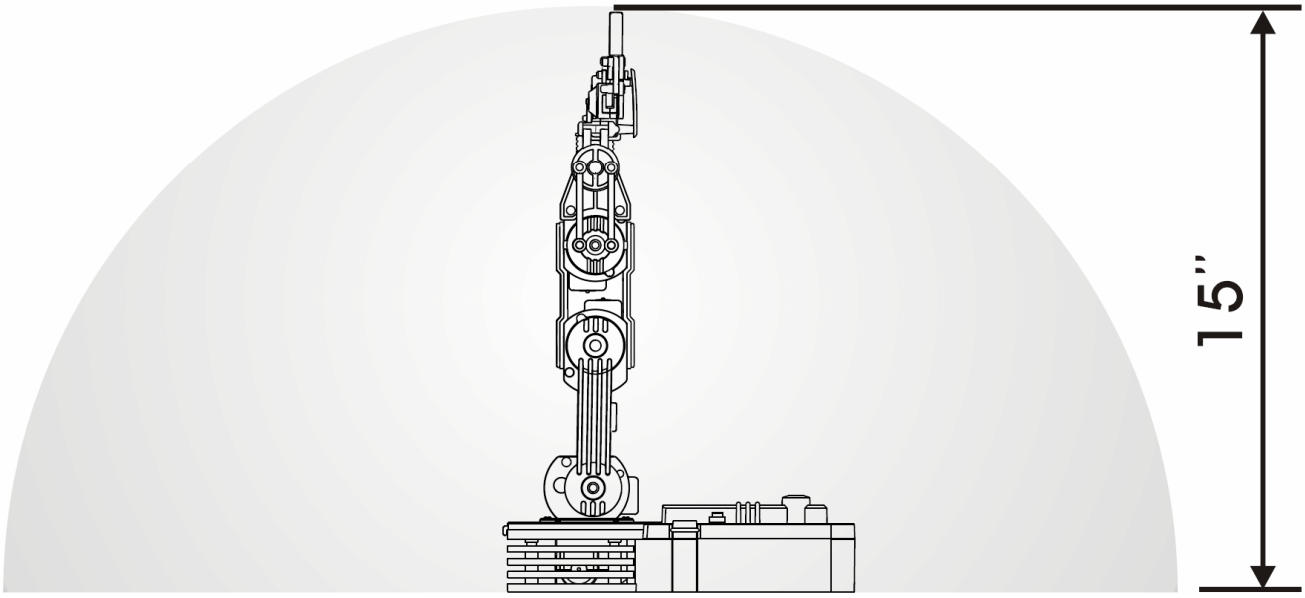
8 Comment ça marche

1. Actionner une commande sur l'unité de contrôle pour enclencher le bras.
2. Les 12 mouvements du bras sont décris ci-dessous :



3. Portée du bras :





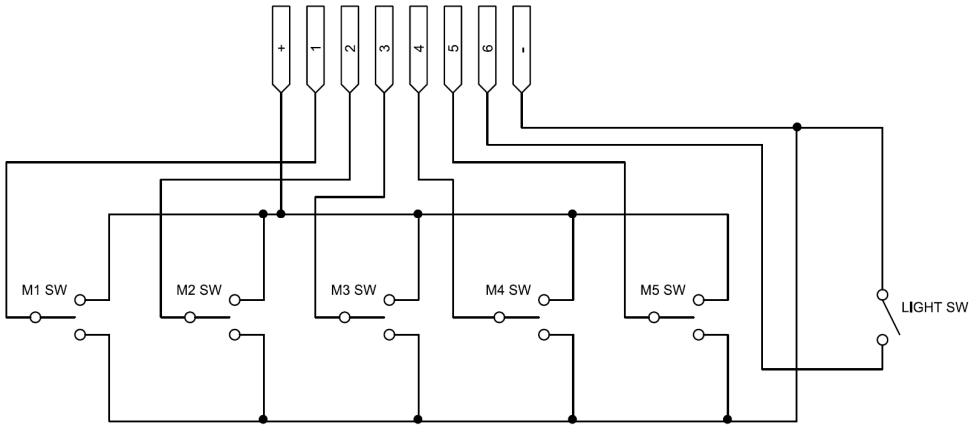
4. Chaque train d'engrenage intègre un dispositif de sécurité qui s'enclenche dès qu'un mouvement a atteint sa portée maximale.
5. Relâcher la commande dès qu'un mouvement a atteint sa portée maximale afin de prolonger la durée de vie des trains d'engrenage.

9 En cas de problèmes

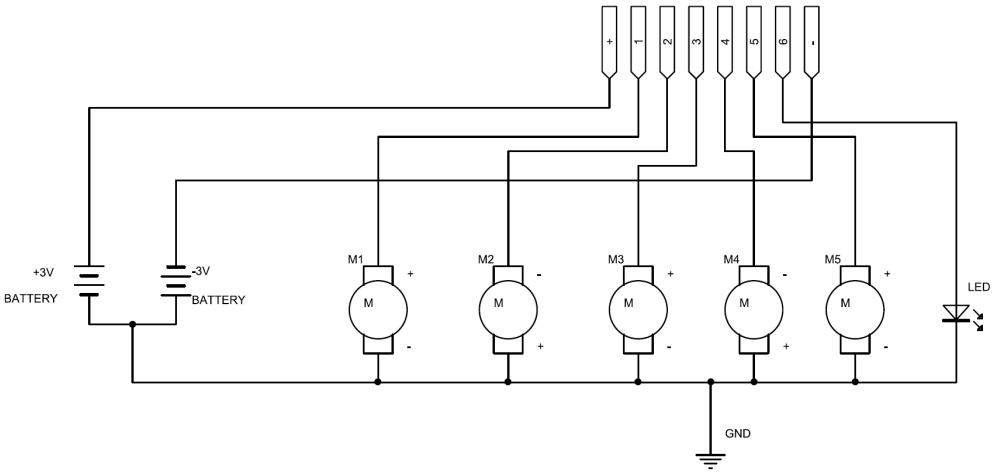
1. Veiller à dûment raccorder le circuit. Consulter 41 44 à la page 56 ~ 57.
2. Vérifier les raccordements BATTERY et GND lorsque le bras ne répond pas aux commandes. Vérifier également si les piles ont été insérées de manière correcte. Consulter 19 à la page 46.
3. Vérifier une inversion des raccordements M1, M2, M3, M4 et M5 lorsque le bras réagit inversement à la commande souhaitée. Consulter 41 44 à la page 56 ~ 57.
4. Vérifier le raccordement L lorsque le projecteur ne fonctionne pas. Consulter 41 44 à la page 56 ~ 57.

10 Schéma électrique

Unité de contrôle



Bras robotique



11 Prescriptions de sécurité

- Confier le remplacement et l'insertion des piles à une personne adulte.
- Ne pas recharger des piles non rechargeables. Retirer des piles usagées afin d'éviter l'écoulement.
- Ne pas utiliser simultanément des piles neuves et usagées ou des piles de type différent.
- L'utilisation de piles au mercure ou de piles rechargeables est déconseillée.
- Éviter de court-circuiter les contacts.

N'employer cet appareil qu'avec des accessoires d'origine. SA Velleman ne sera aucunement responsable de dommages ou lésions survenus à un usage (incorrect) de cet appareil.

Pour plus d'information concernant cet article, visitez notre site web www.velleman.eu.
Toutes les informations présentées dans cette notice peuvent être modifiées sans notification préalable.

KSR10 – BRAZO ROBÓTICO

1 Introducción

Referencia Electrónica Embajadores: KV6A010

A los ciudadanos de la Unión Europea
Importantes informaciones sobre el medio ambiente concerniente a este producto

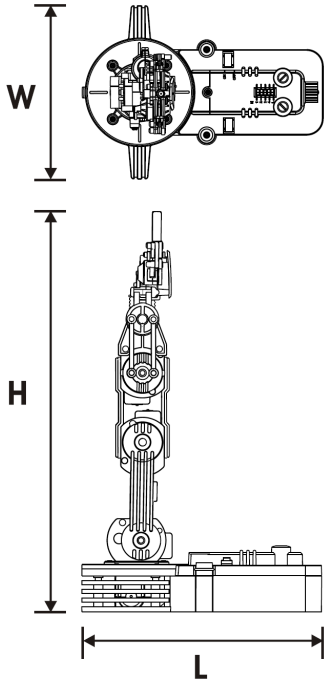
Este símbolo en este aparato o el embalaje indica que, si tira las muestras inservibles, podrían dañar el medio ambiente. No tire este aparato (ni las pilas, si las hubiera) en la basura doméstica; debe ir a una empresa especializada en reciclaje. Devuelva este aparato a su distribuidor o a la unidad de reciclaje local. Respete las leyes locales en relación con el medio ambiente.
Si tiene dudas, contacte con las autoridades locales para residuos.

¡Gracias por haber comprado el **KSR10**! Lea atentamente las instrucciones del manual antes de usarlo. Si el aparato ha sufrido algún daño en el transporte no lo instale y póngase en contacto con su distribuidor.

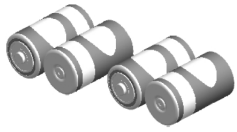
Descubra el mundo de la robótica gracias al brazo con cinco motores y cinco articulaciones. El brazo está manipulado por unidad de control y está equipado con base giratoria, codo y muñeca móviles y una mano funcional. El proyector es práctico una manipulación a oscuras.

Especificaciones

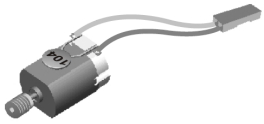
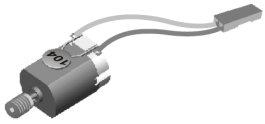
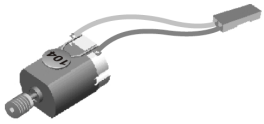
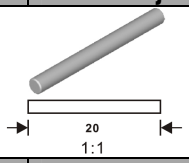
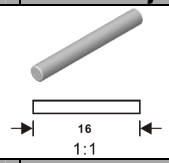
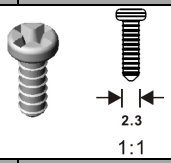
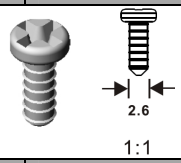
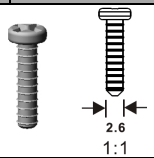
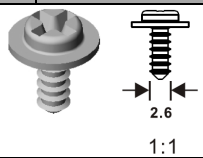
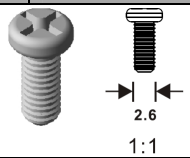
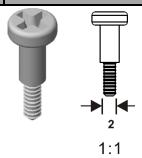
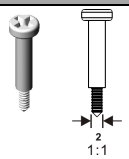
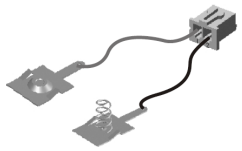
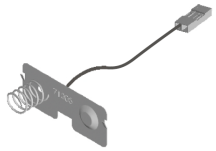
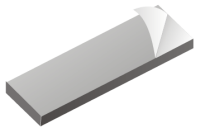
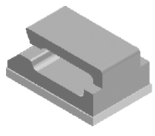
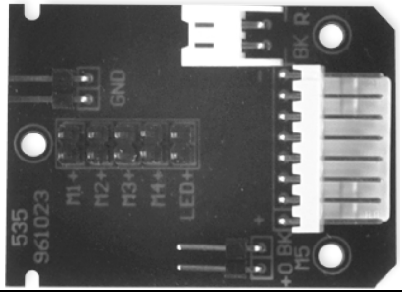
Capacidad elevadora máx.	100g
Alimentación	4 pilas tipo R20 (referencia **LR20C**, no incl.)
Altura máx. del brazo extendido	38cm
Peso	660g
Dimensiones	22,85 cm (L) x 16 cm (An) x 38 cm (Al)



2 Herramientas necesarias

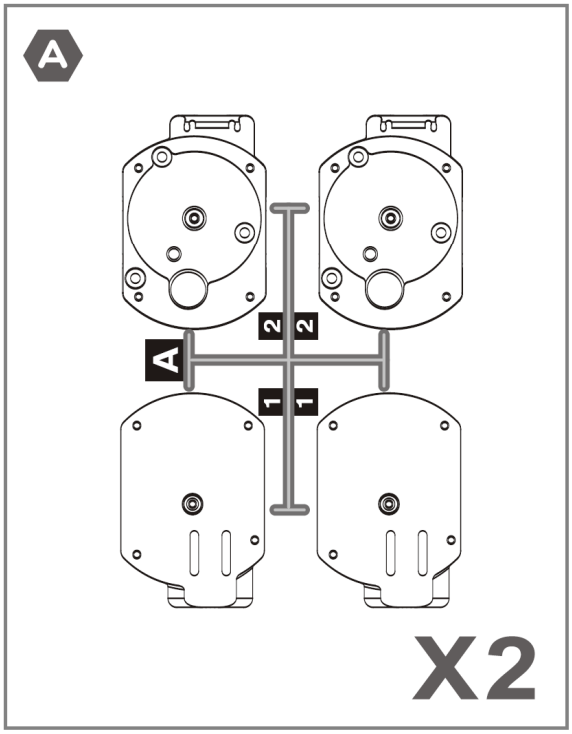
alicates de punta plana larga	alicates de corte	Destornillador	4 x pila tipo R20 (D)
			

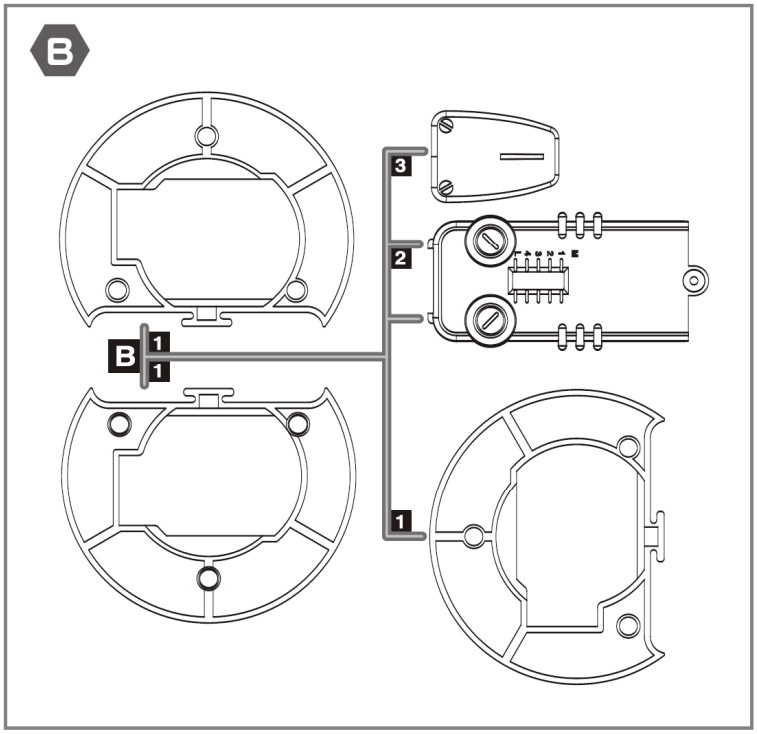
3 Piezas mecánicas

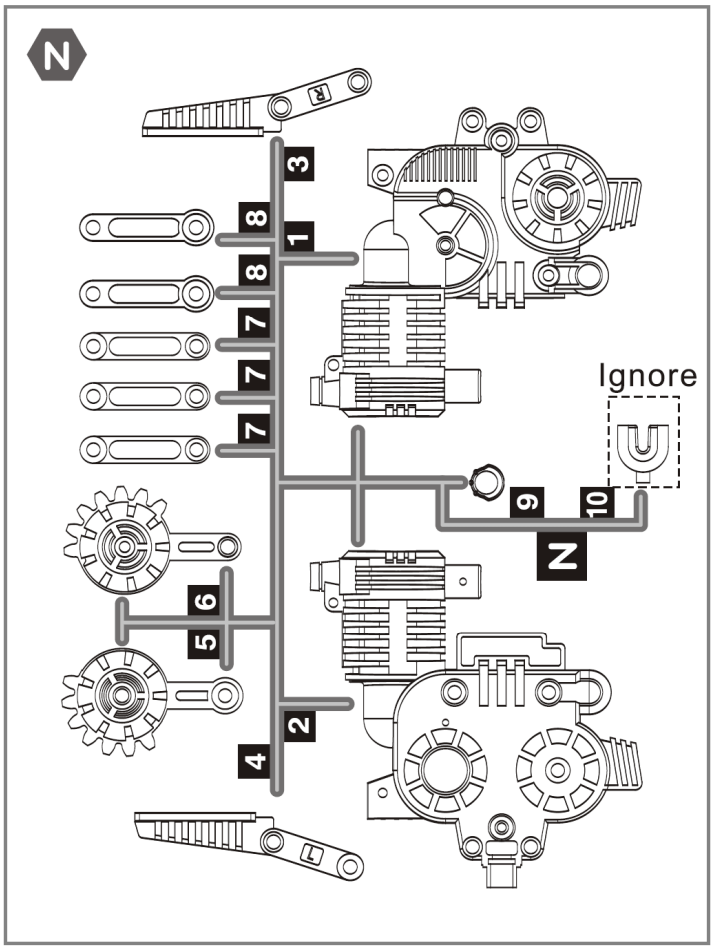
P1	Motor (M4.M5) *	P2	Motor (M2.M3) *	P3	Moto (M1) *
	Cantidad: 2		Cantidad: 2		Cantidad: 1
P4	**Piñón 32/10T (gris)**	**P5**	**Piñón 32/10T (marrón)**	**P6**	**Piñón 32T (azul)**
	Cantidad: 10		Cantidad: 5		Cantidad: 5
P7	**Piñón de salida 10T (negro)**	**P8**	**Piñón de salida 10T (blanco)**	**P9**	**Eje redondo**
	Cantidad: 4		Cantidad: 1		Cantidad: 9 (2x20)
P10	**Eje redondo**	**P11**	**tornillo autoroscante**	**P12**	**Tornillo**
	Cantidad: 1 (2x16)		Cantidad: 5 (2.3x7)		Cantidad: 11 (2.6x6)
P13	**Tornillo**	**P14**	**Tornillo**	**P15**	**Tornillo**
	Cantidad: 19 (2.6x10)		Cantidad: 12 (2.6x6)		Cantidad: 10 (2.6x6)
P16	**Tornillo autoroscante**	**P17**	**Tornillo autoroscante**	**P18**	**Tuerca**
	Cantidad: 4 (3x11)		Cantidad: 3 (3x16)		Cantidad: 16
P19	**Arandela**	**P20**	**Borne para pila**	**P21**	**Borne para pila**
	Cantidad: 3		Cantidad: 1		Cantidad: 1
P22	**LED cableado**	**P23**	**Esponja (negra)**	**P24**	**Clip**
	Cantidad: 1		Cantidad: 2		Cantidad: 3
P25	**CI**				
	Cantidad: 1				

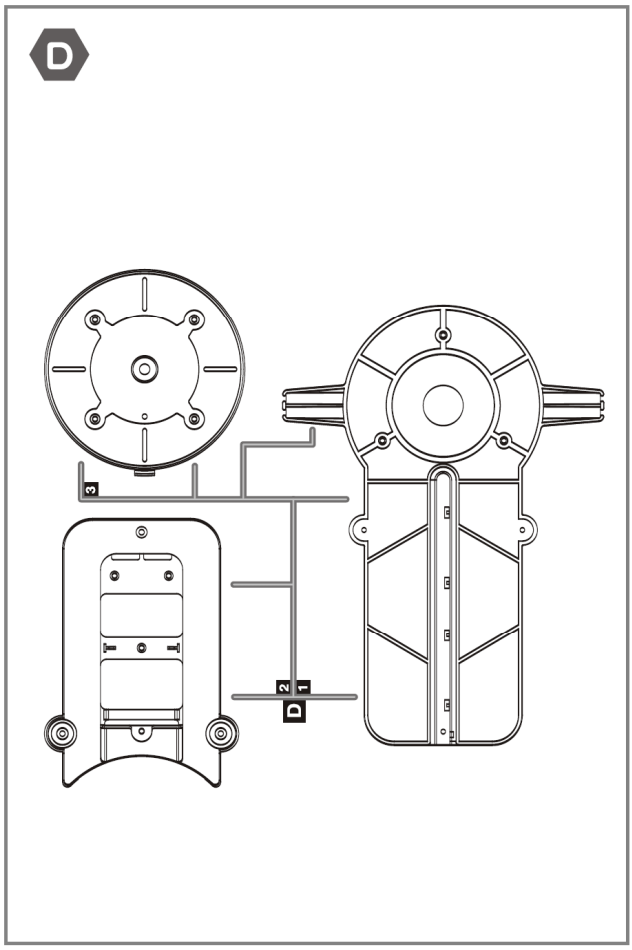
*** P1 = naranja + negro; P2 = azul + negro; P3 = amarillo + negro**

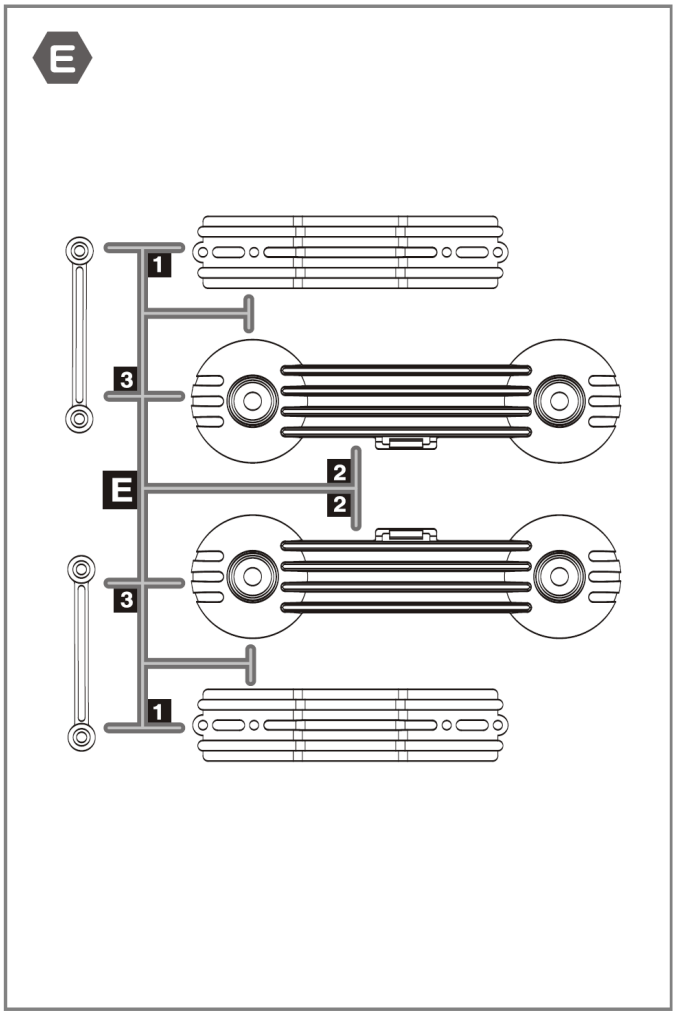
4 Piezas de plástico

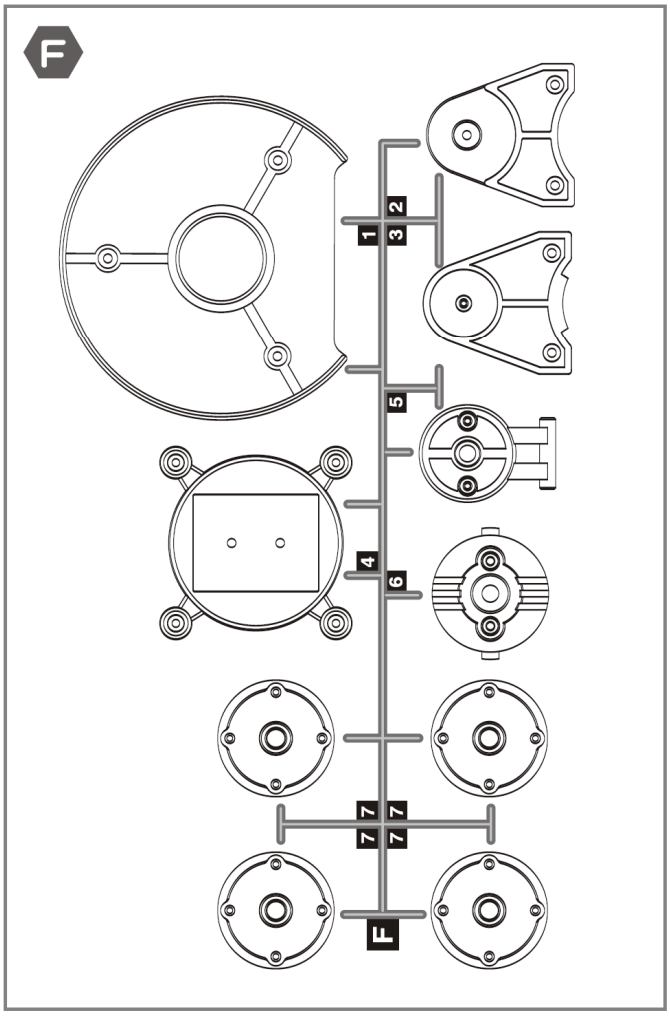




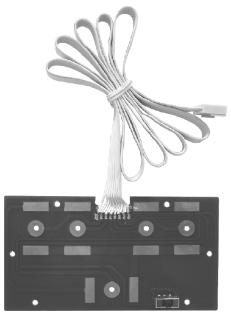


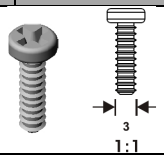




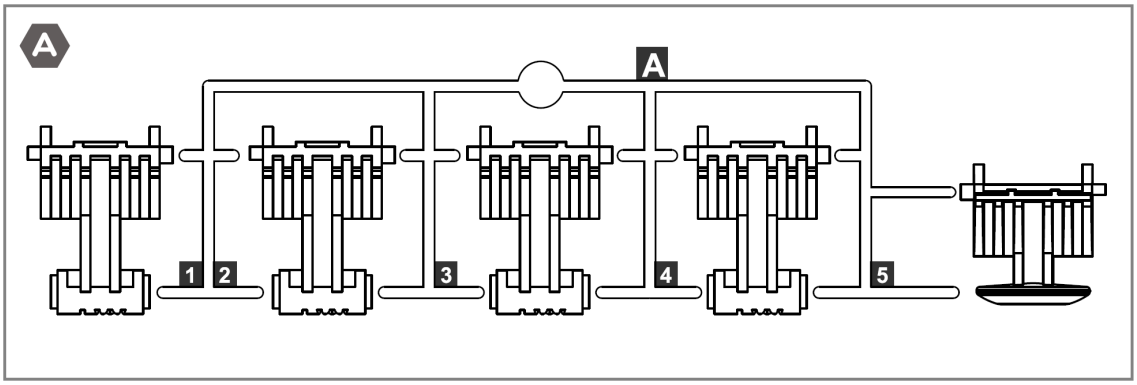


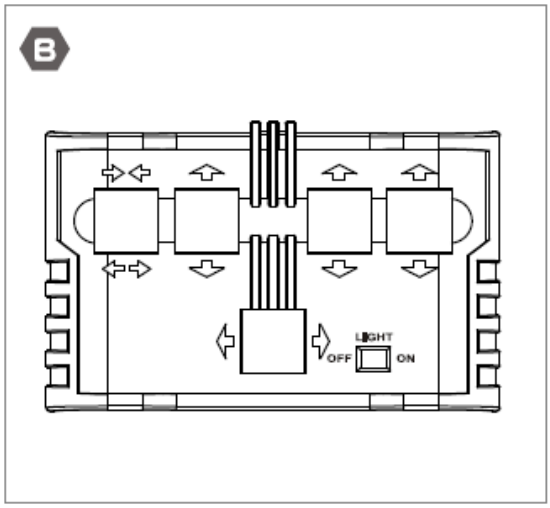
5 Piezas mecánicas unidad de control

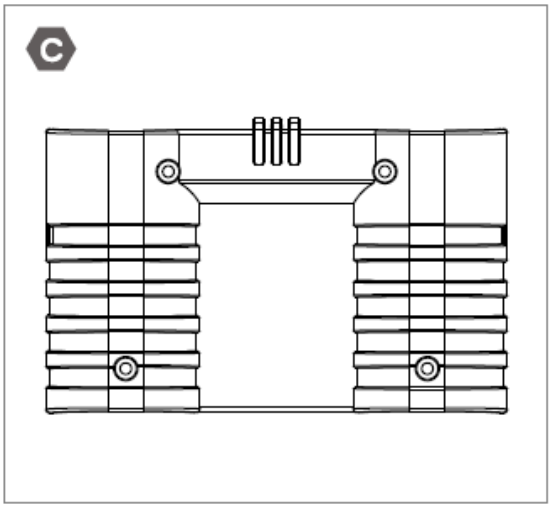
P1	Placa metálica	P3	PCB
	Cantidad: 5		Cantidad: 1

P2	Tornillo
	Cantidad: 9 (3x10)

6 Piezas de plástico unidad de control





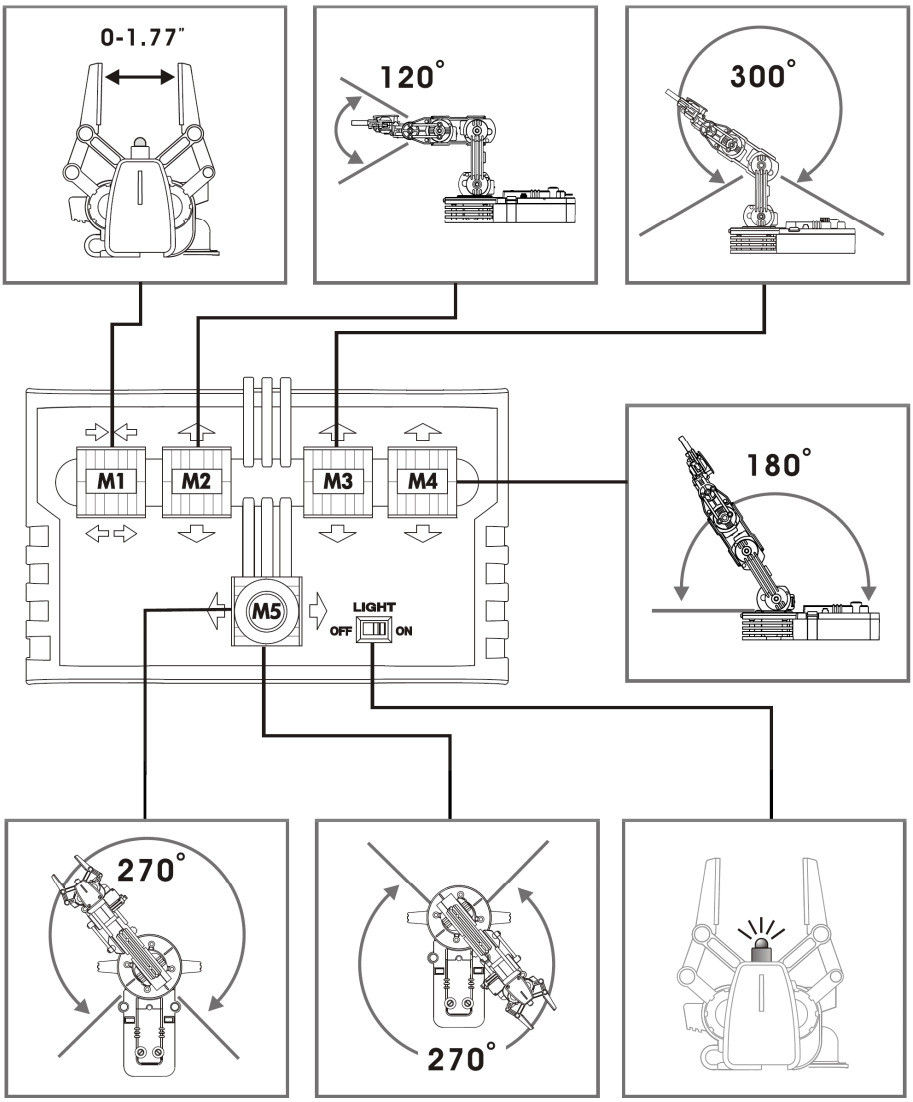


7 Montaje

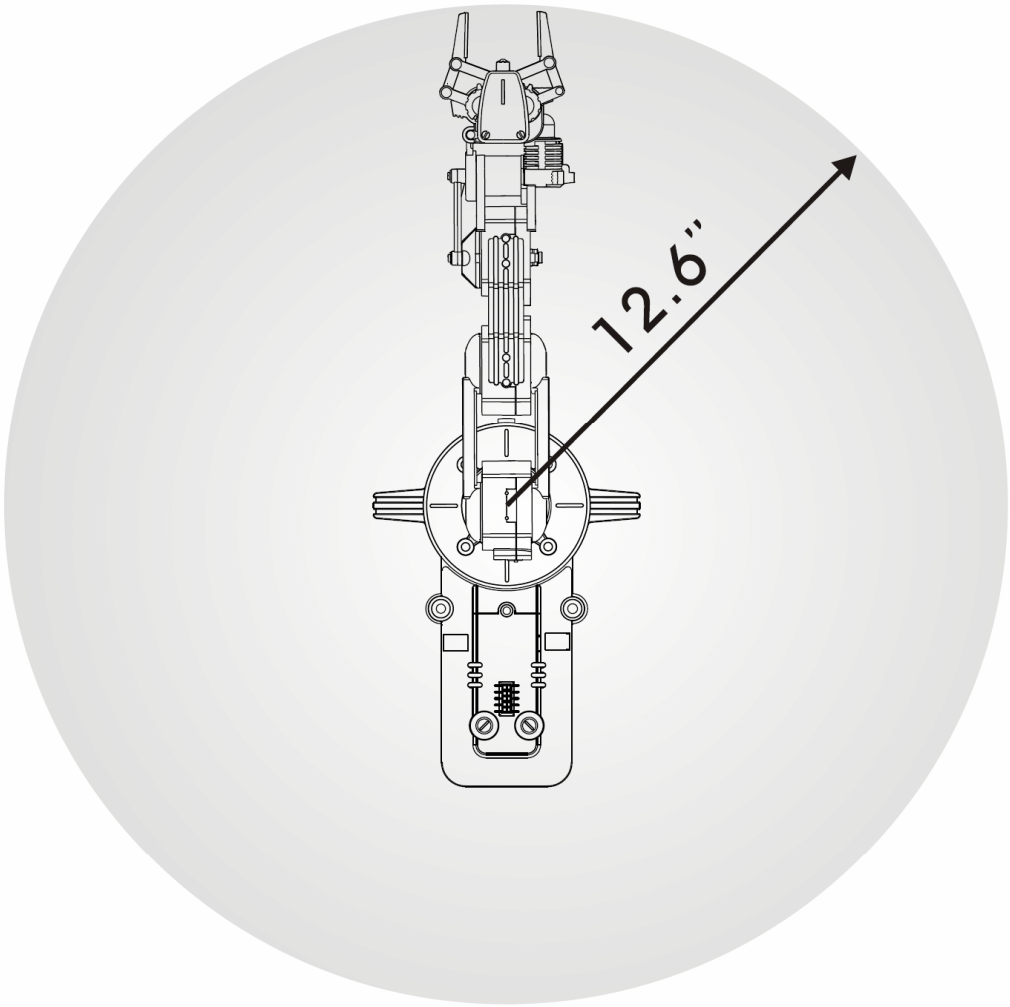
Véase las páginas 38 ~ 59.

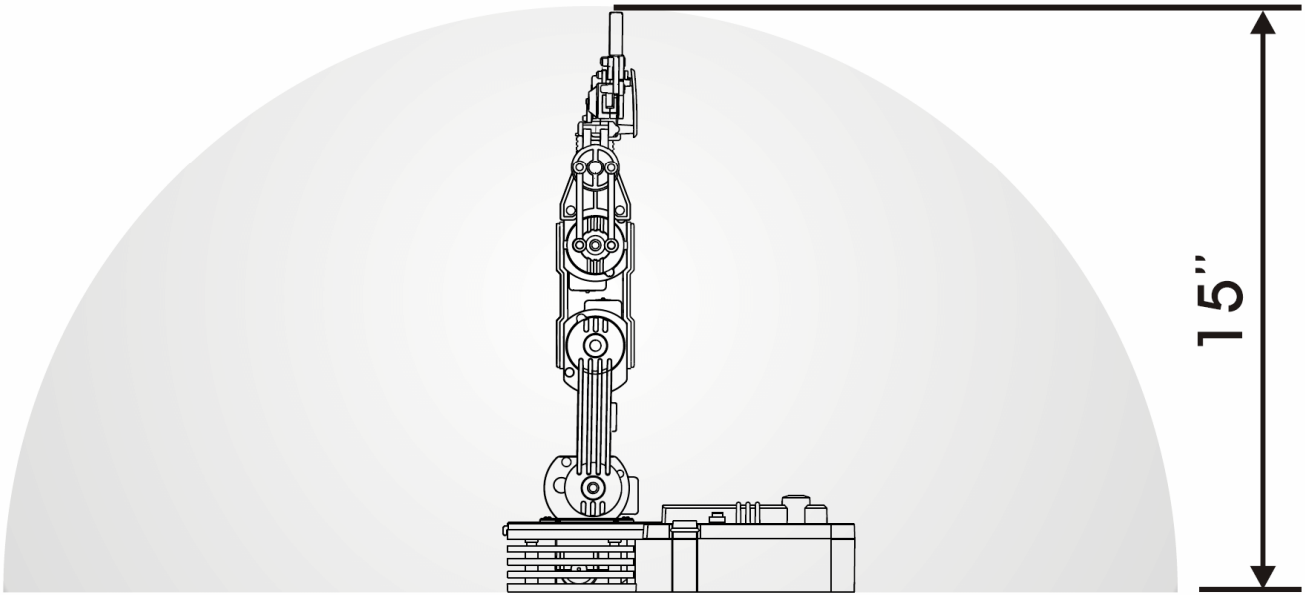
8 Funcionamiento

1. Active un mando de la unidad de control para hacer mover el brazo.
2. Los 12 movimientos del brazo se describen a continuación:



3. Alcance del brazo:





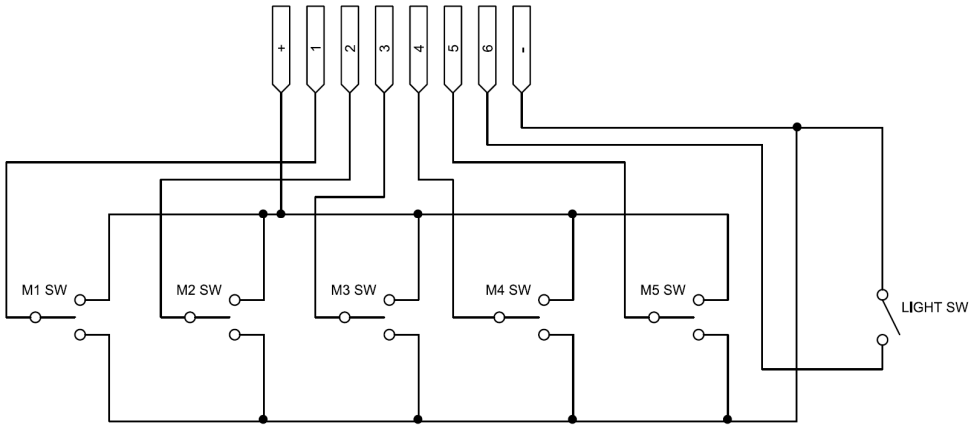
4. Cada caja de engranajes incluye un dispositivo de seguridad que se activa en cuanto un movimiento haya alcanzado su rango máximo.
5. Suelte el mando en cuanto un movimiento haya alcanzado su rango máximo para de prolongar la duración de vida de las cajas de engranajes.

9 En caso de problemas

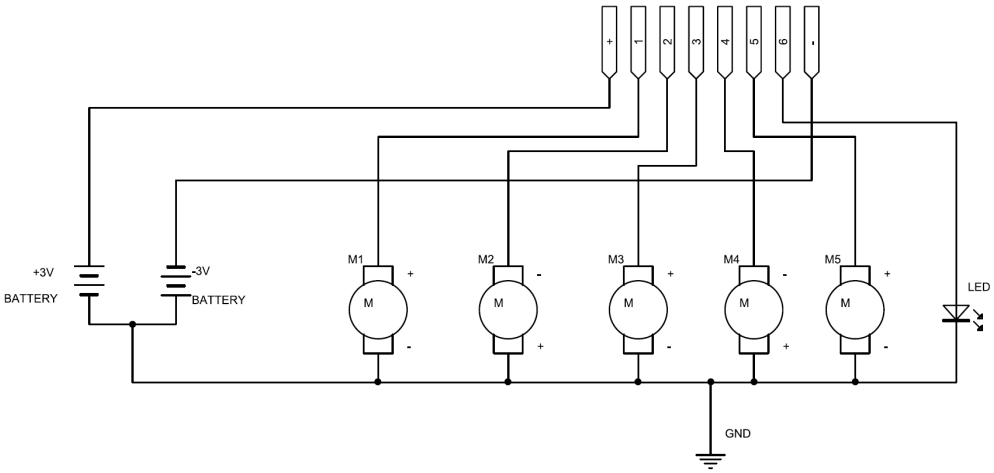
1. Asegúrese de que haya conectado el circuito correctamente. Consulte 41 44 en la página 56 ~ 57.
2. Controle las conexiones BATTERY y GND si el brazo no reacciona ante los mandos. Controle también si las pilas han sido introducidas de manera correcta. Consulte 19 en la página 46.
3. Controle una inversión de las conexiones M1, M2, M3, M4 y M5 si el brazo reacciona de manera inversa ante el mando deseado. Consulte 41 44 en la página 56 ~ 57.
4. Controle la conexión L si el proyector no funciona. Consulte 41 44 en la página 56 ~ 57.

10 Esquema eléctrica

Unidad de control



Brazo robótico



11 Instrucciones de seguridad

- Deje que un adulto reemplace e introduzca las pilas.
- No recargue pilas no recargables. Saque las pilas agotadas del compartimiento.
- No mezcle las pilas agotadas con las nuevas ni pilas de diferentes tipos.
- Desaconsejamos utilizar pilas de óxido de mercurio o pilas recargables.
- No cortocircuite los contactos.

Utilice este aparato sólo con los accesorios originales. Velleman Spain SL no será responsable de daños ni lesiones causados por un uso (indebido) de este aparato.

Para más información sobre este producto, visite nuestra página web www.velleman.eu.
Se pueden modificar las especificaciones y el contenido de este manual sin previo aviso.

KSR10 – ROBOTERARM

1 Einführung

Referencia Electrónica Embajadores: KV6A010

An alle Einwohner der Europäischen Union
Wichtige Umweltinformationen über dieses Produkt

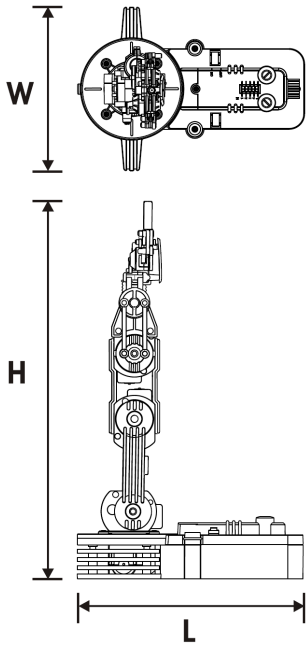
Dieses Symbol auf dem Produkt oder der Verpackung zeigt an, dass die Entsorgung dieses Produktes nach seinem Lebenszyklus der Umwelt Schaden zufügen kann. Entsorgen Sie die Einheit (oder verwendeten Batterien) nicht als unsortiertes Hausmüll; die Einheit oder verwendeten Batterien müssen von einer spezialisierten Firma zwecks Recycling entsorgt werden. Diese Einheit muss an den Händler oder ein örtliches Recycling-Unternehmen retourniert werden. Respektieren Sie die örtlichen Umweltvorschriften.
Falls Zweifel bestehen, wenden Sie sich für Entsorgungsrichtlinien an Ihre örtliche Behörde.

Wir bedanken uns für den Kauf des **KSR10**! Lesen Sie diese Bedienungsanleitung vor Inbetriebnahme sorgfältig durch. Überprüfen Sie, ob Transportschäden vorliegen. Sollte dies der Fall sein, verwenden Sie das Gerät nicht und wenden Sie sich an Ihren Händler.

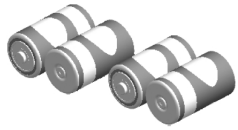
Treten Sie dank diesem Roboterarm mit fünf Motoren und fünf Gelenken in die Welt der Robotertechnologie ein. Der Arm wird ab einem Kontrollgerät bedient und verfügt über eine rotierende Basis, einen bewegbaren Ellbogen, ein bewegbares Handgelenk und eine funktionelle Hand. Der eingebaute Scheinwerfer ist praktisch bei Anwendung im Dunkeln.

Technische Daten

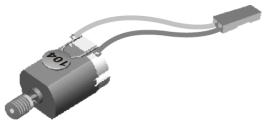
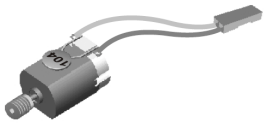
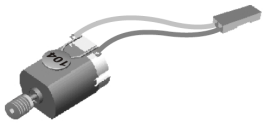
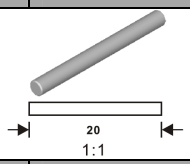
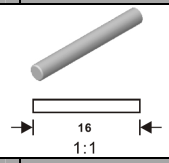
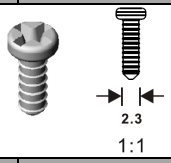
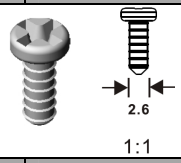
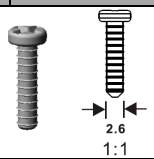
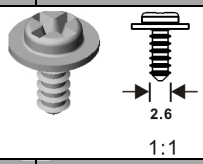
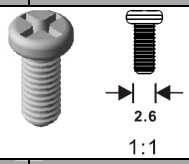
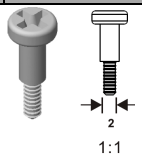
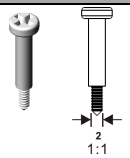
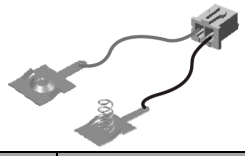
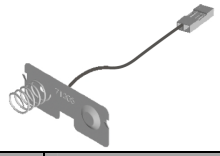
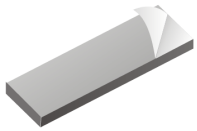
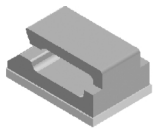
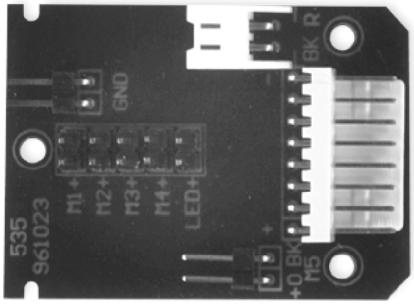
Max. Tragfähigkeit	100g
Stromversorgung	4 x D-Batterien (Bestell-Nr. **LR20C**, nicht mitgeliefert)
max. Höhe Arm	38 cm
Gewicht	660 g
Abmessungen	22,85cm (L) x 16cm (B) x 38cm (H)



2 Erforderliche Werkzeuge

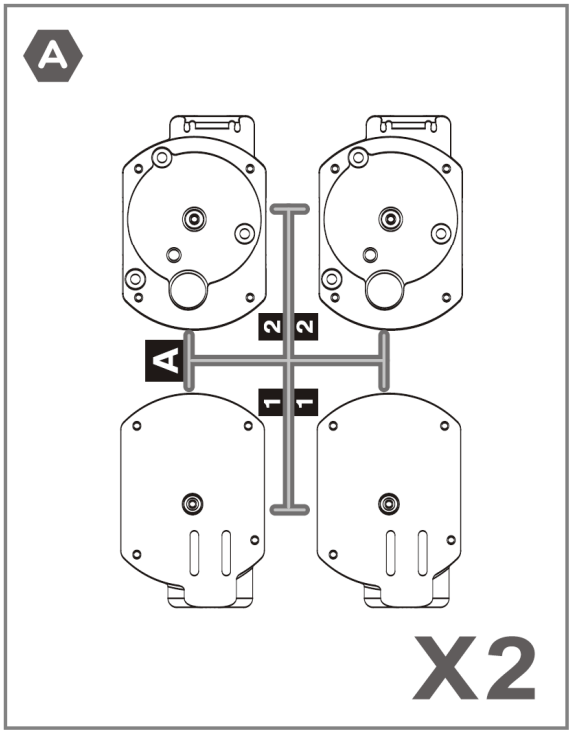
Spitzzange	Seitenschneider	Schraubendreher	D-Batterie x 4
			

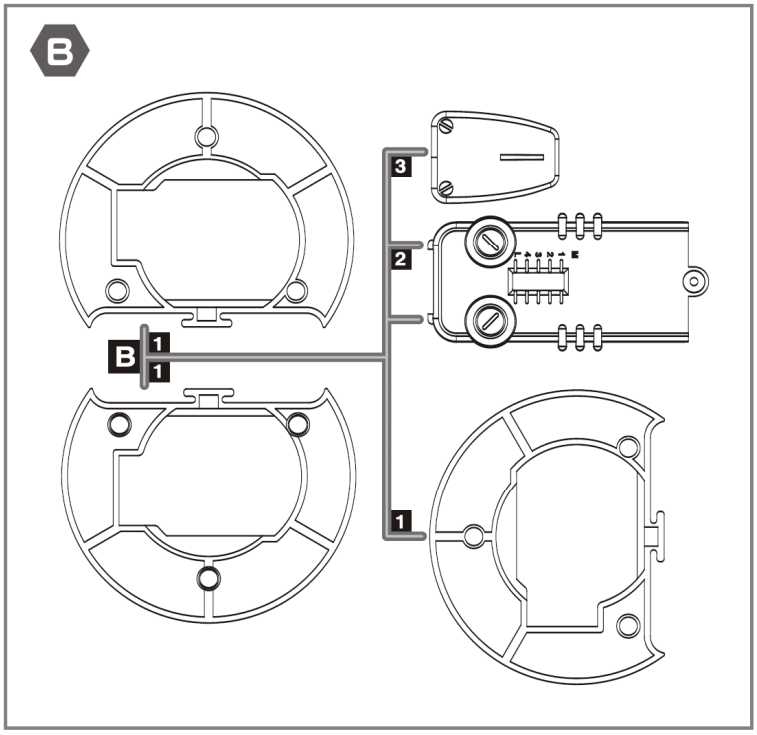
3 Mechanische Stückliste

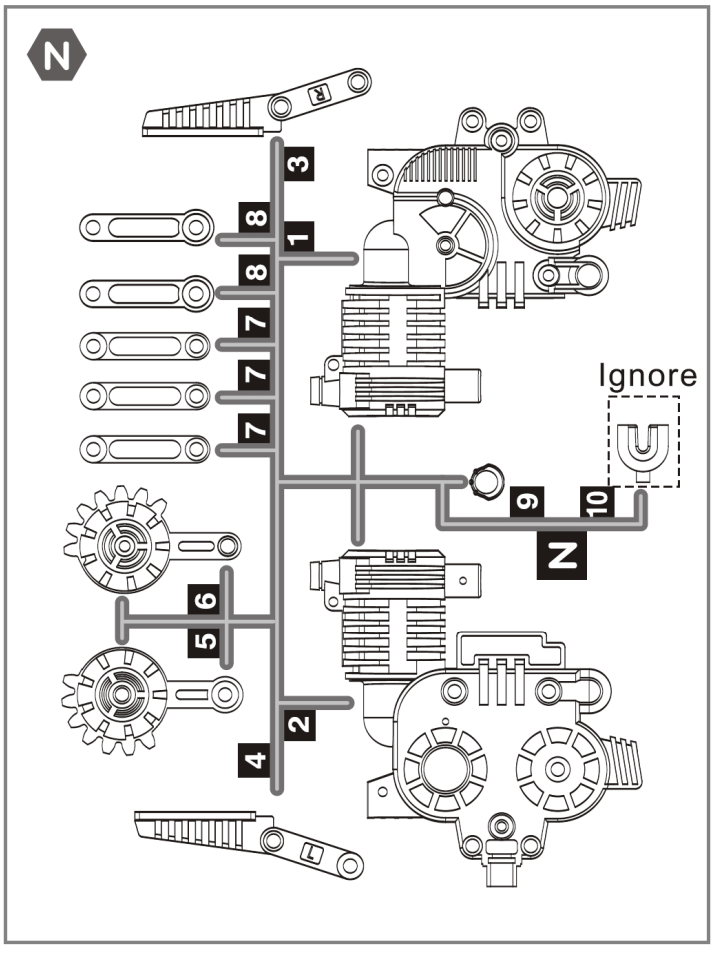
P1	Motor (M4.M5) *	P2	Motor (M2.M3) *	P3	Motor (M1) *
	Anzahl: 2		Anzahl: 2		Anzahl: 1
P4	**Zahnrad 32/10T (grau)**	**P5**	**Zahnrad 32/10T (braun)**	**P6**	**Zahnrad 32T (blau)**
	Anzahl: 10		Anzahl: 5		Anzahl: 5
P7	**Zahnrad 10T (schwarz)**	**P8**	**Zahnrad 10T (weiß)**	**P9**	**Achse**
	Anzahl: 4		Anzahl: 1		Anzahl: 9 (2x20)
P10	**Achse**	**P11**	**Schraube**	**P12**	**Schraube**
	Anzahl: 1 (2x16)		Anzahl: 5 (2.3x7)		Anzahl: 11 (2.6x6)
P13	**Schraube**	**P14**	**Schraube**	**P15**	**Schraube**
	Anzahl: 19 (2.6x10)		Anzahl: 12 (2.6x6)		Anzahl: 10 (2.6x6)
P16	**Selbstschneidende Schraube**	**P17**	**Selbstschneidende Schraube**	**P18**	**Mutter**
	Anzahl: 4 (3x11)		Anzahl: 3 (3x16)		Anzahl: 16
P19	**Dichtungsring**	**P20**	**Batterieklemme**	**P21**	**Batterieklemme**
	Anzahl: 3		Anzahl: 1		Anzahl: 1
P22	**LED mit Anschluss**	**P23**	**Schwamm (schwarz)**	**P24**	**Clip**
	Anzahl: 1		Anzahl: 2		Anzahl: 3
P25	**Leiterplatte**				
	Anzahl: 1				

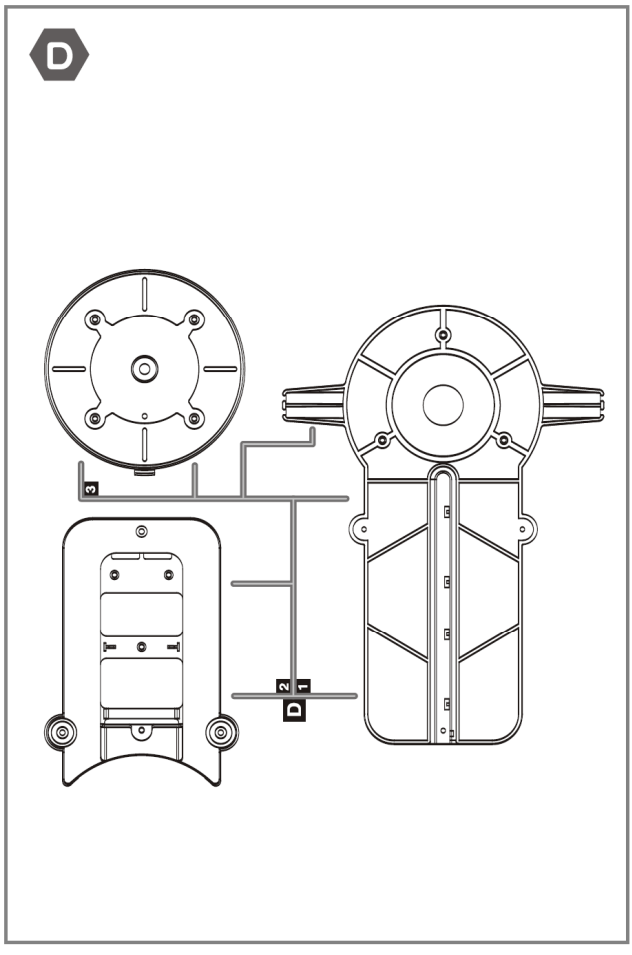
*** P1 = orange + schwarz; P2 = blau + schwarz; P3 = gelb + schwarz**

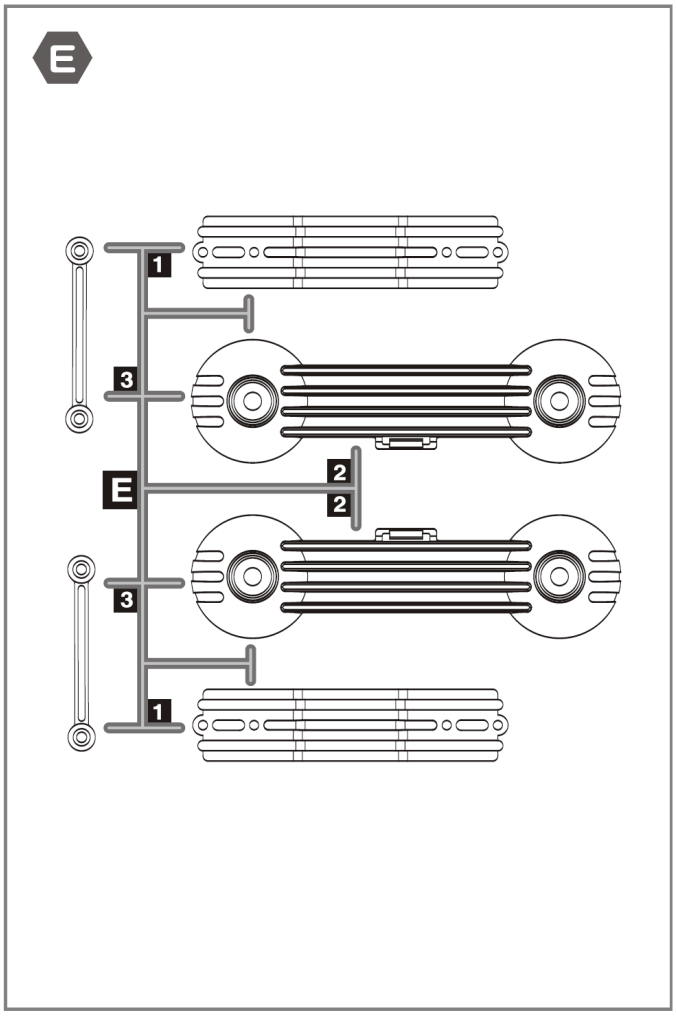
4 Zubehörteile aus Plastik

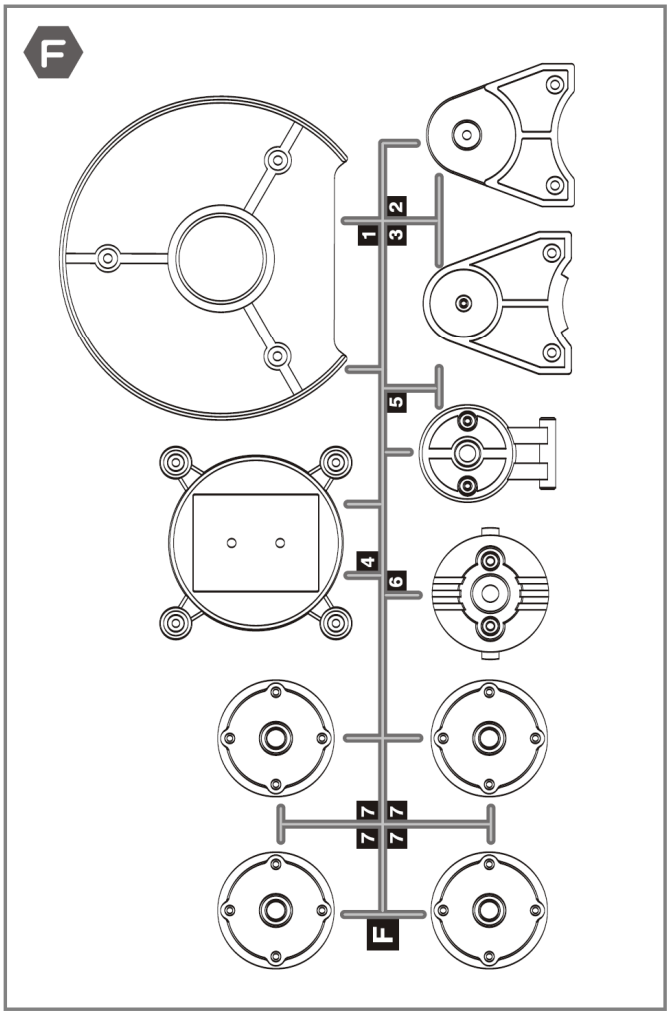




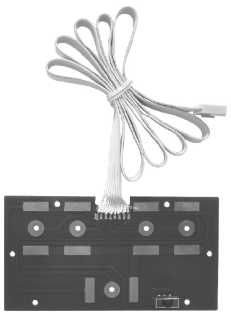
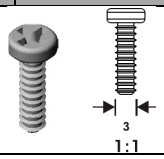




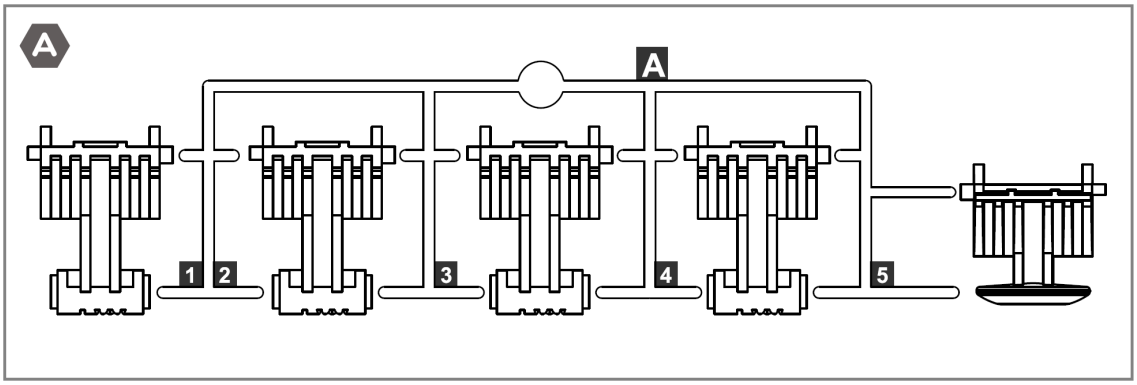


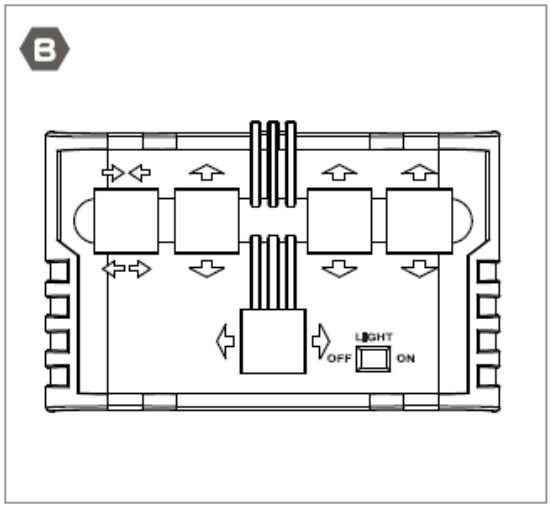


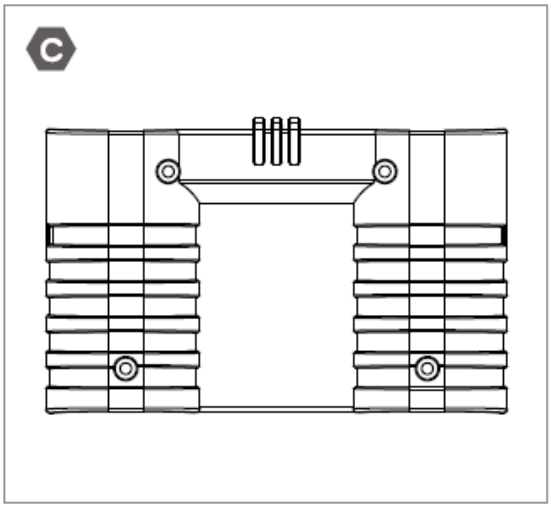
5 Zubehörteile Fernbedienung

P1	Metallplatte	P3	Leiterplatte
	Anzahl: 5		Anzahl: 1
P2	**Selbstschneidende Schraube**		
	Anzahl: 9 (3x10)		

6 Zubehörteile aus Plastik Fernbedienung





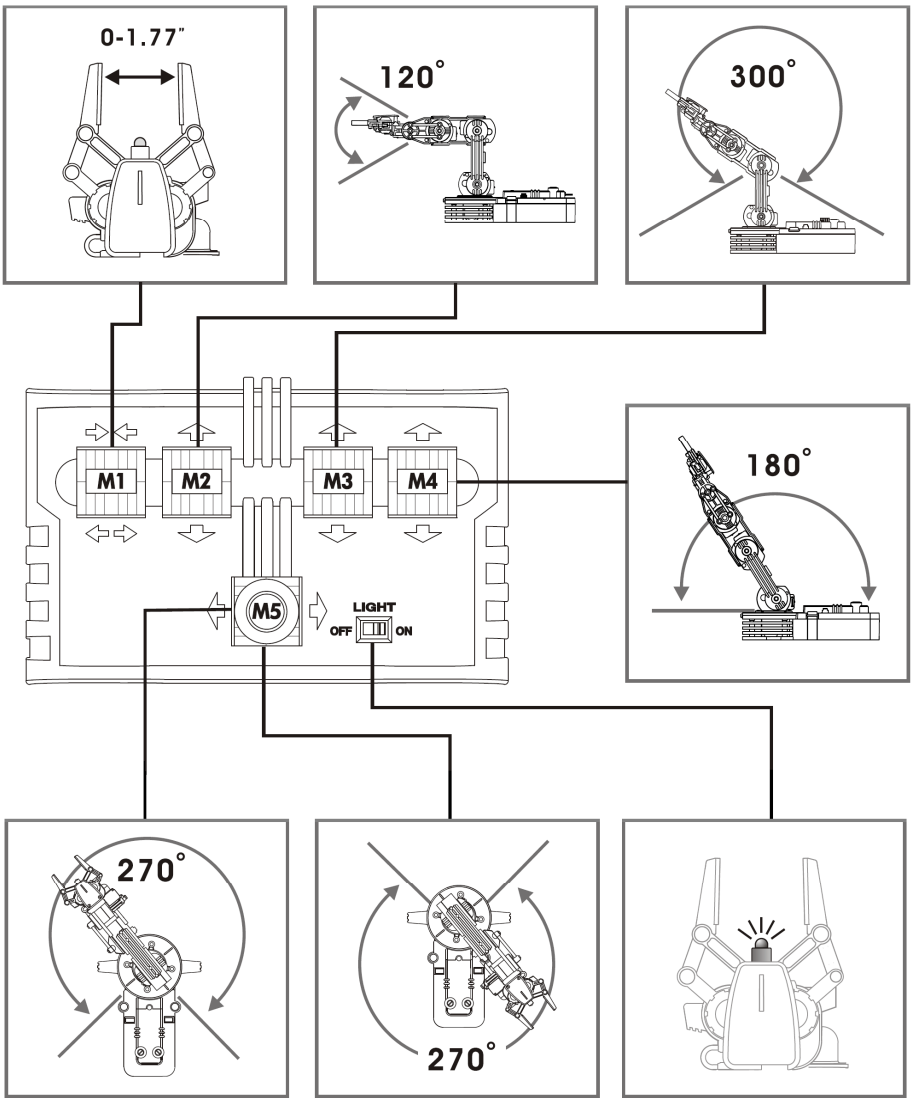


7 Bestückung

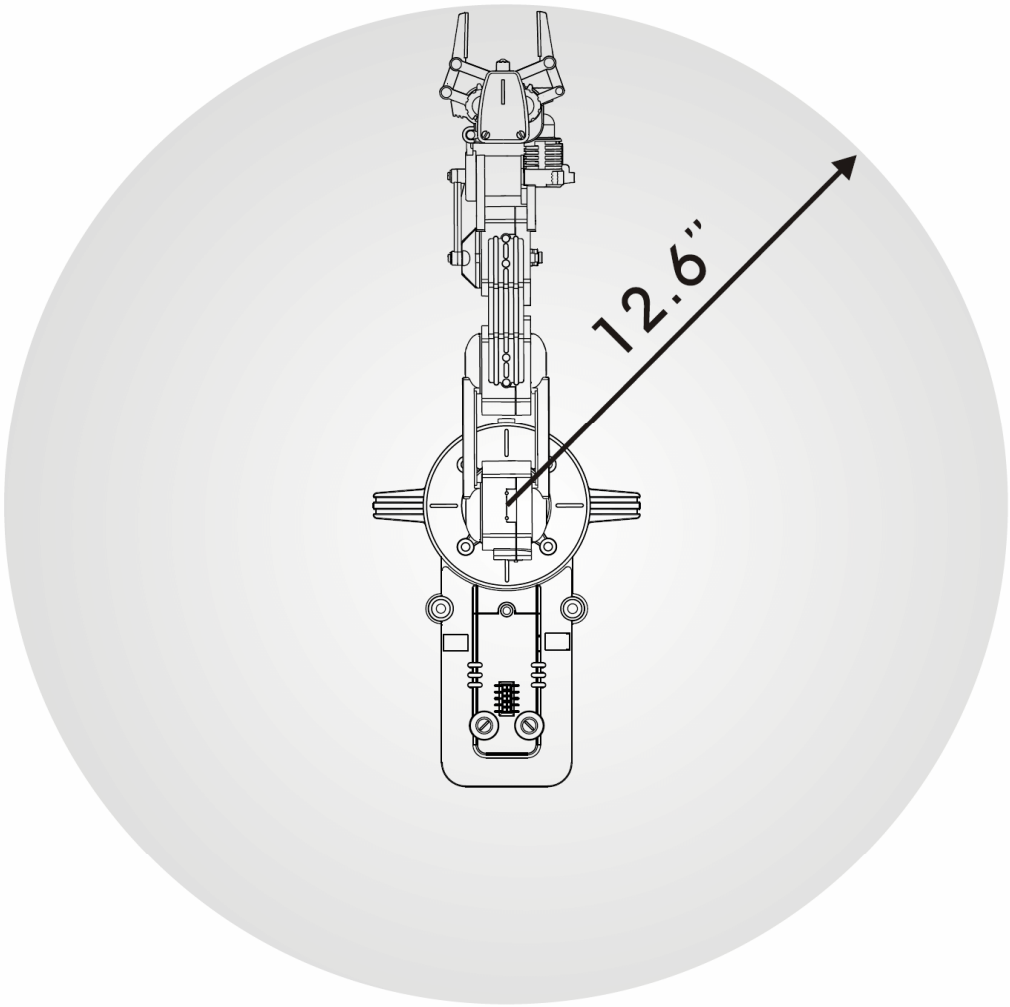
Siehe Seiten 38 ~ 59.

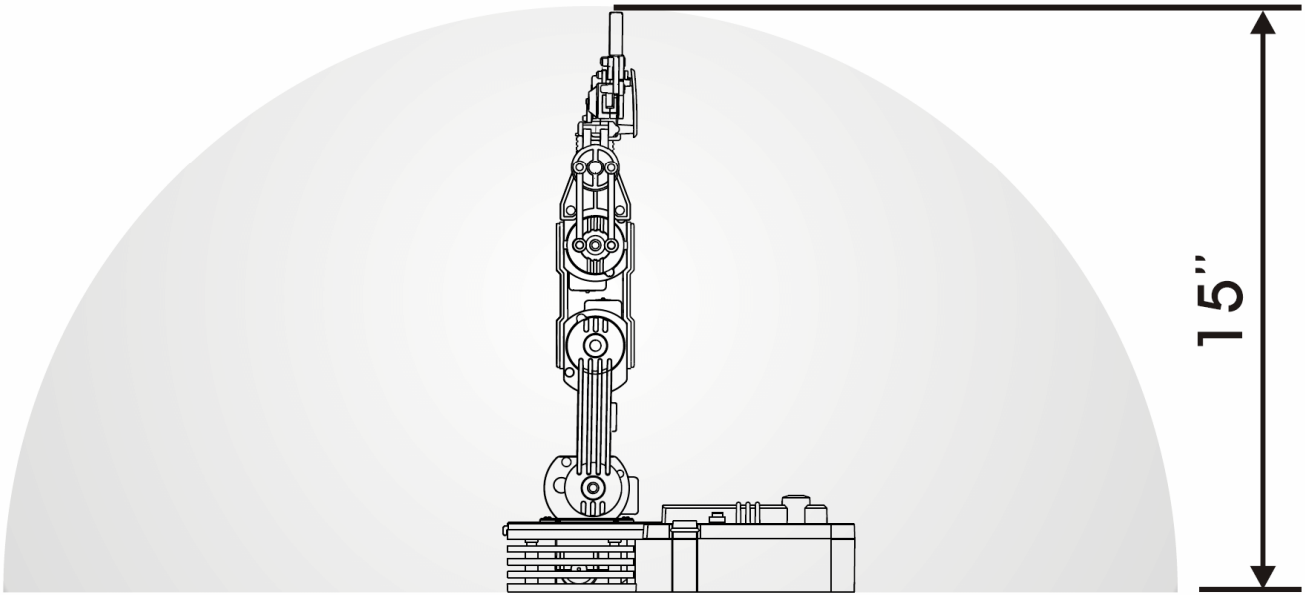
8 Den Roboterarm bedienen

1. Bedienen Sie einen Hebel, um den Roboterarm zu starten.
2. Die 12 Bewegungen des Roboterarms werden nachstehend dargestellt:



3. Arbeitsbereich:





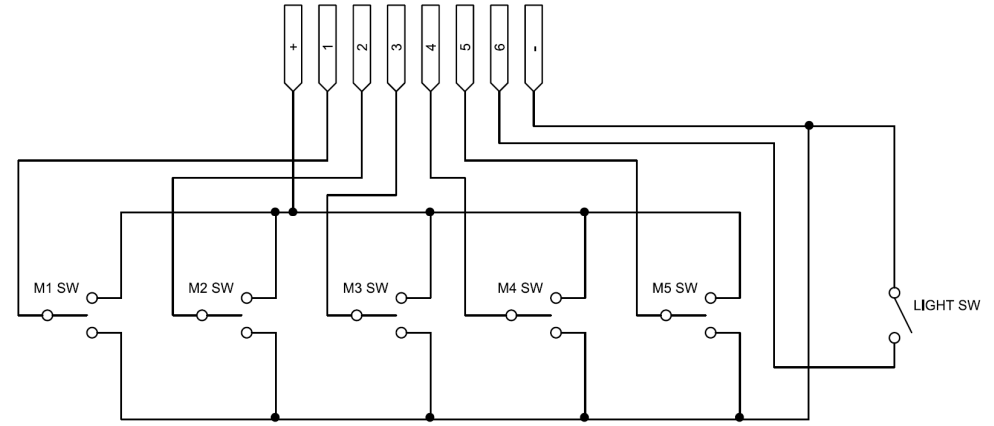
4. Jedes Getriebe verfügt über ein Sicherheitssystem, das eingeschaltet wird wenn die max. Bewegung erreicht wird.
5. Um die Lebensdauer der Getriebe zu verlängern, lassen Sie am besten den Hebel los sobald die max. Bewegung erreicht wird.

9 Problemlösung

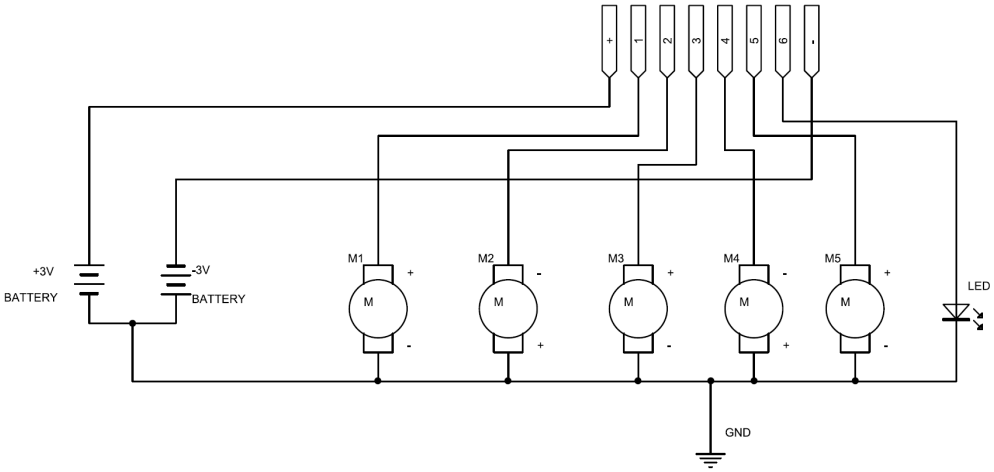
1. Beachten Sie einen korrekten elektrischen Anschluss. Siehe 41 44, Seiten 56 ~ 57.
2. Überprüfen Sie den BATTERIE- und GND-Anschluss wenn der Roboterarm nicht auf die Bedienungen reagiert. Überprüfen Sie ebenfalls, ob die Batterien korrekt eingelegt wurden. Siehe 19 Seite 46.
3. Eine entgegengesetzte Bewegung bei einer Bedienung deutet auf einen falschen Anschluss. Überprüfen Sie die Anschlüsse M1, M2, M3, M4 und M5 auf Inversion. Siehe 41 44 Seiten 56 ~ 57.
4. Überprüfen Sie, ob den L-Anschluss korrekt gemacht wurde wenn der Scheinwerfer nicht funktioniert. Siehe 41 44 Seiten 56 ~ 57.

10 Schaltplan

Fernbedienung



Robotarm



11 Sicherheitshinweise

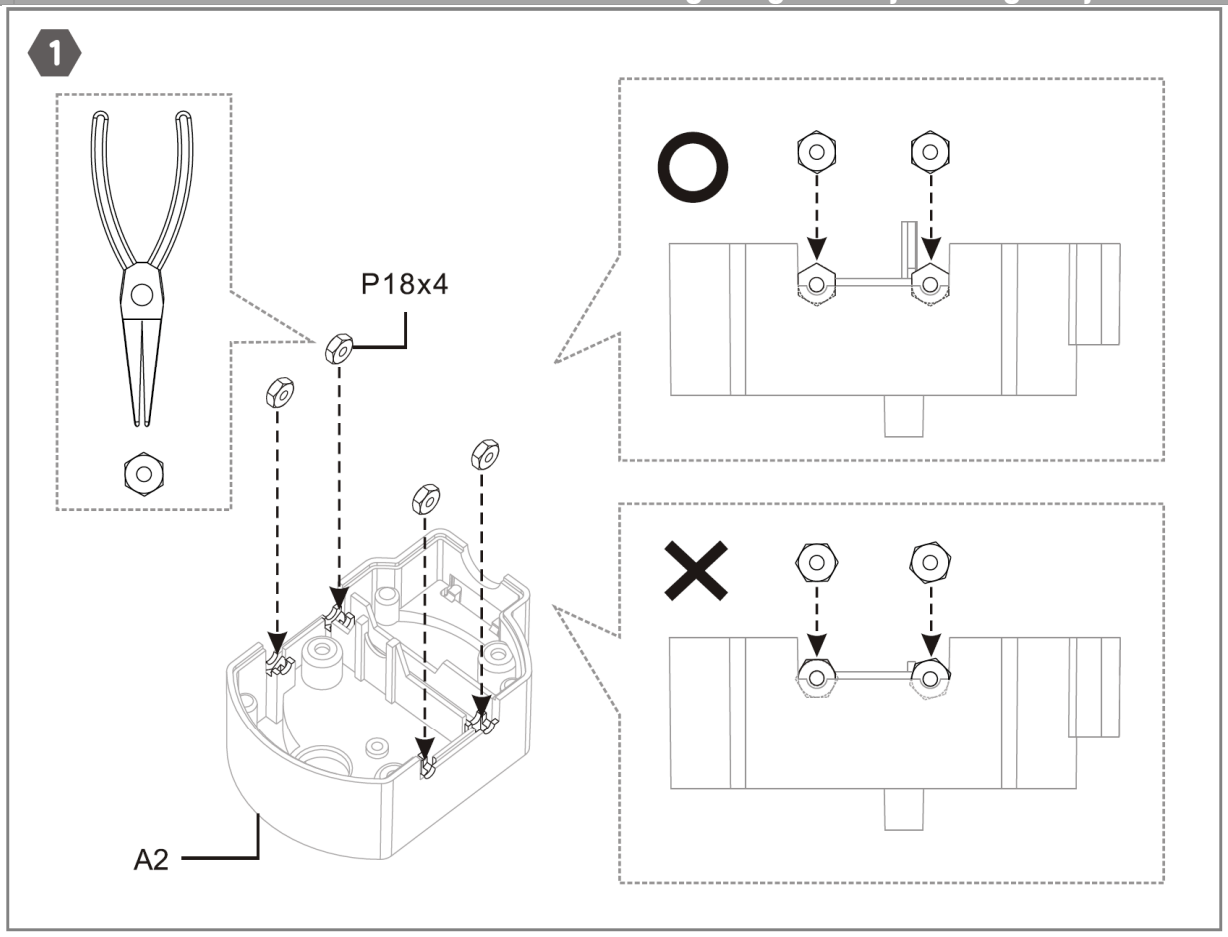
- Lassen Sie die Batterien von einem Erwachsenen entfernen und austauschen.
- Laden Sie keine nicht aufladbare Batterien. Entfernen Sie schwache Batterien, um eine Leckage zu vermeiden.
- Mischen Sie keine alten und neuen Batterien oder mischen Sie keine verschiedenen Batterietypen.
- Verwenden Sie weder aufladbare Batterien noch Silberoxyd-Batterien.
- Vermeiden Sie einen Kurzschluss der Kontakte.

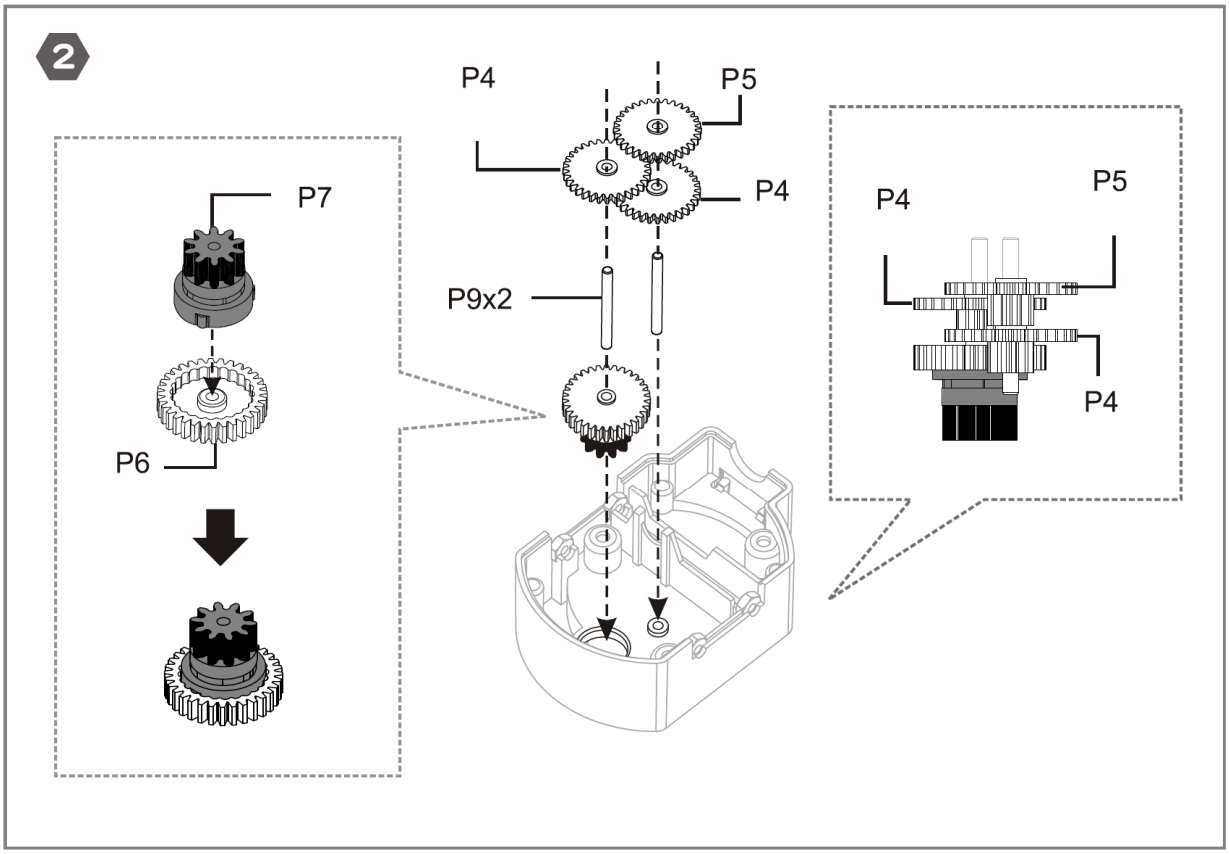
Verwenden Sie dieses Gerät nur mit originellen Zubehörteilen. Velleman NV übernimmt keine Haftung für Schaden oder Verletzungen bei (falscher) Anwendung dieses Gerätes.

Für mehr Informationen zu diesem Produkt, siehe www.velleman.eu.
Alle Änderungen ohne vorherige Ankündigung vorbehalten.

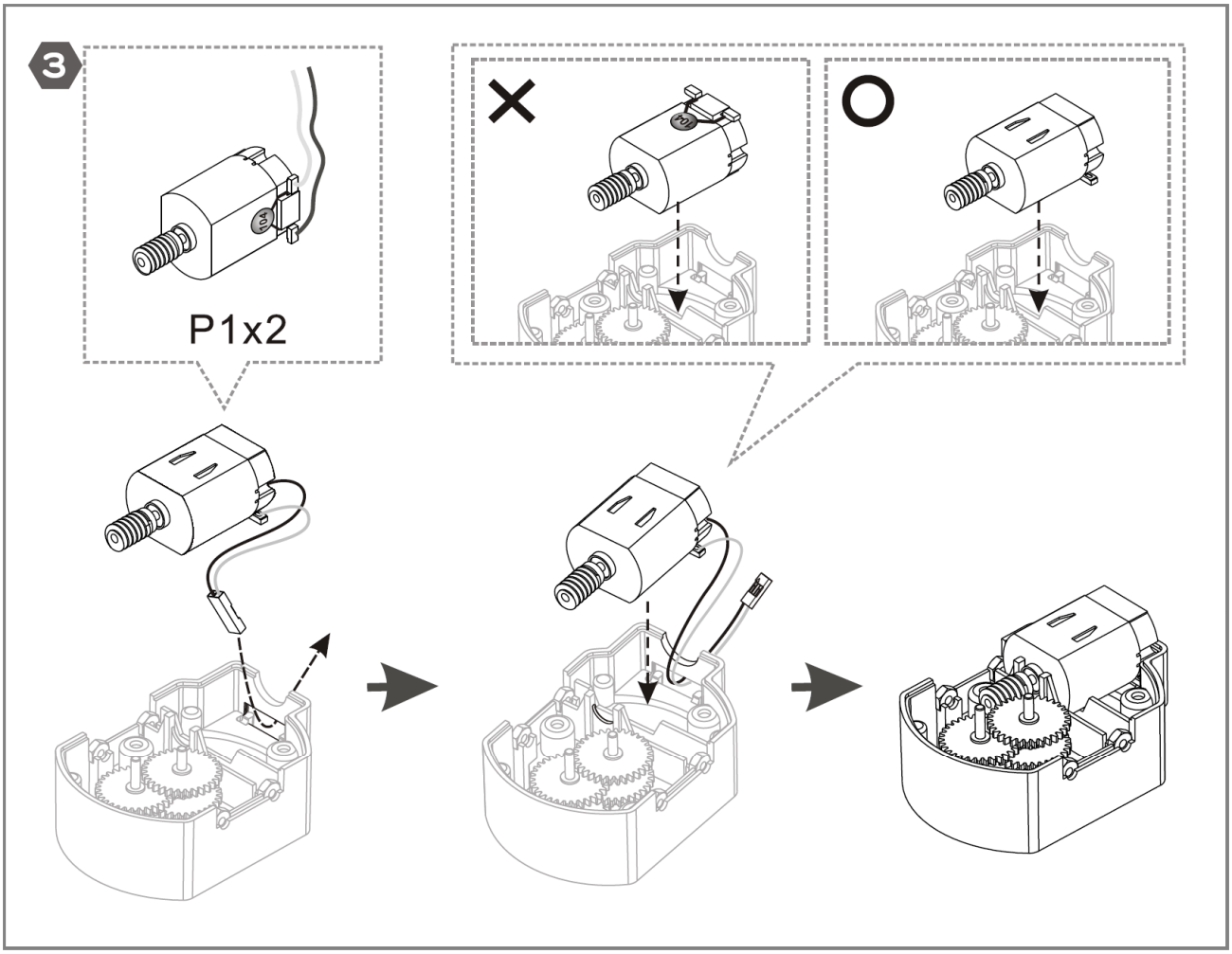
7 Mechanical Assembly – Assemblage – Assemblage – Montaje – Bestückung

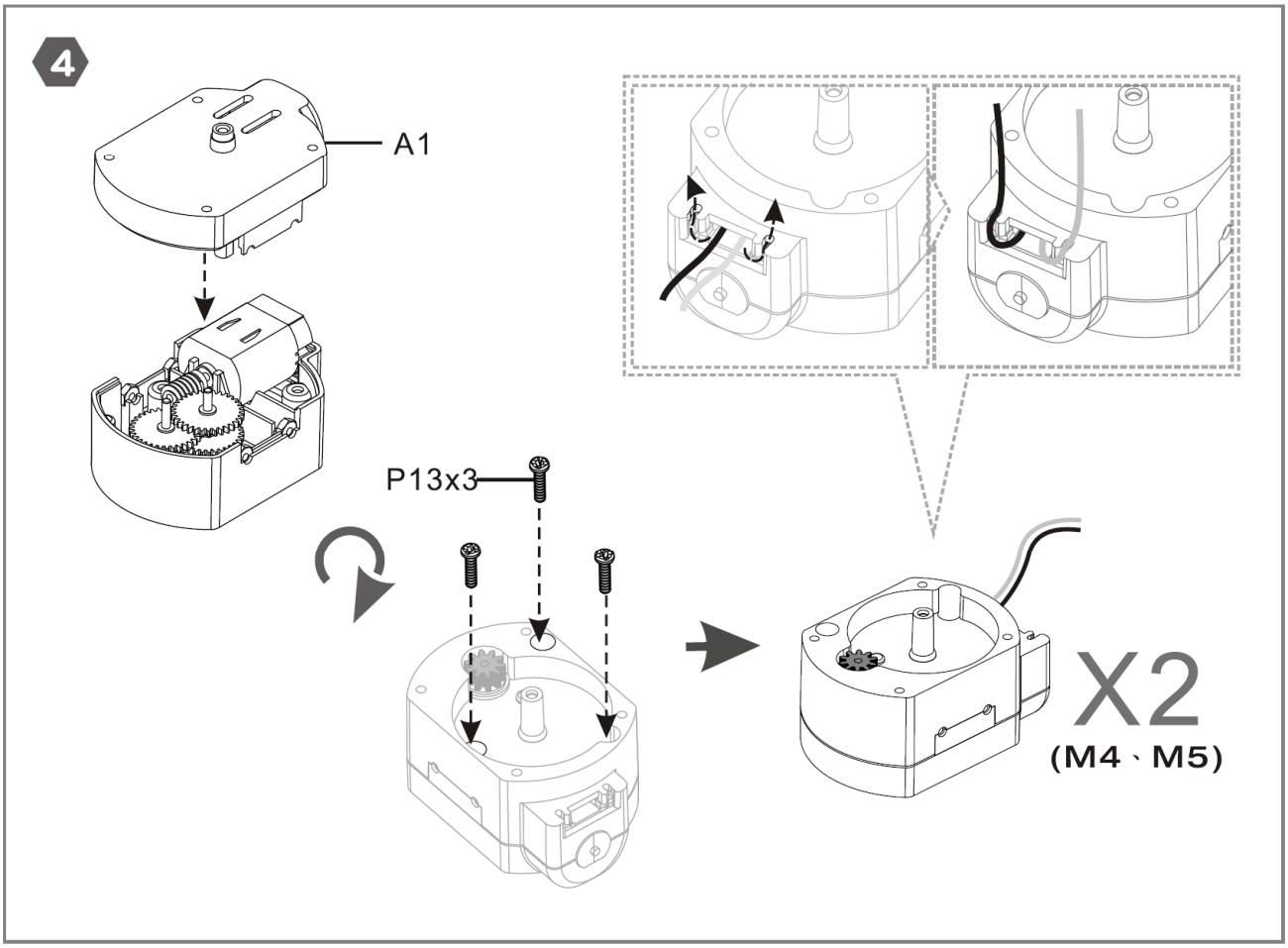
M4 ● M5 Gearbox – Tandwielkast – Train d'engrenages – Caja de engranajes – Getriebe

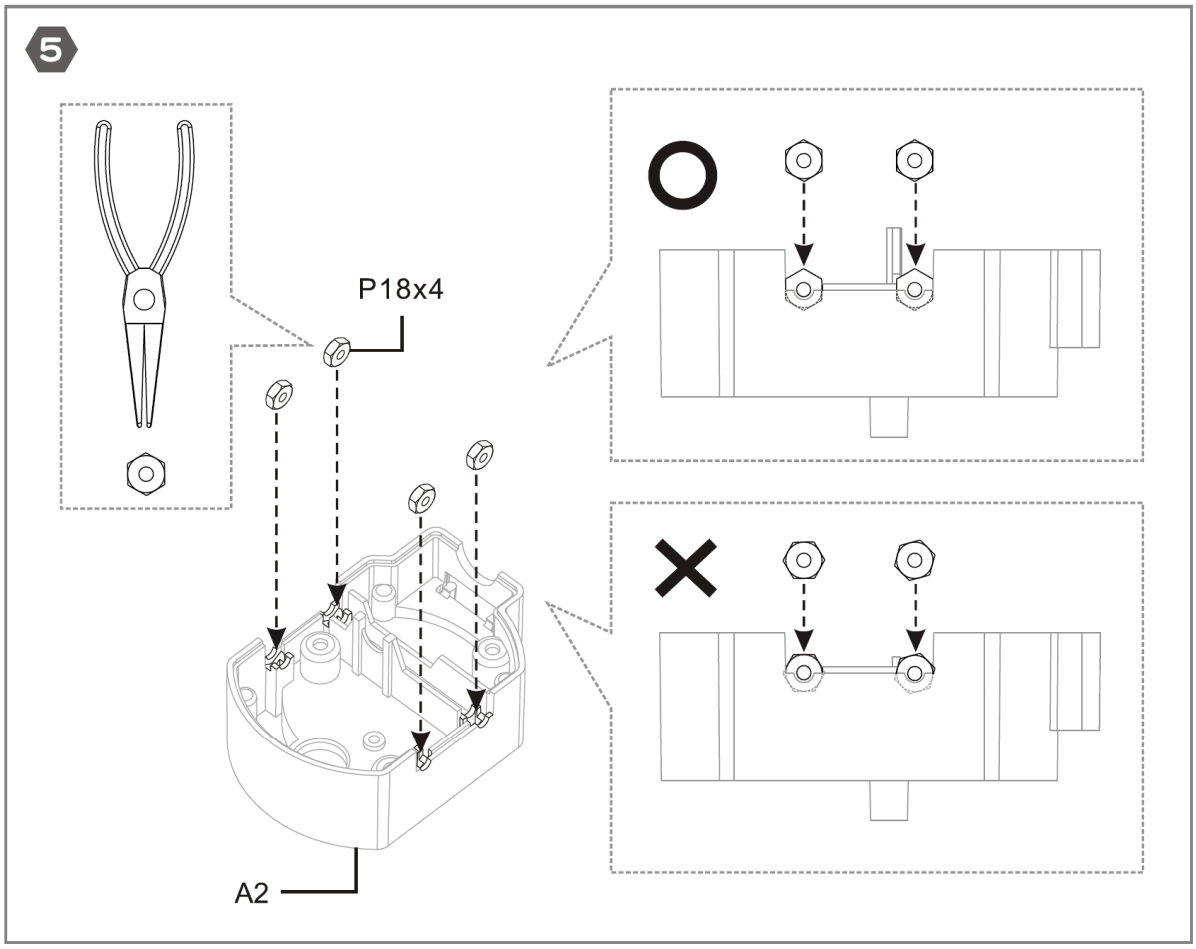


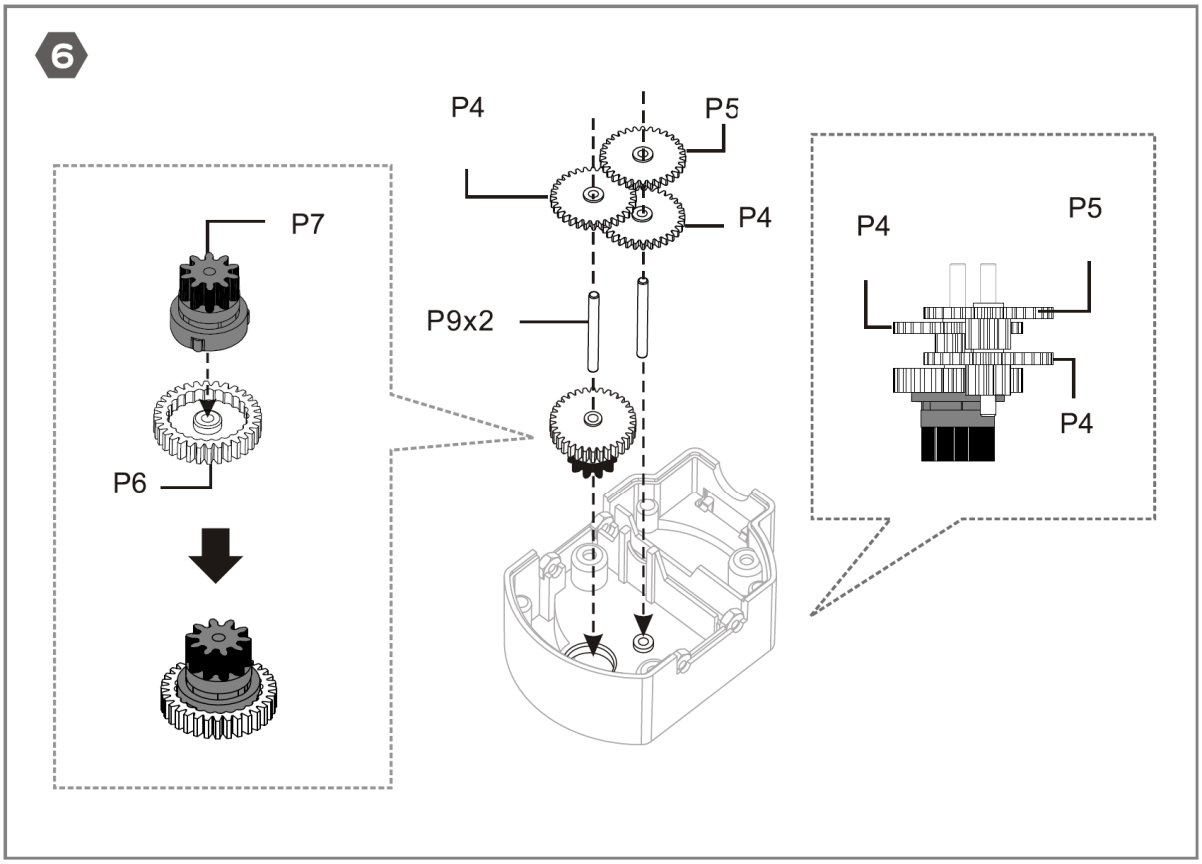


P4 = grey – grijs – gris – gris – grau / P5 = brown – bruin – marron – marrón – braun
P6 = blue – blauw – bleu – azul – blau / P7 = black – zwart – noir – negro – schwarz

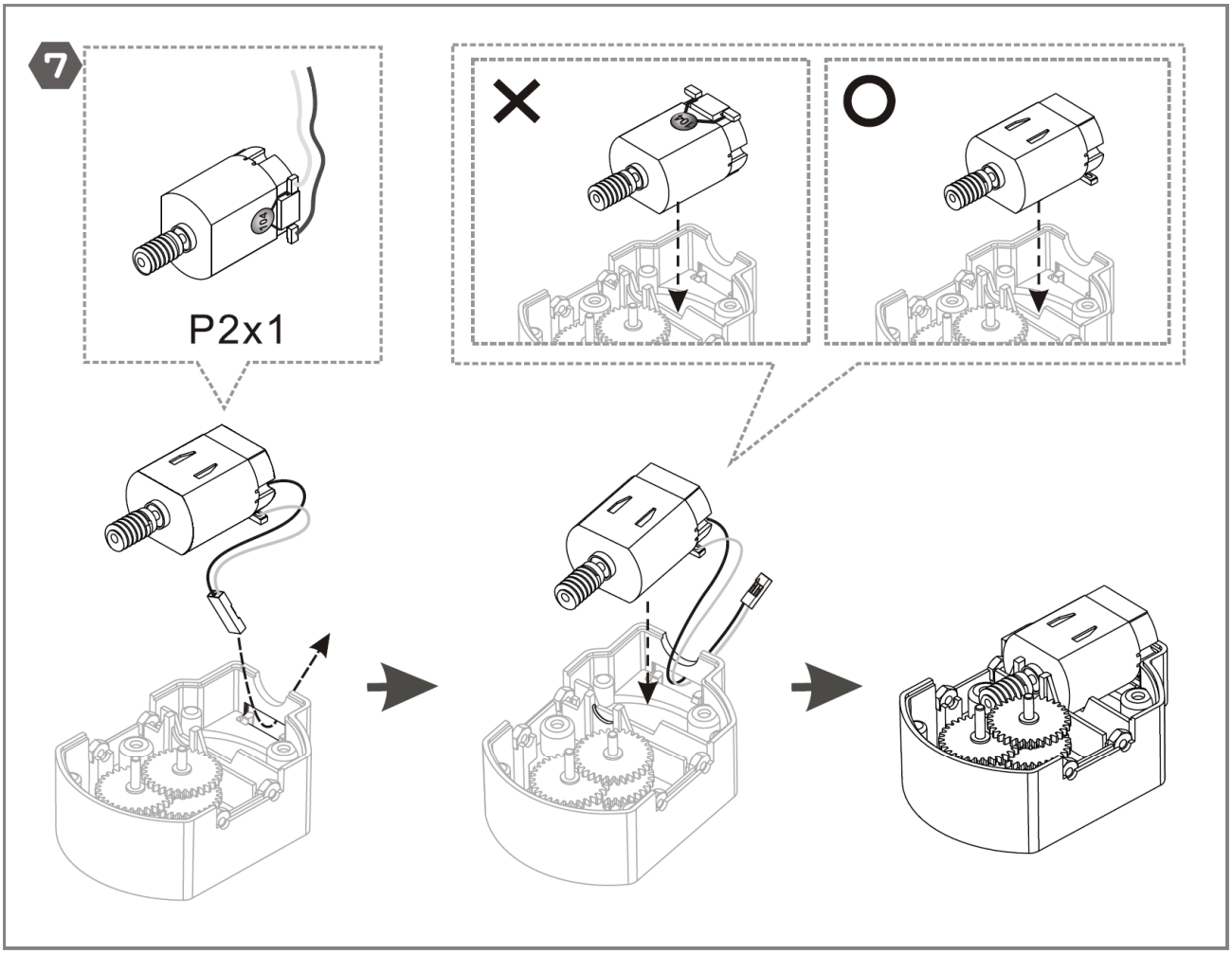

3
P1x2

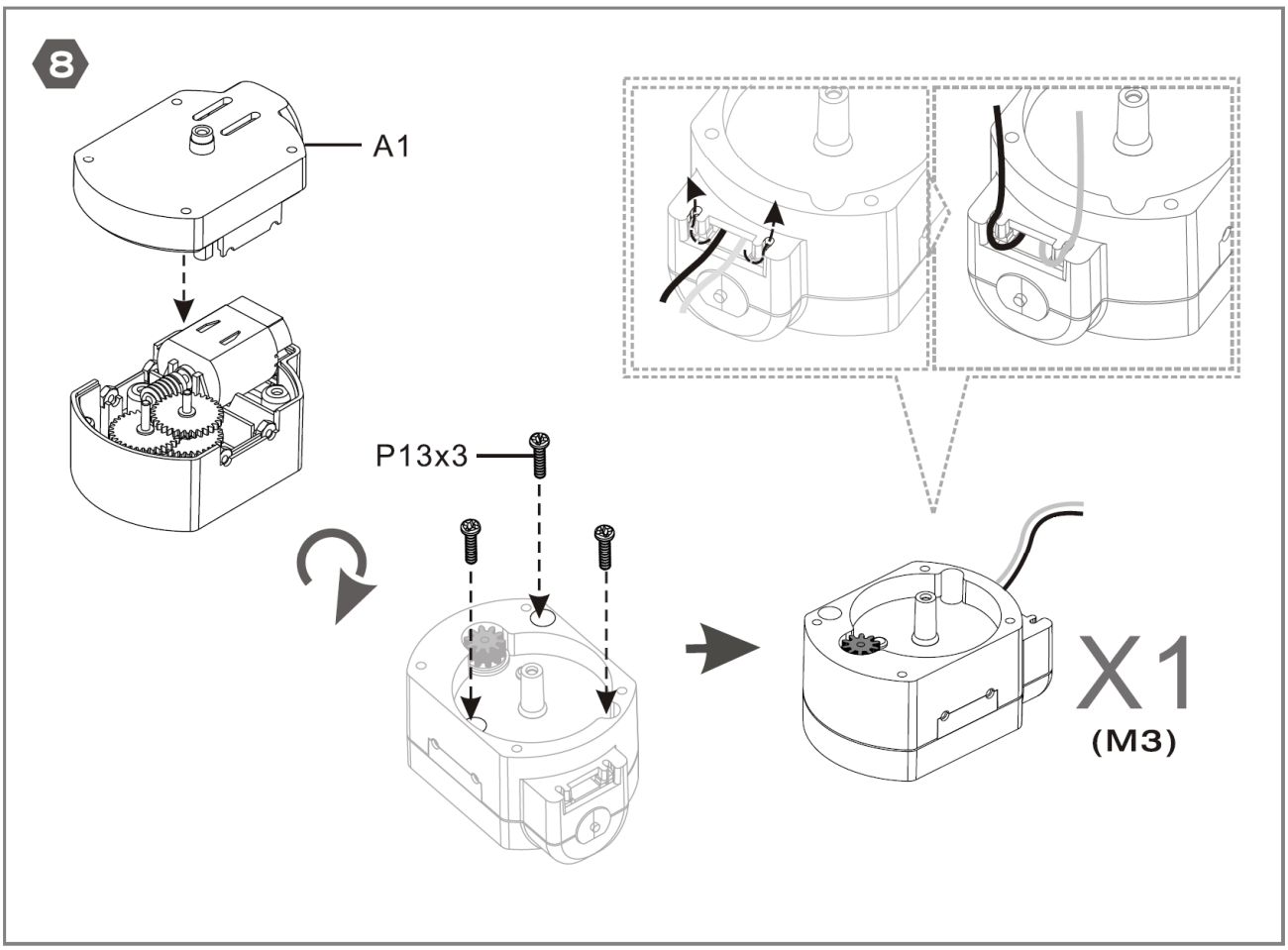

4
A1
P13x3
X2
(M4、M5)

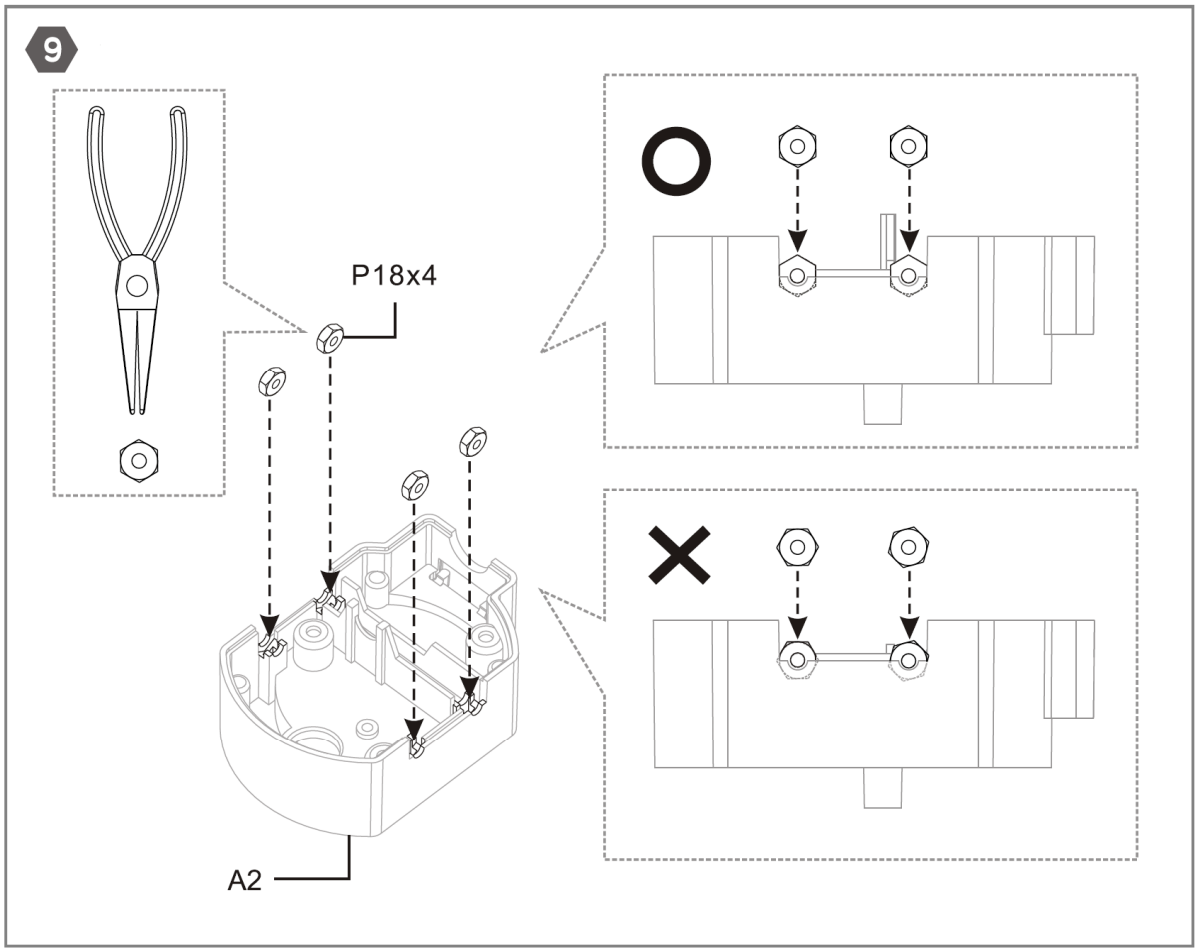


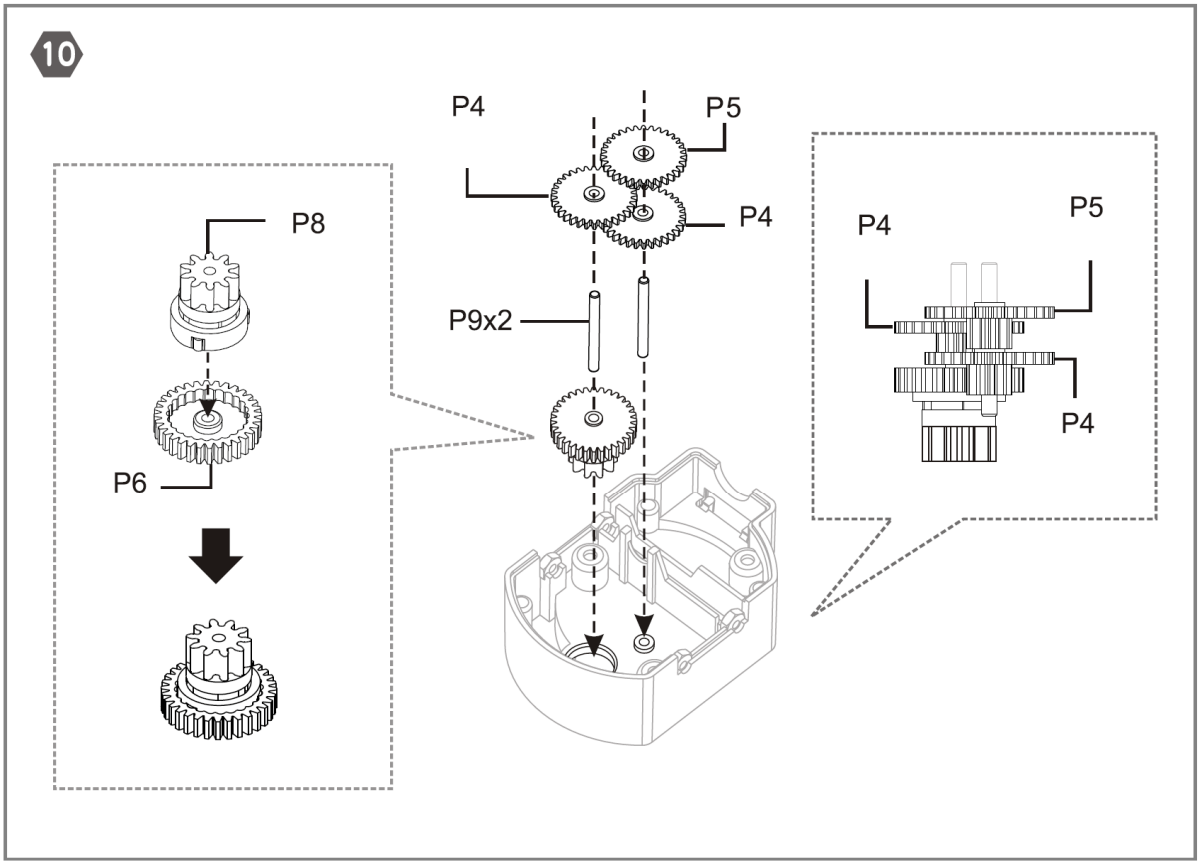


P4 = grey – grijs – gris – gris – grau / P5 = brown – bruin – marron – marrón – braun
P6 = blue – blauw – bleu – azul – blau / P7 = black – zwart – noir – negro – schwarz

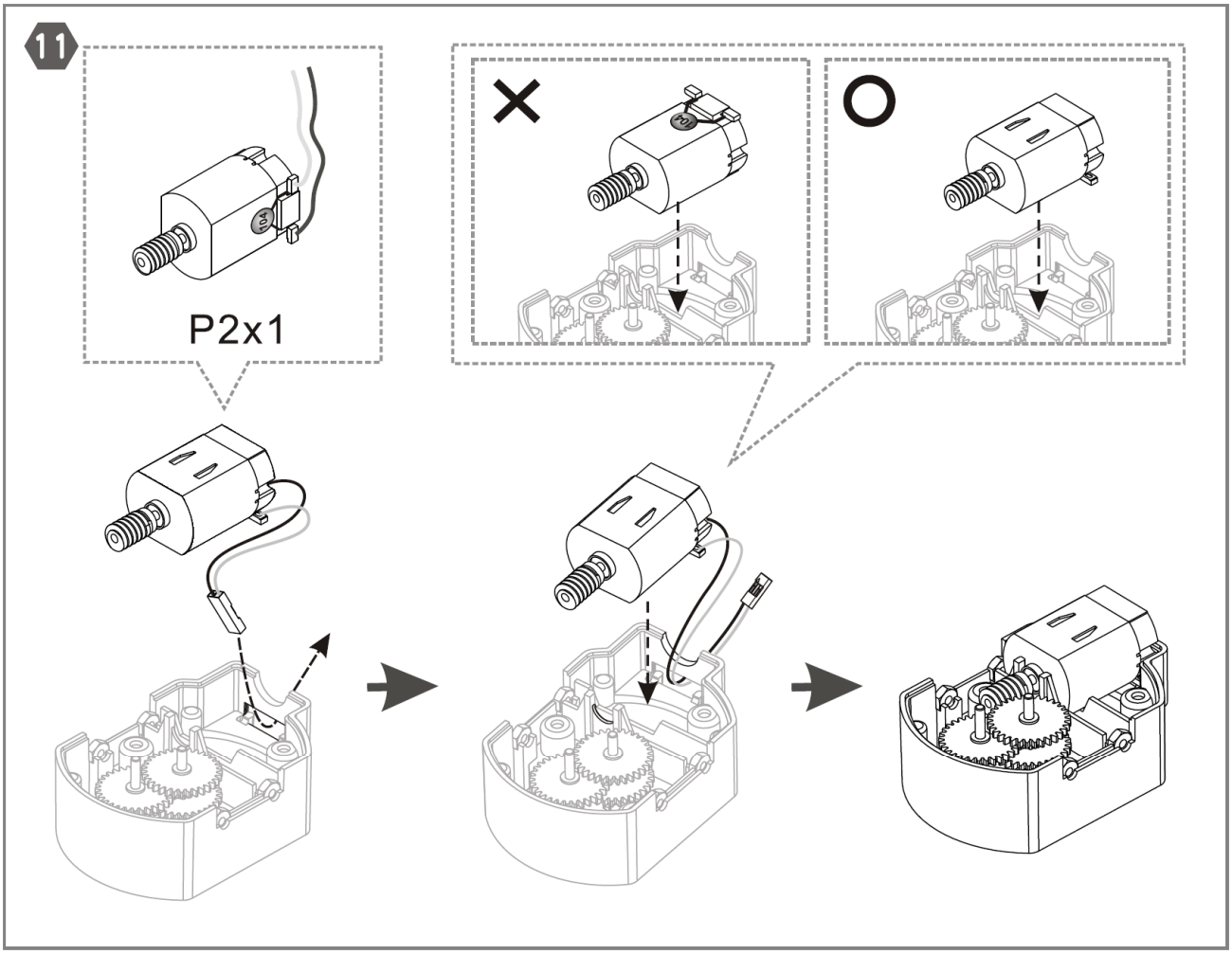

7
P2x1

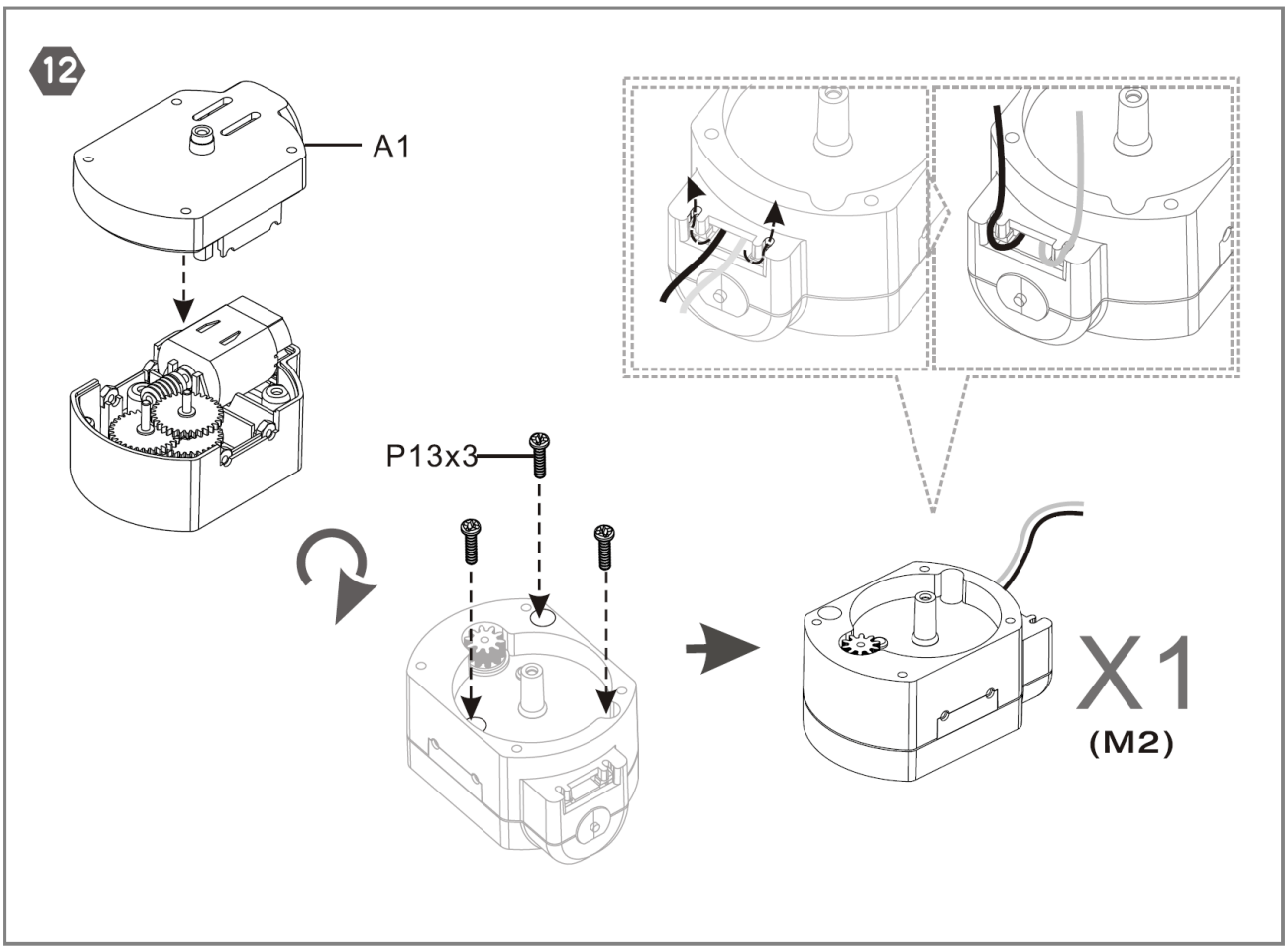

8
A1
P13x3
X1
(M3)

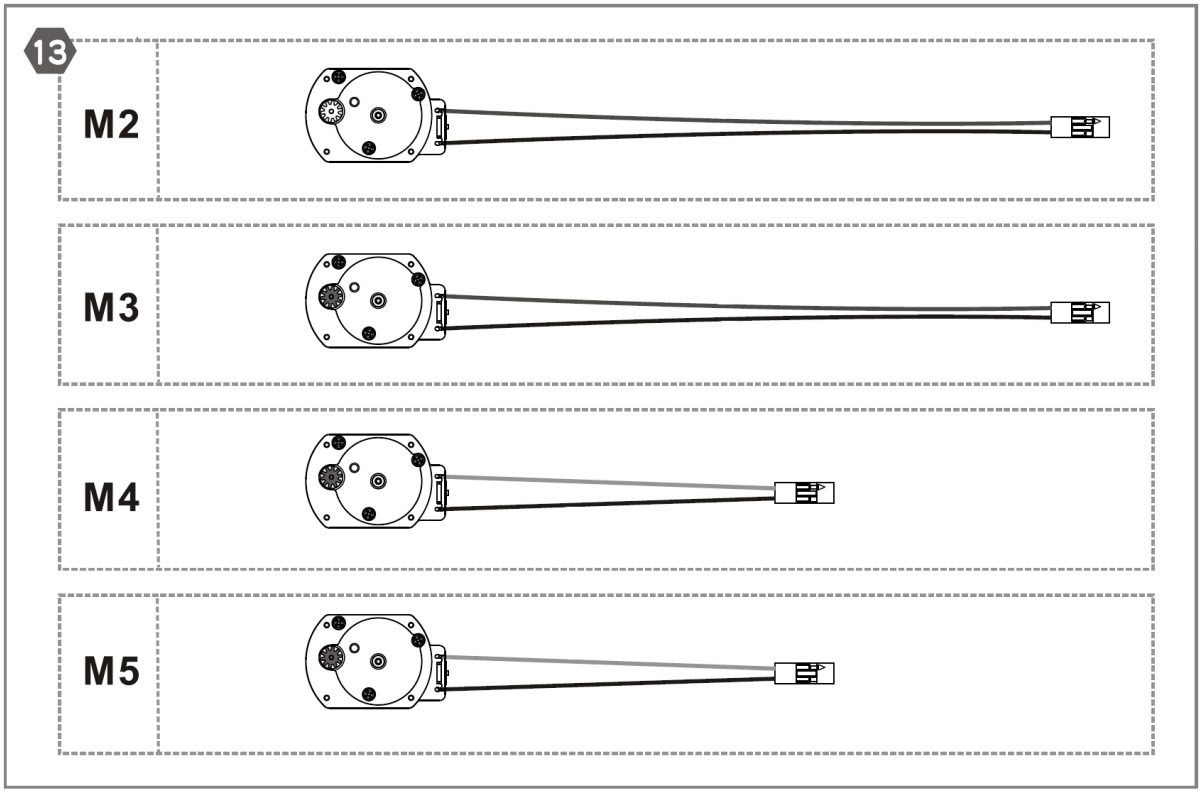


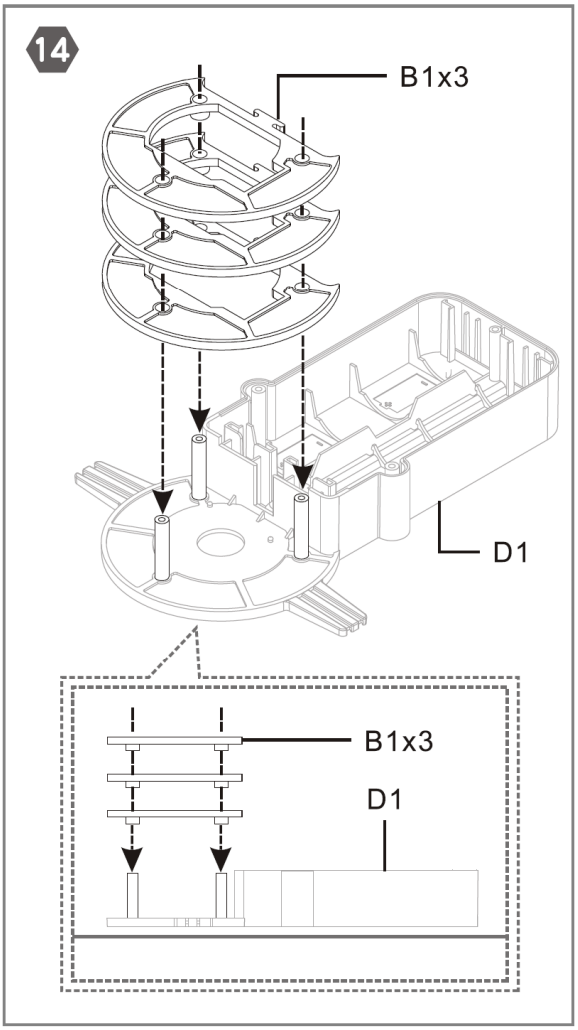


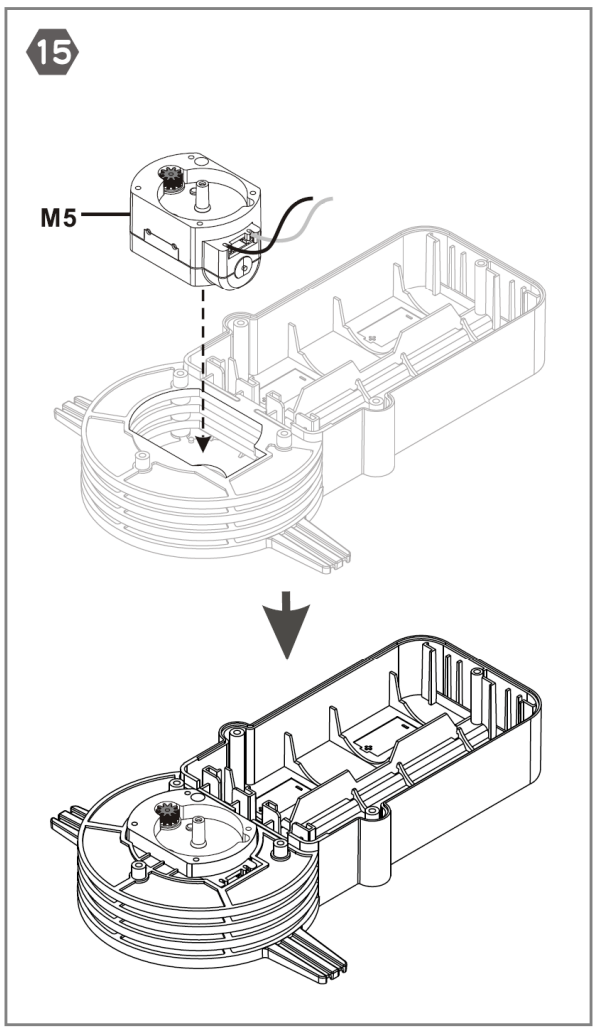
P4 = grey – grijs – gris – gris – grau / P5 = brown – bruin – marron – marrón – braun
P6 = blue – blauw – bleu – azul – blau / P8 = white – wit – blanc – blanco – weiß


11
P2x1


12
A1
P13x3
X1
(M2)

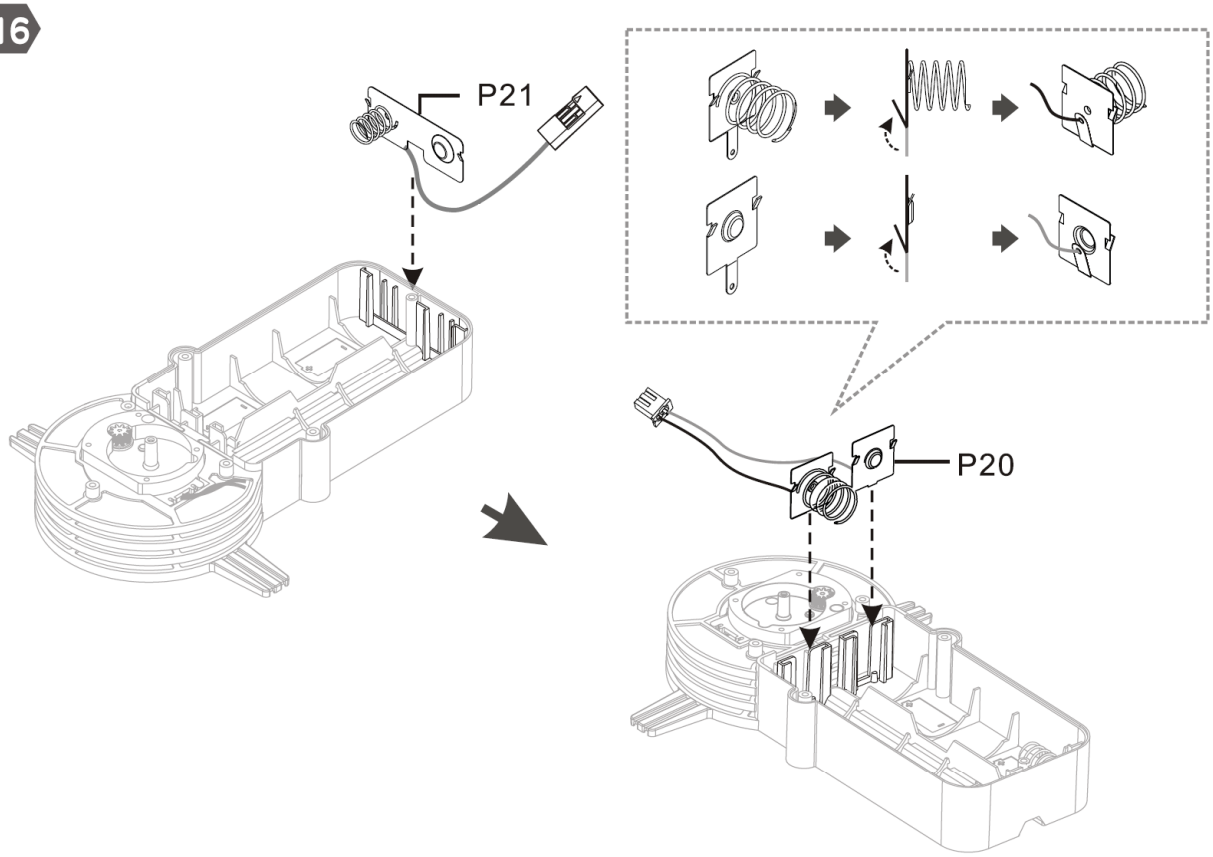




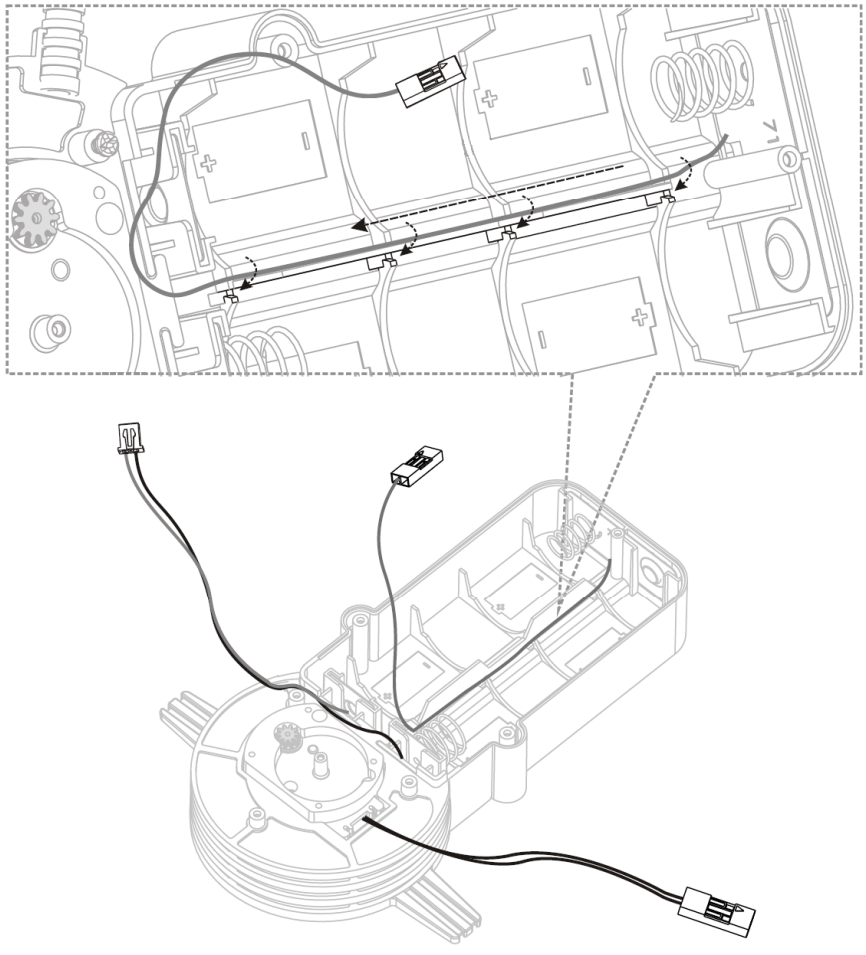


M2 = white gear – wit tandwiel – pignon blanc – piñon blanco – weißer Zahnrad
M3 = black gear – zwart tandwiel – pignon noir – piñon negro – schwarzer Zahnrad
M4 = black gear – zwart tandwiel – pignon noir – piñon negro – schwarzer Zahnrad
M5 = black gear – zwart tandwiel – pignon noir – piñon negro – schwarzer Zahnrad

16



17



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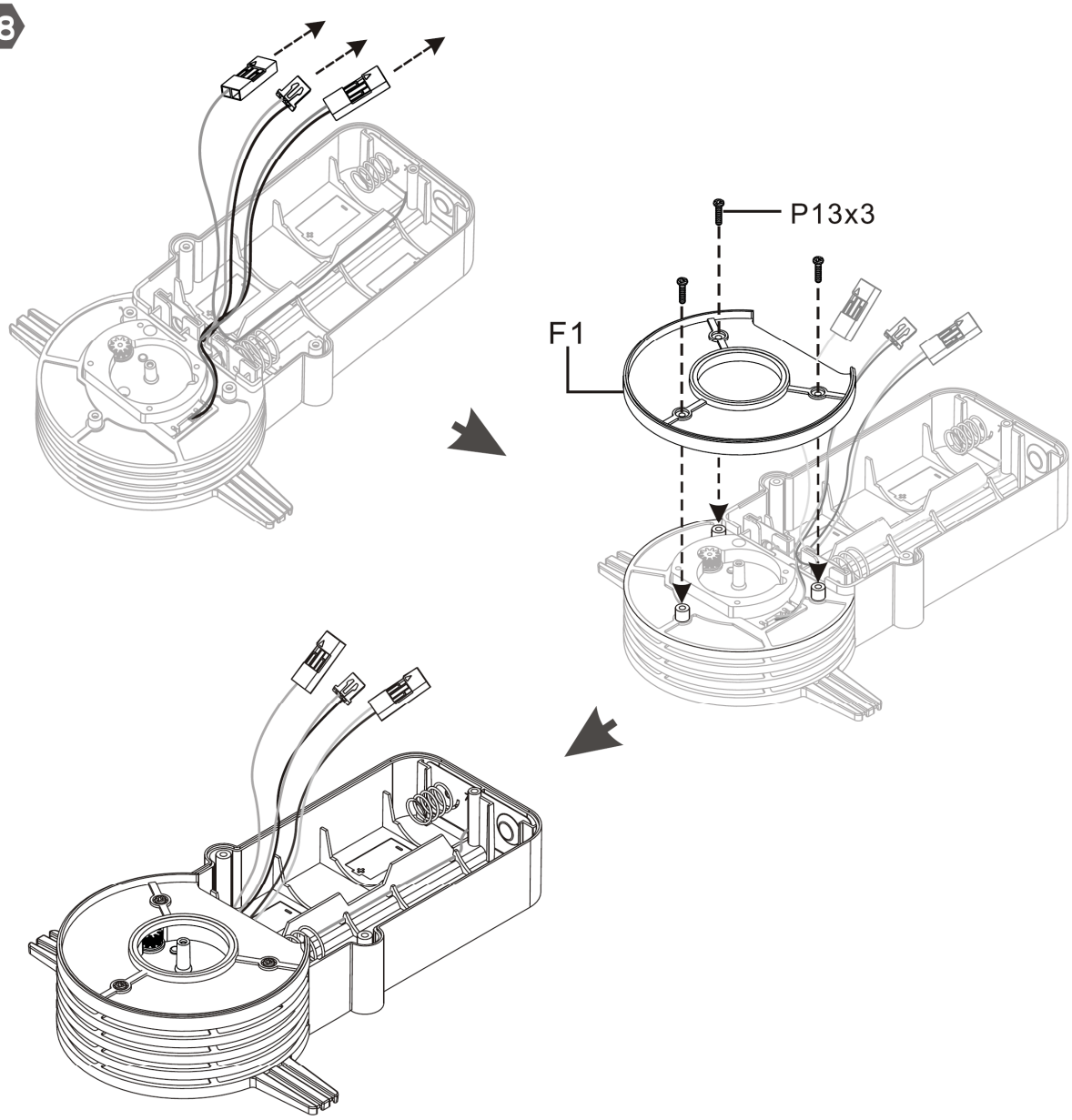
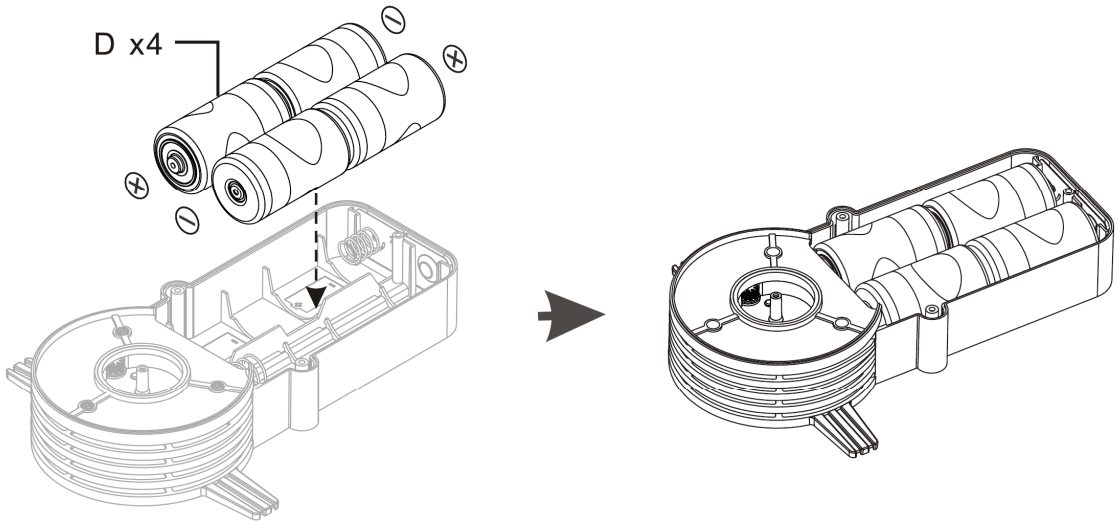
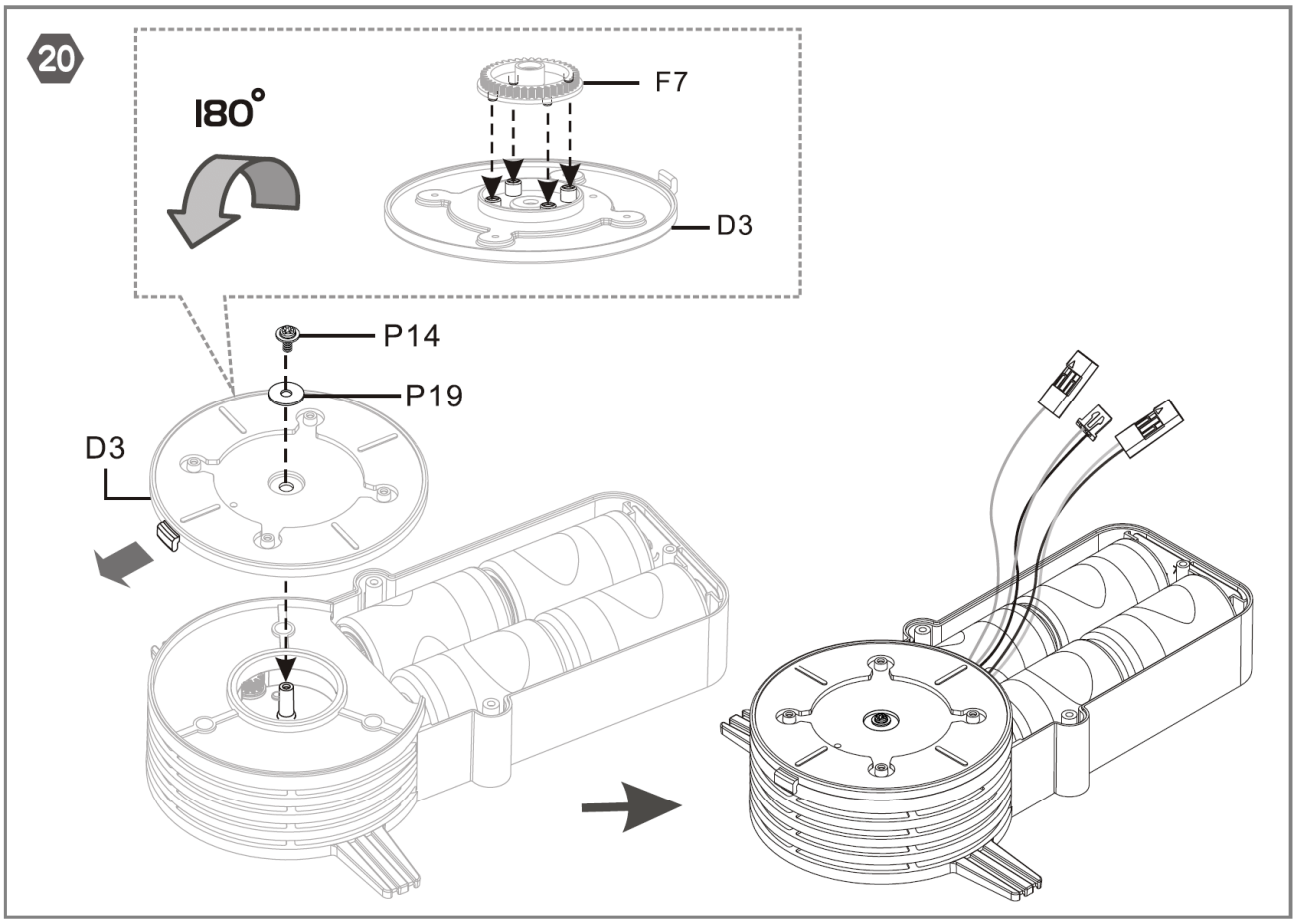
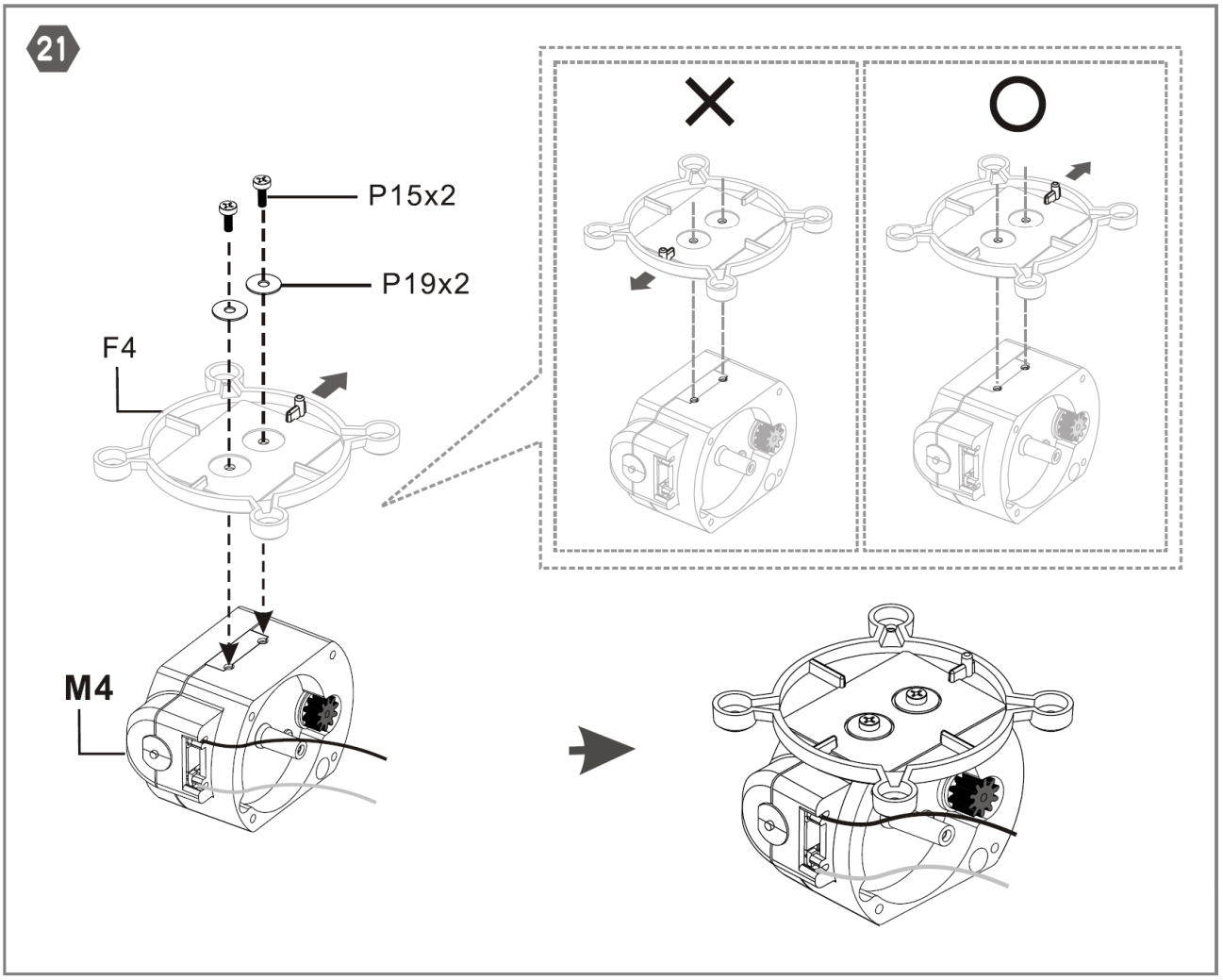
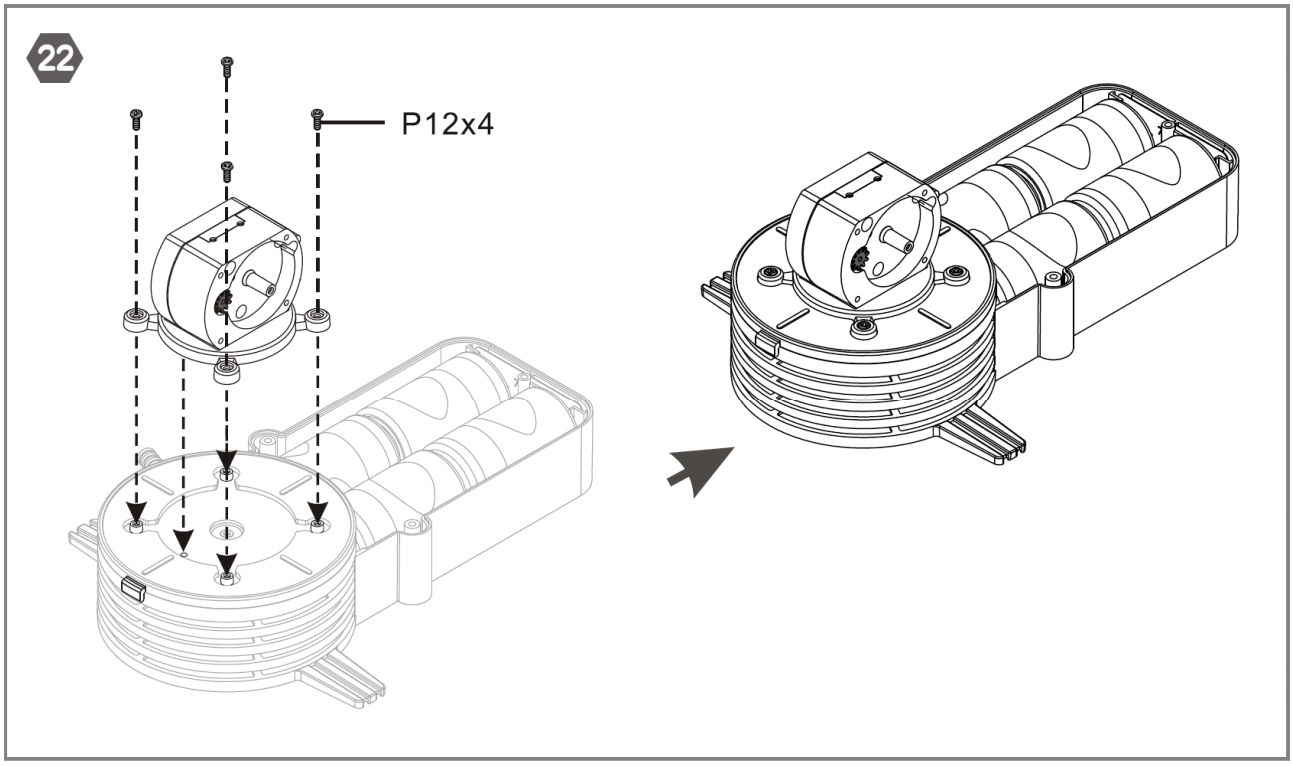


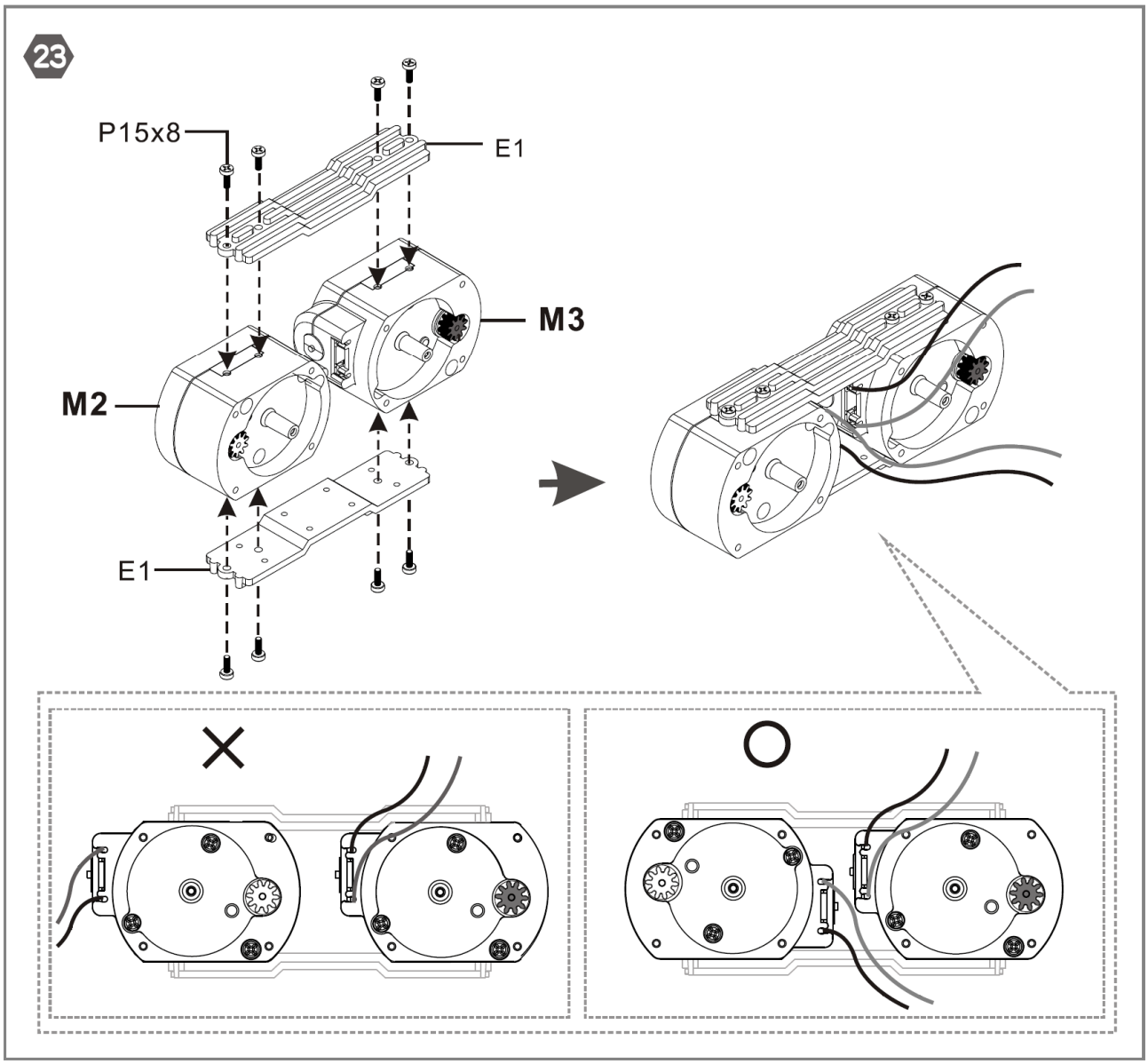
19

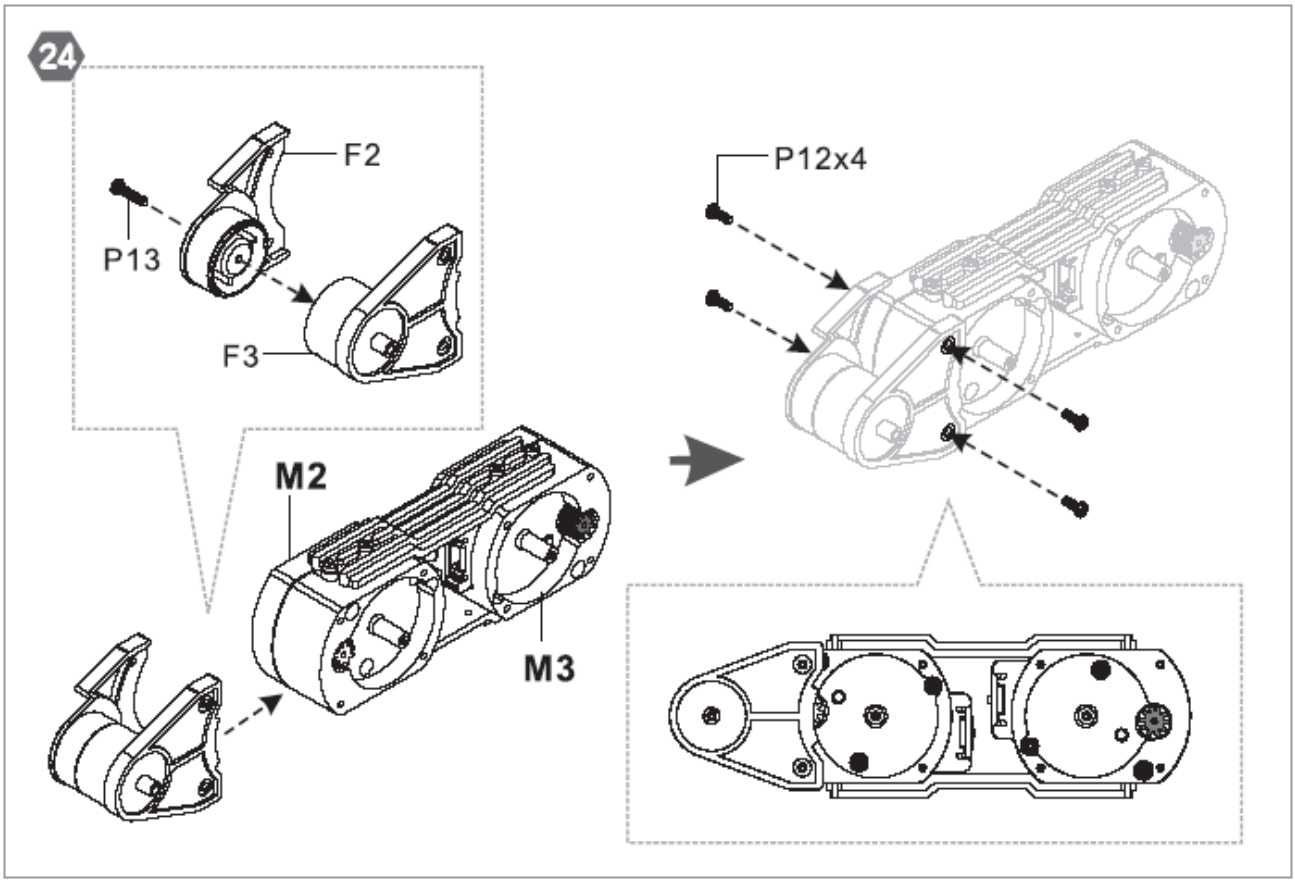


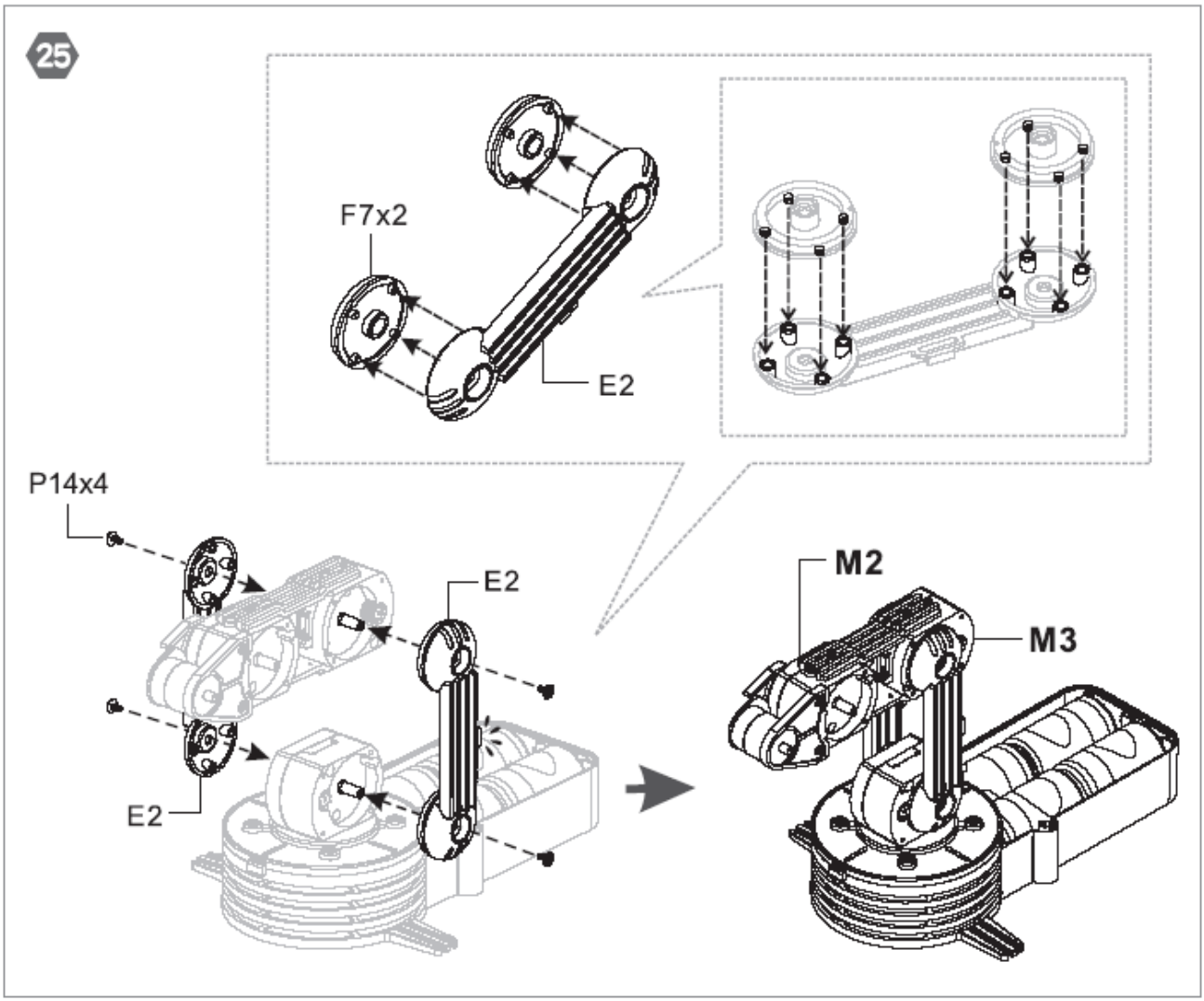

20
180°
F7
D3
P14
P19
D3


21
P15x2
P19x2
F4
M4

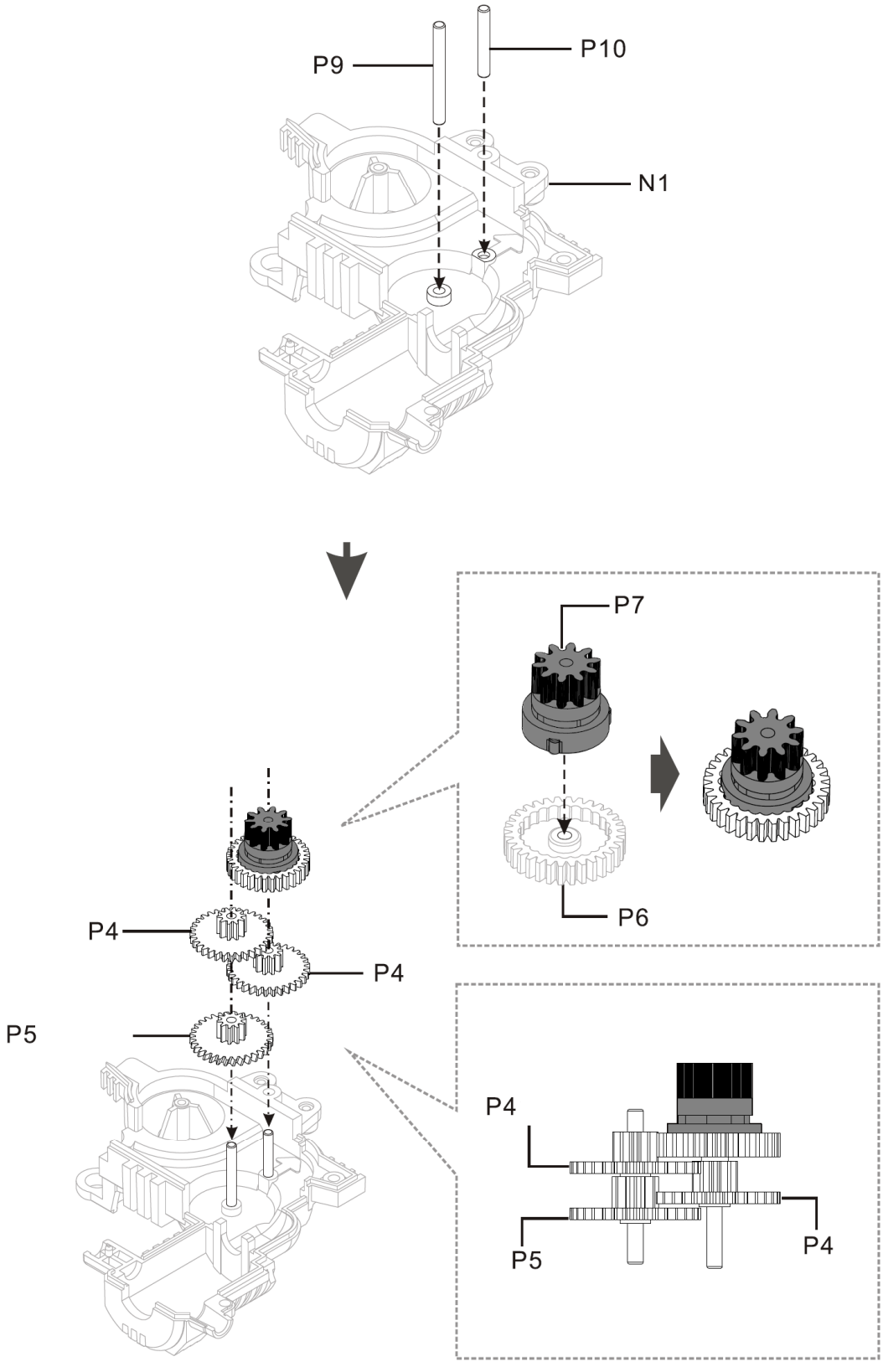

22
P12x4


23
P15x8
E1
M3
M2
E1


24
F2
P13
F3
P12x4
M2
M3


25
F7x2
E2
P14x4
E2
E2
M2
M3

26



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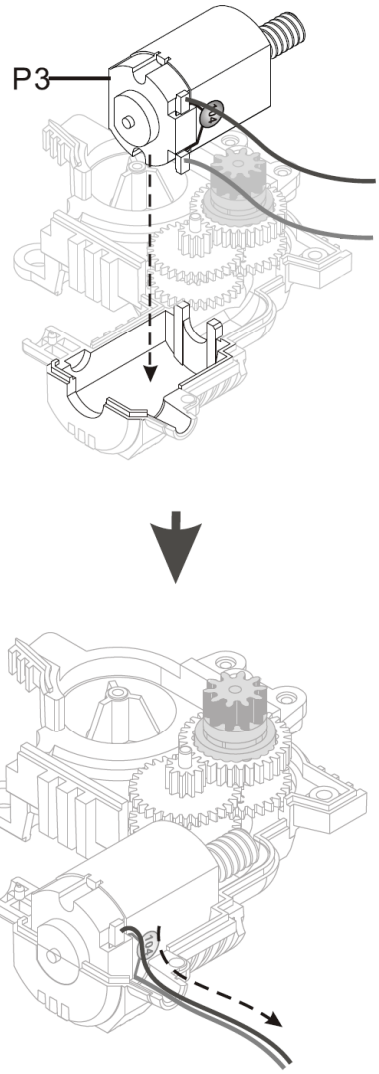
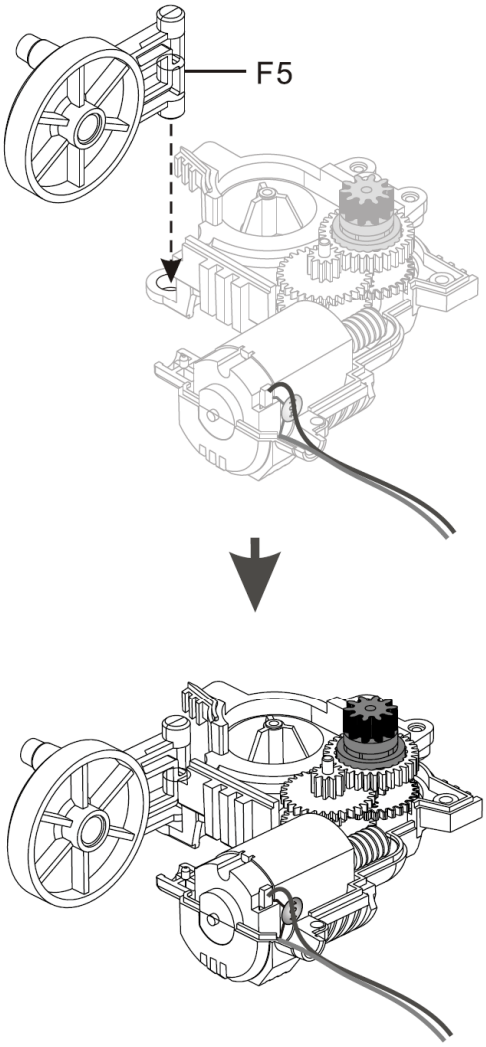
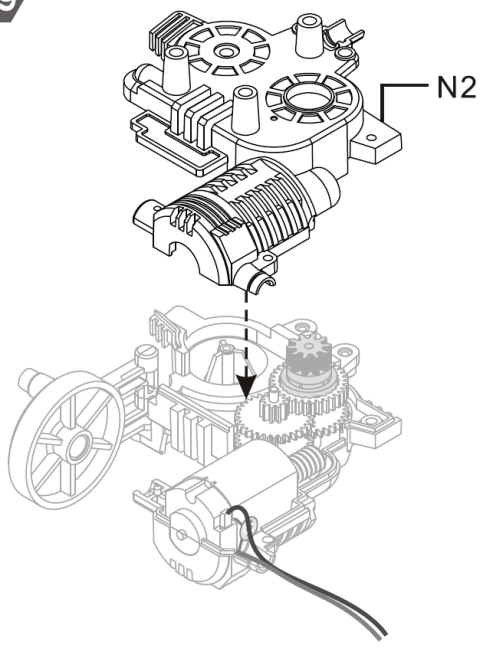
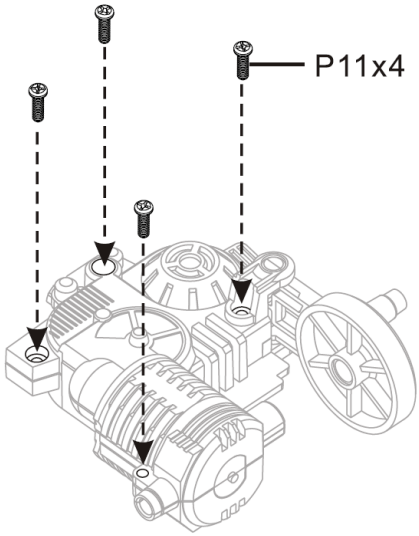


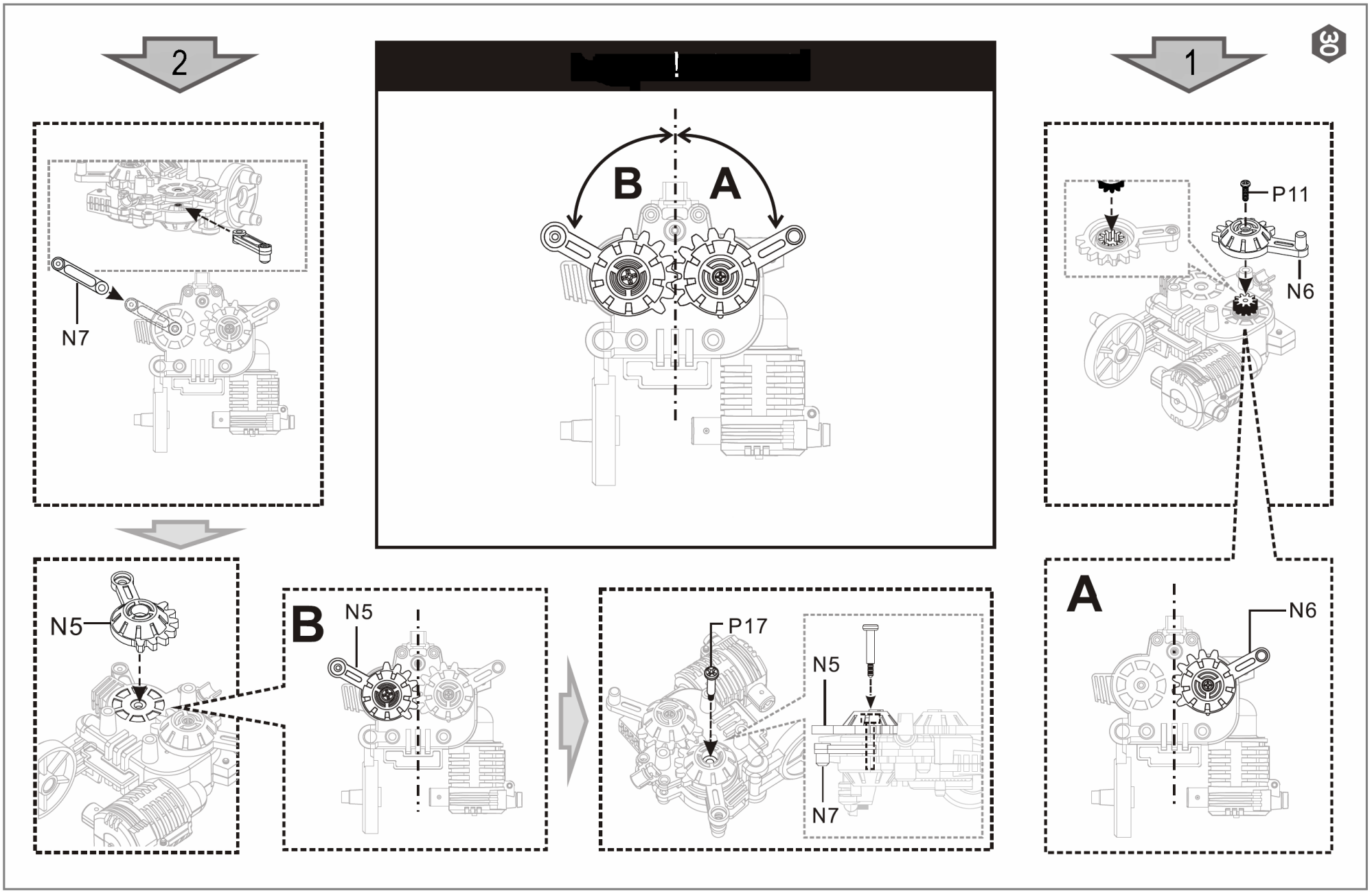
28

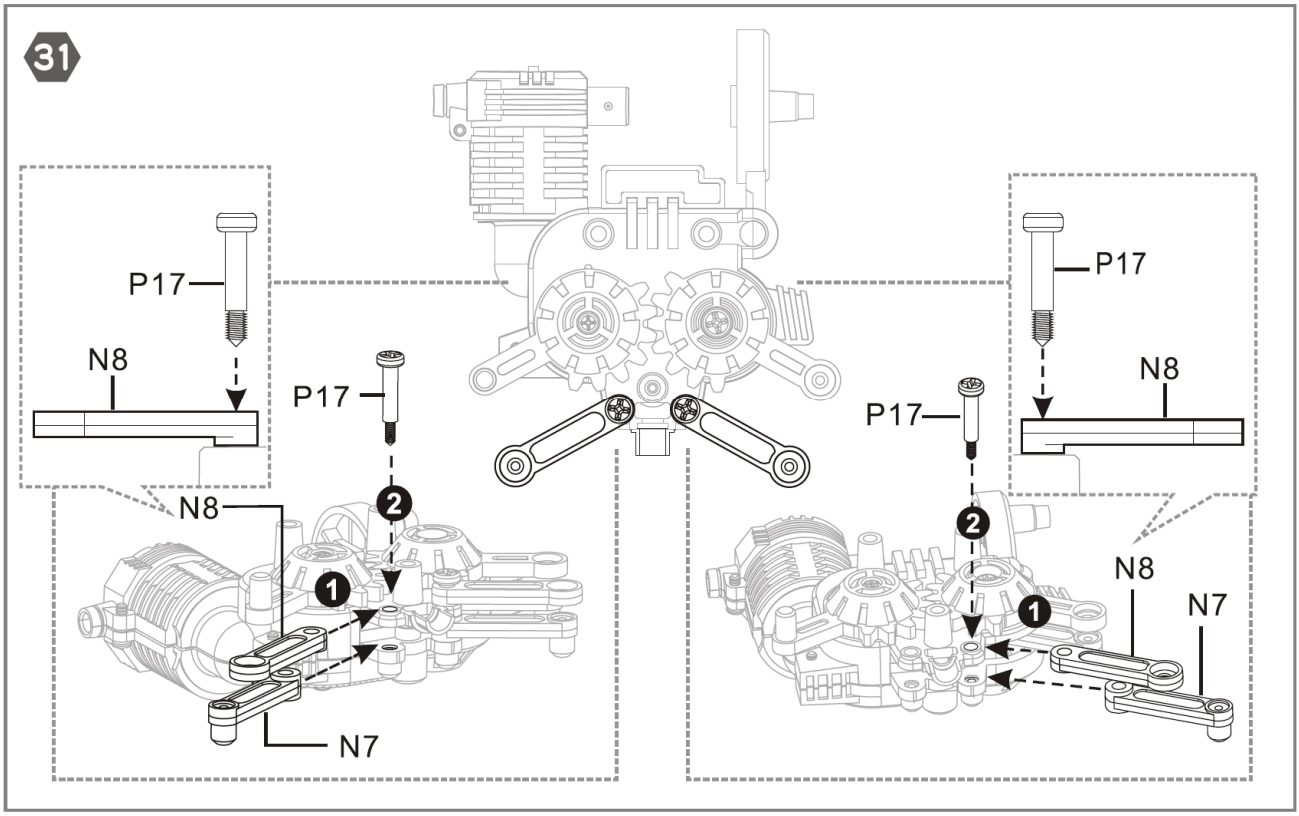


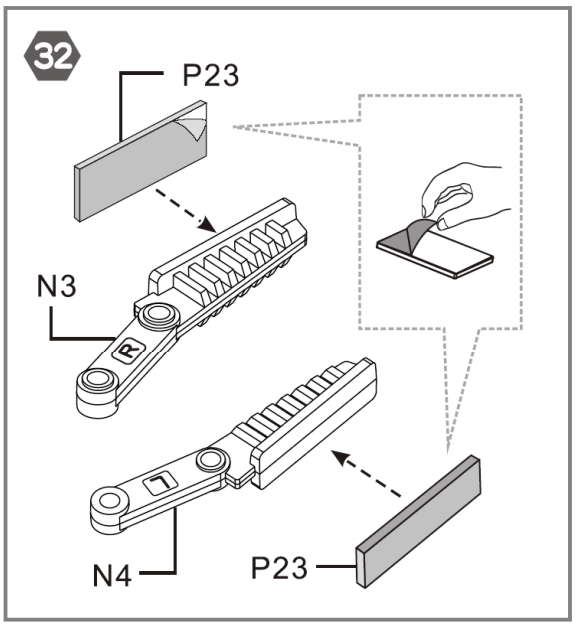
29

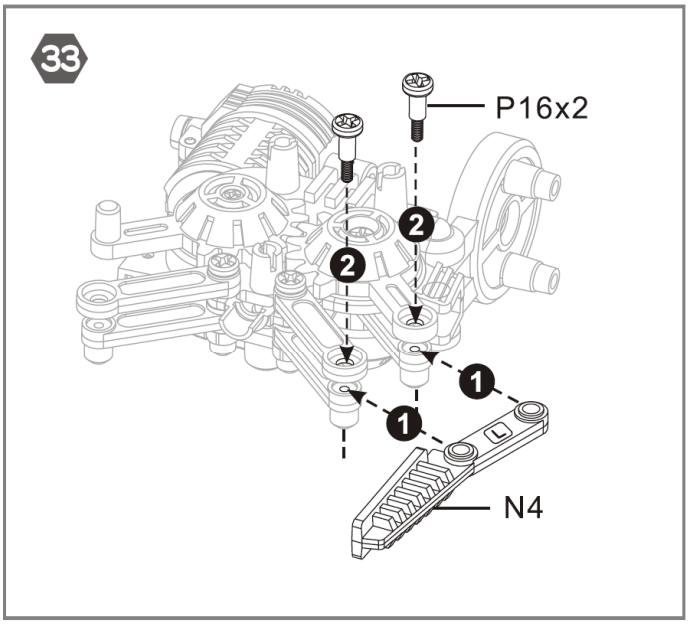


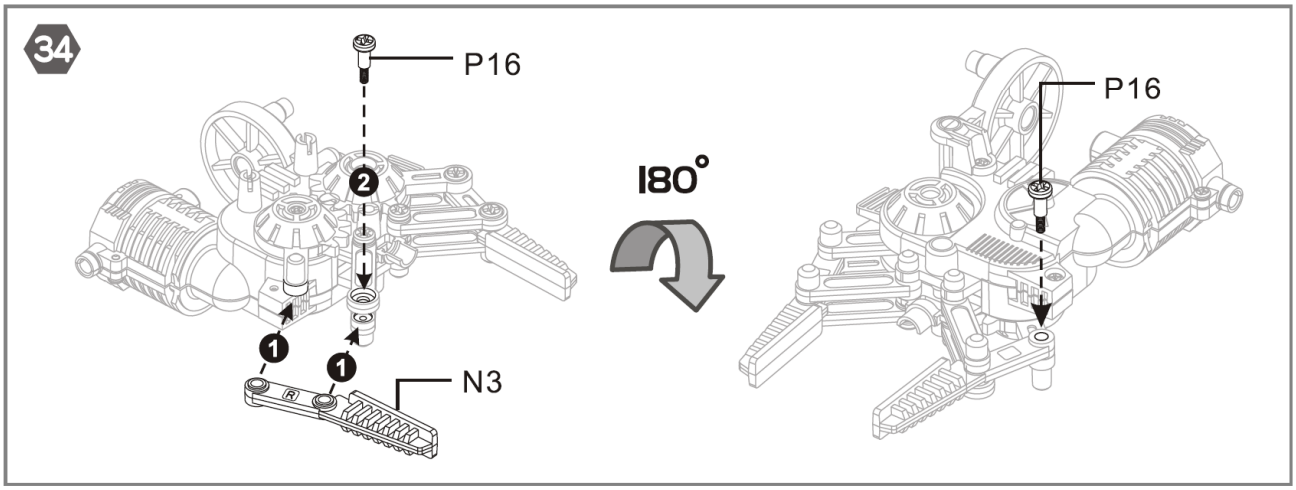


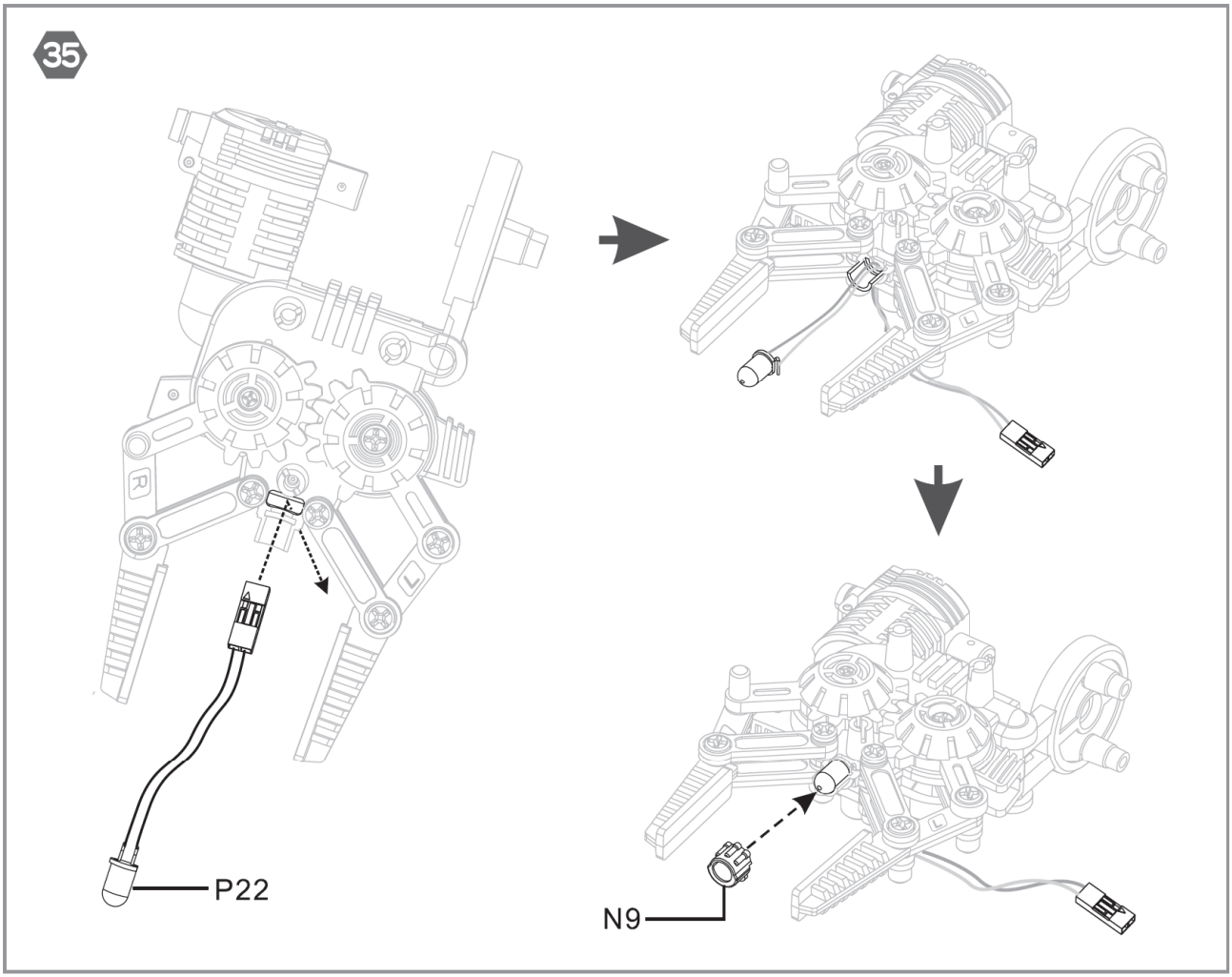

2
!
1
30
N7
B
A
P11
N6
N5
B
N5
P17
N5
N7
A
N6

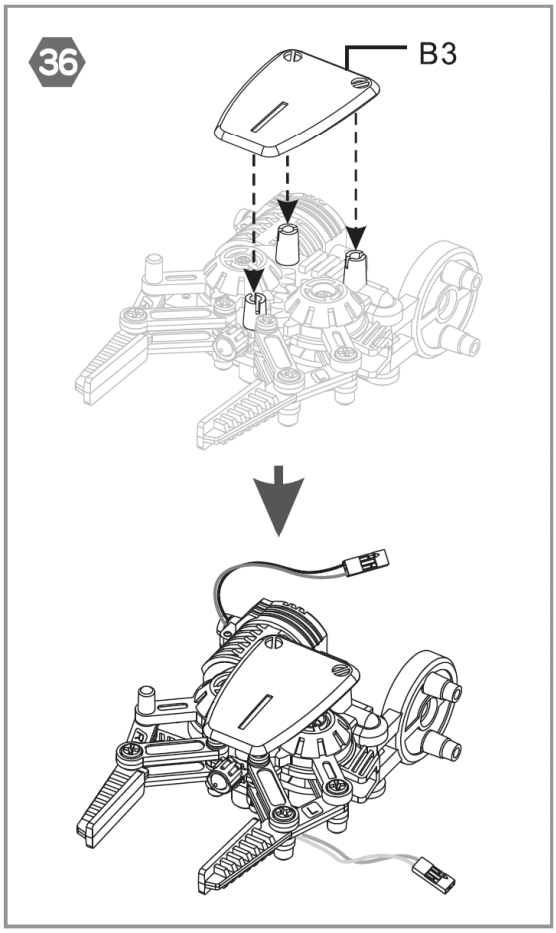

31
P17
N8
P17
N8
2
1
N7
P17
N8
P17
2
1
N8
N7

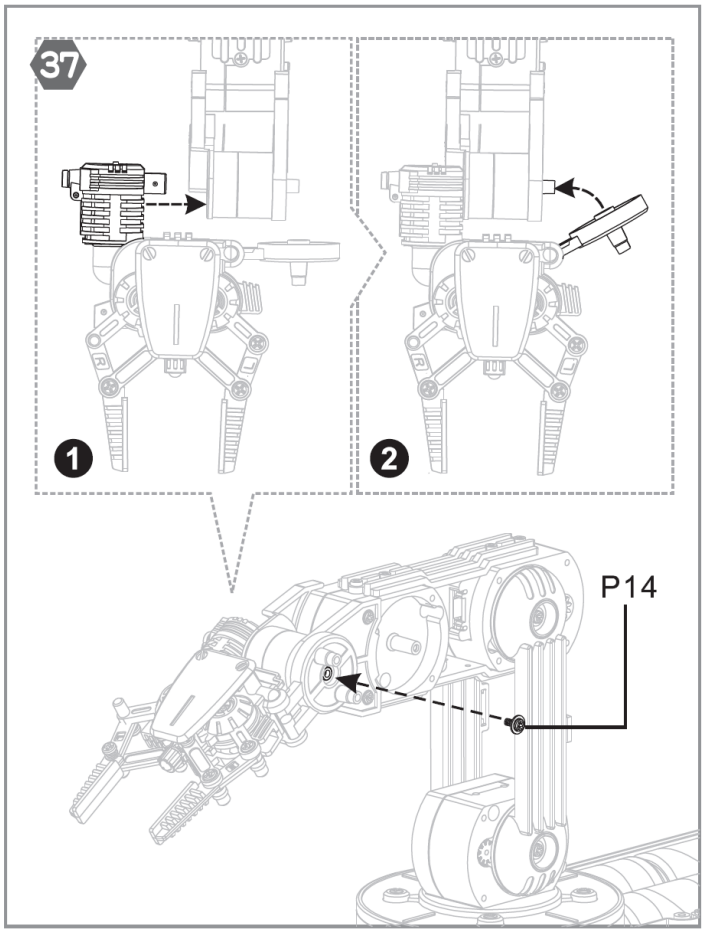

32
P23
N3
R
N4
P23

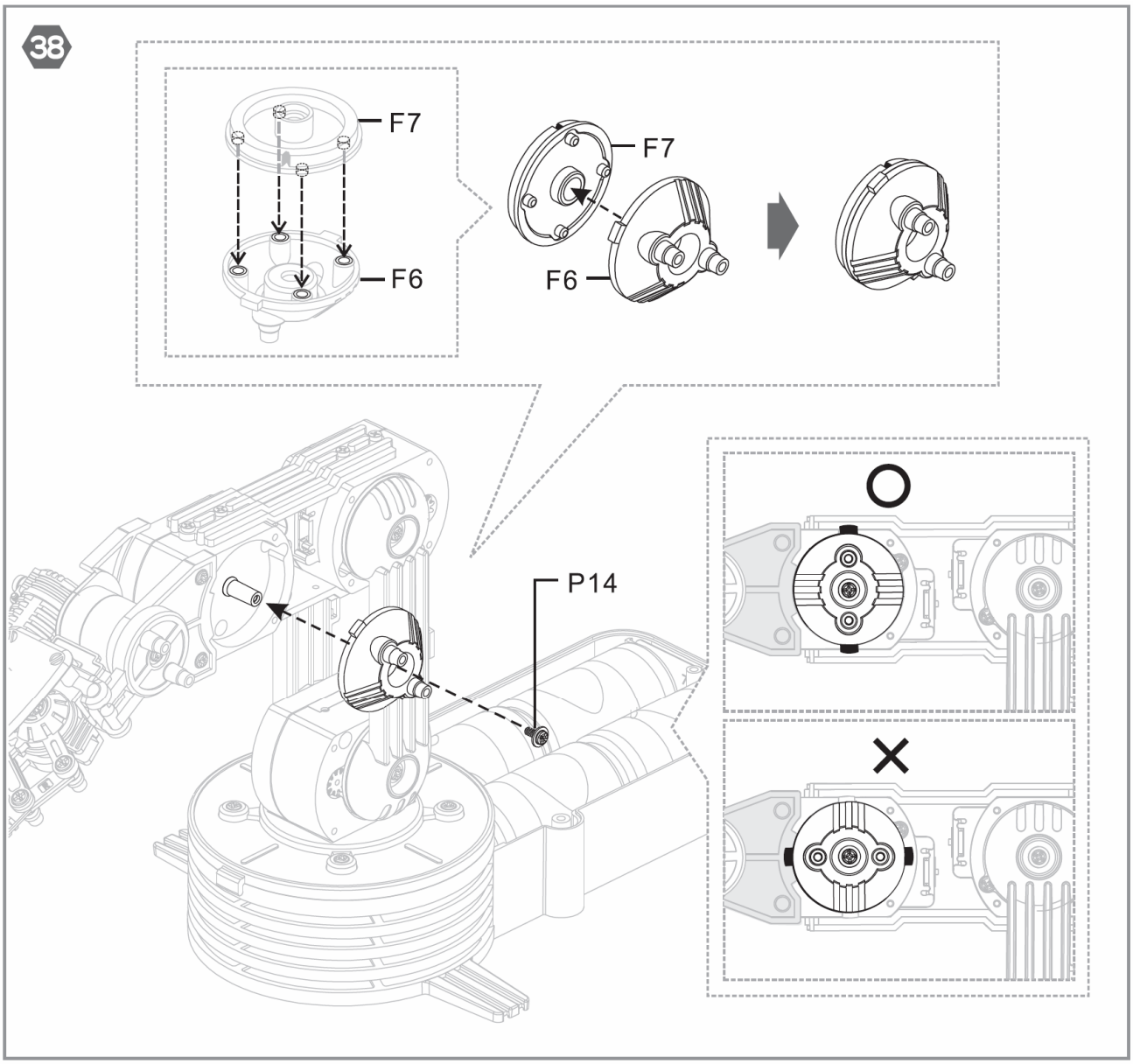

33
P16x2
2
2
1
1
L
N4

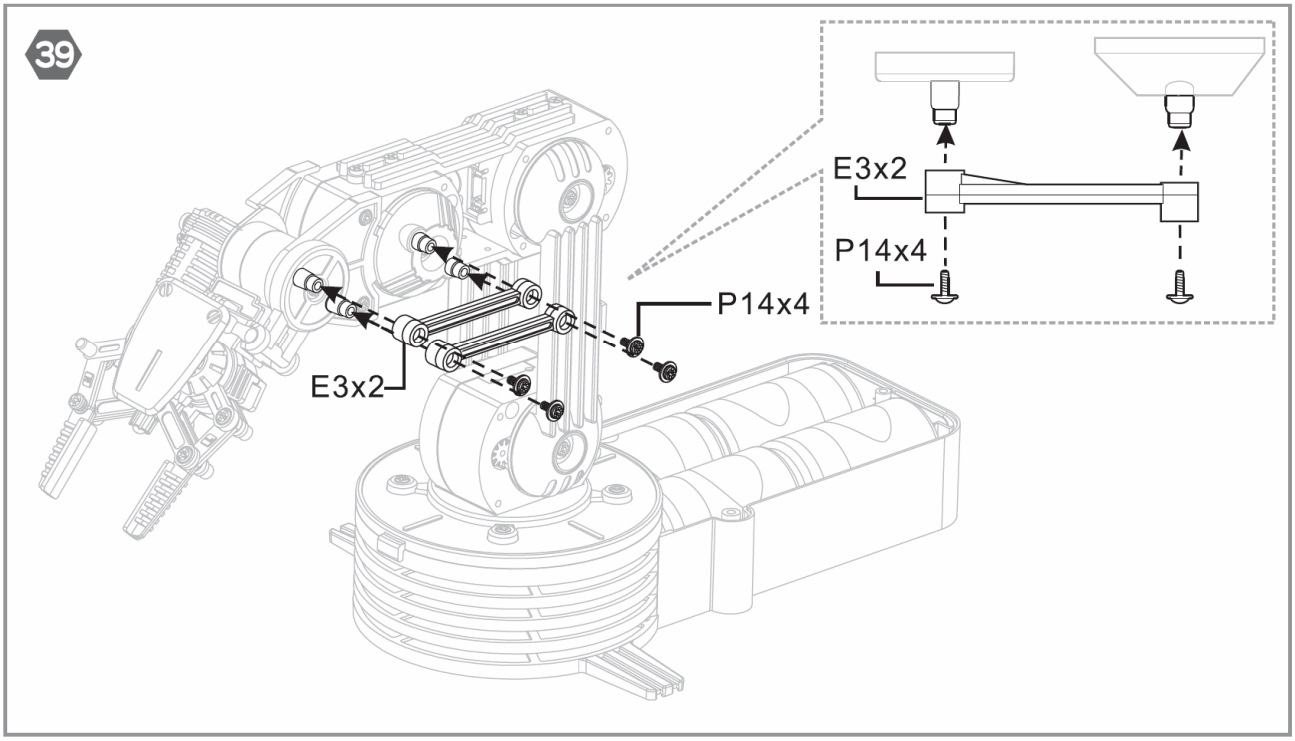

34
P16
2
1
1
R
N3
180°
P16

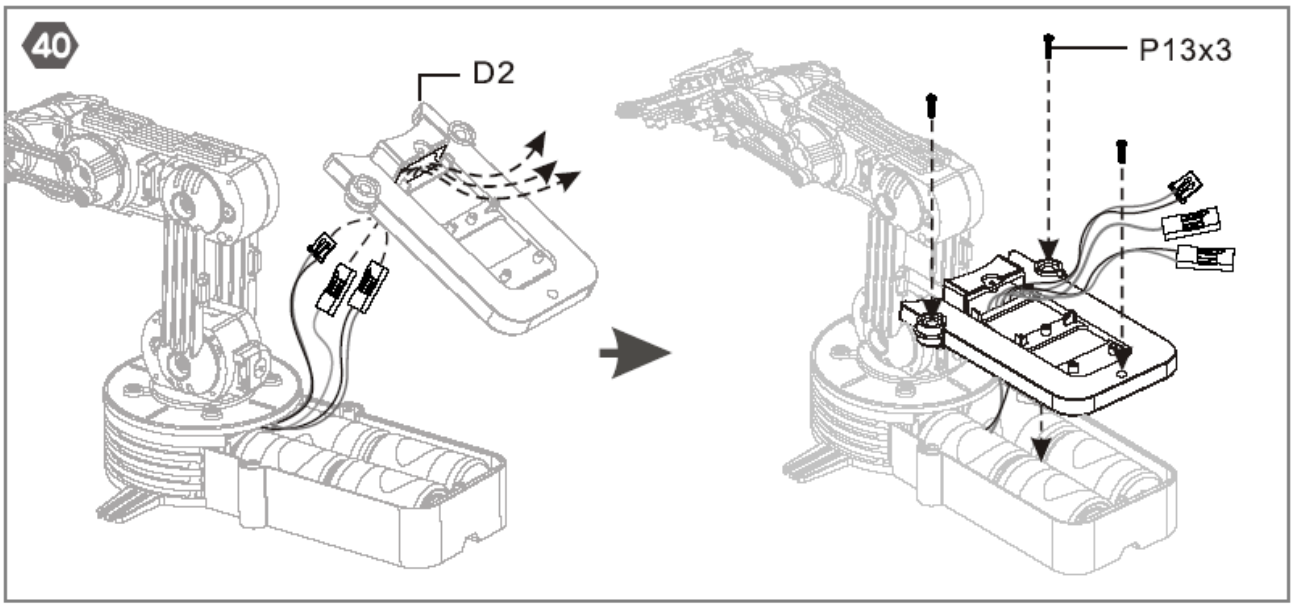

35
P22
N9

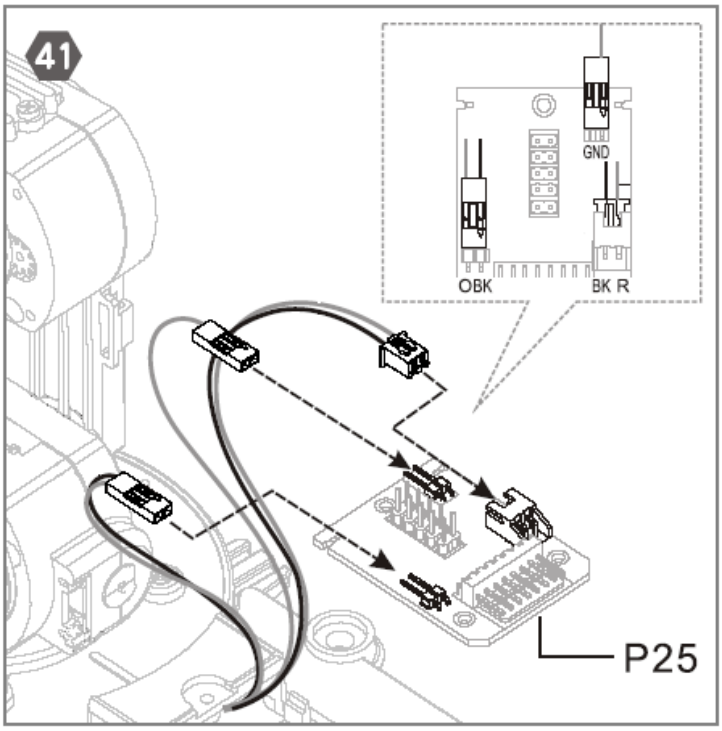

36
B3

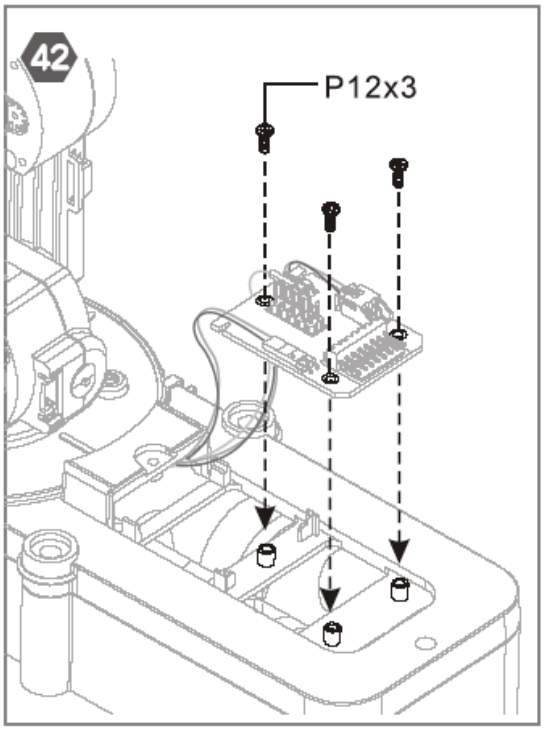

37
1
2
P14

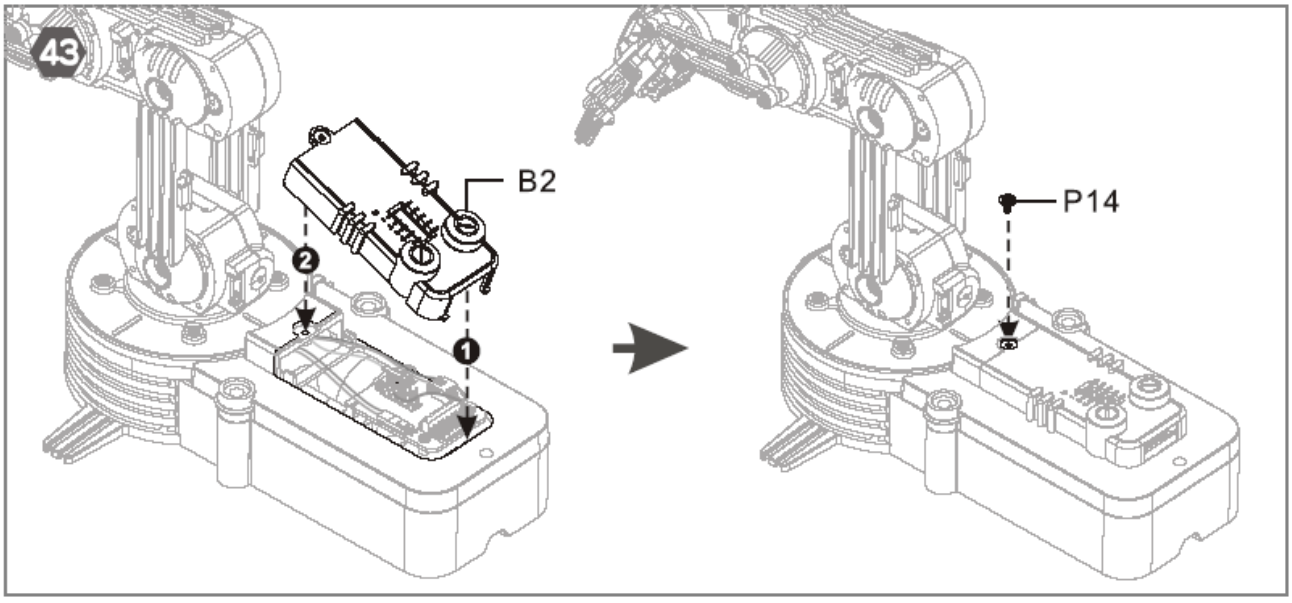

38
F7
F6
F7
F6
P14


39
E3x2
P14x4
P14x4
E3x2

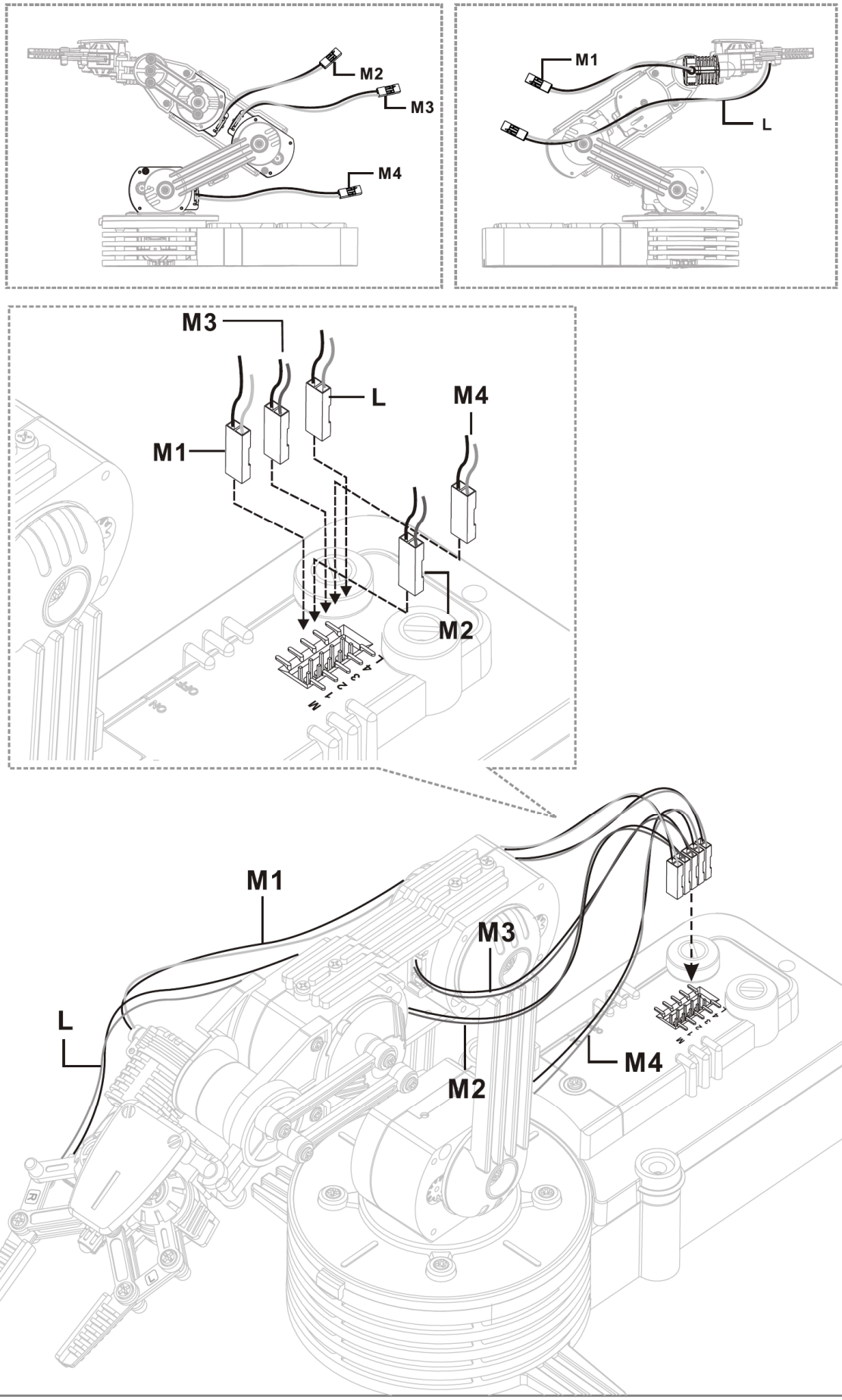

40
D2
P13x3

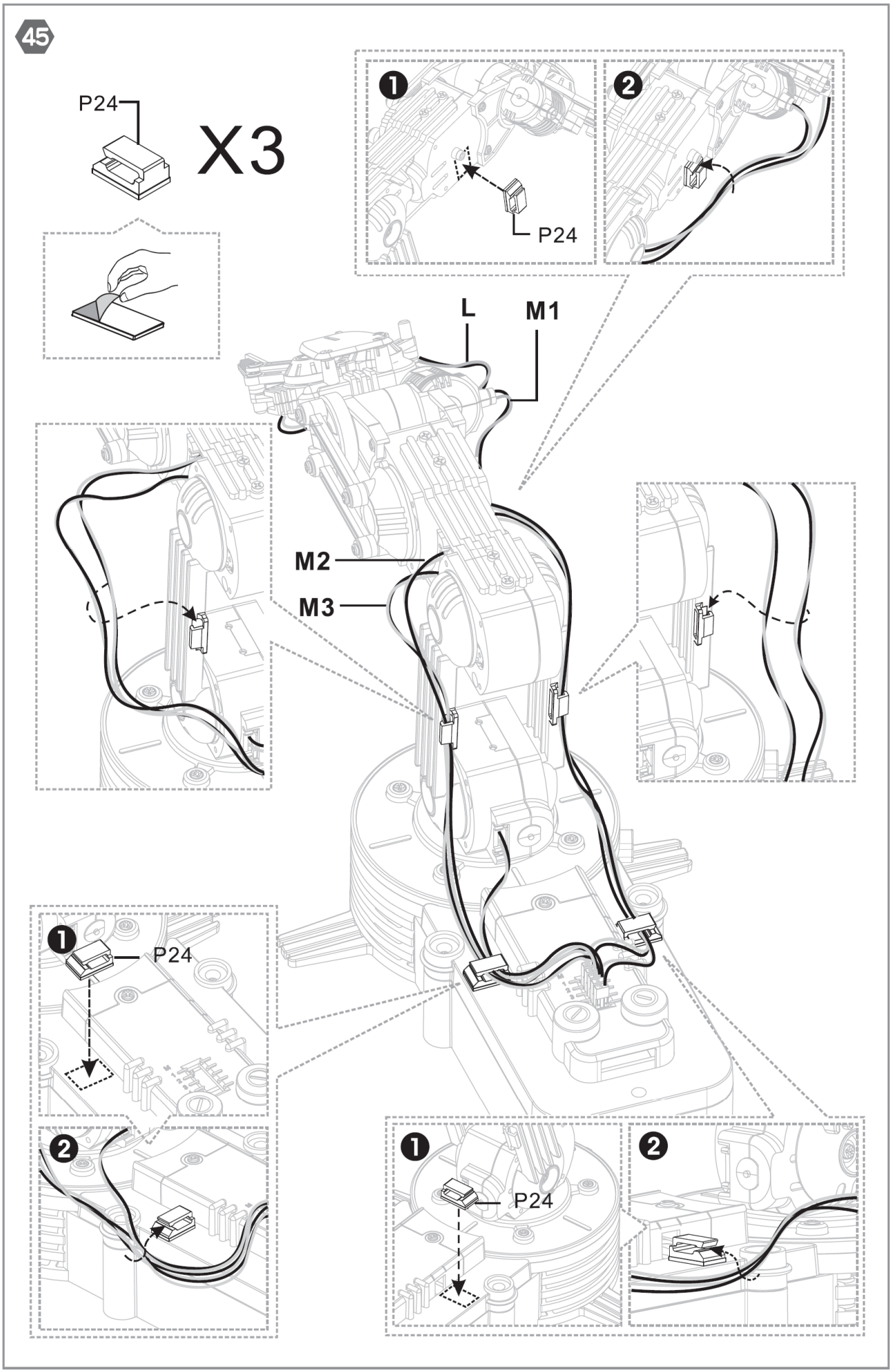

41
GND
OBK
BK R
P25


42
P12x3


43
B2
2
1
P14

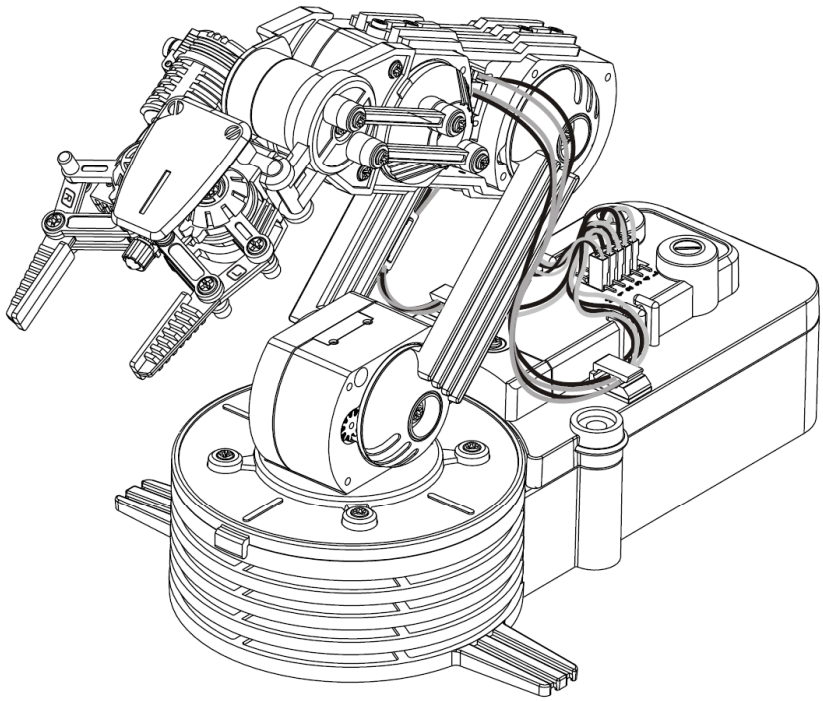
44




45
P24
X3
1
2
P24
L
M1
M2
M3
1
P24
2
1
P24
2

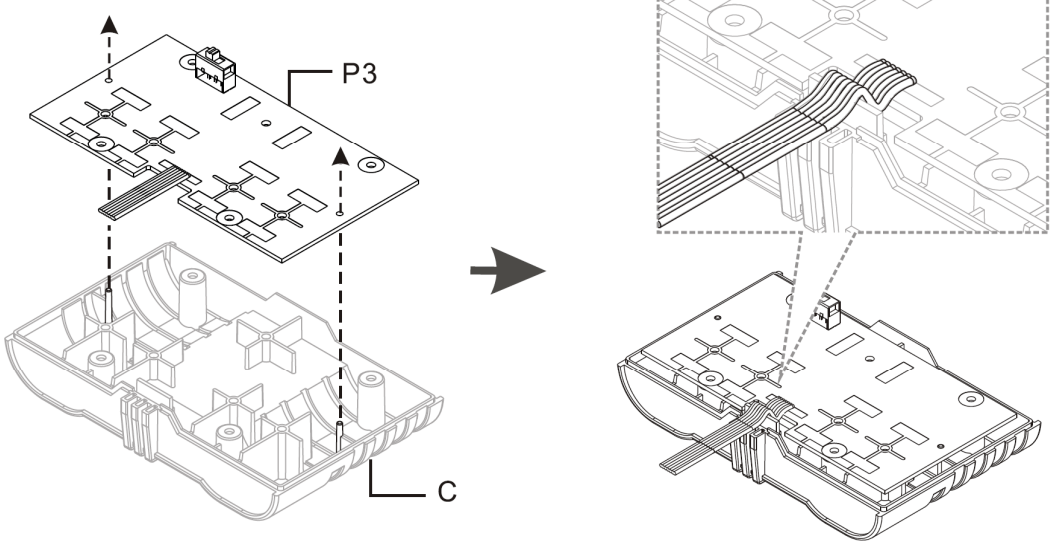
Finished Product – Afgewerkte arm – Bras terminé – Brazo terminado – Vollendeter Arm

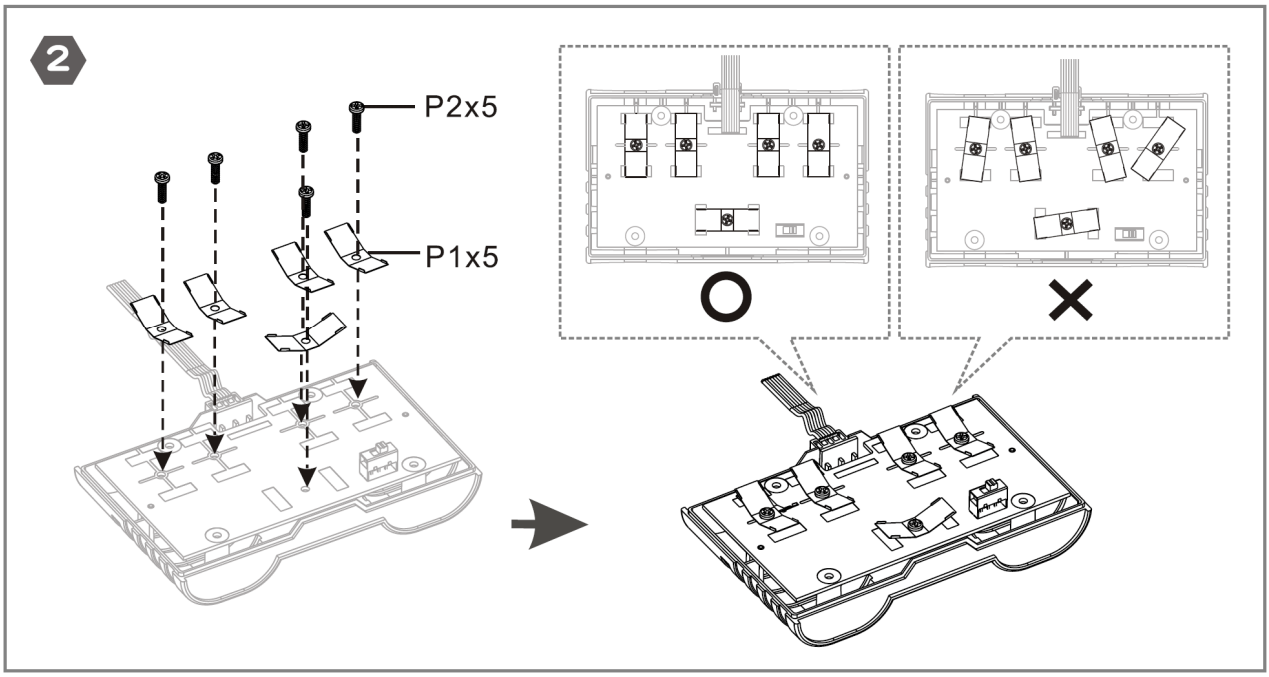
46

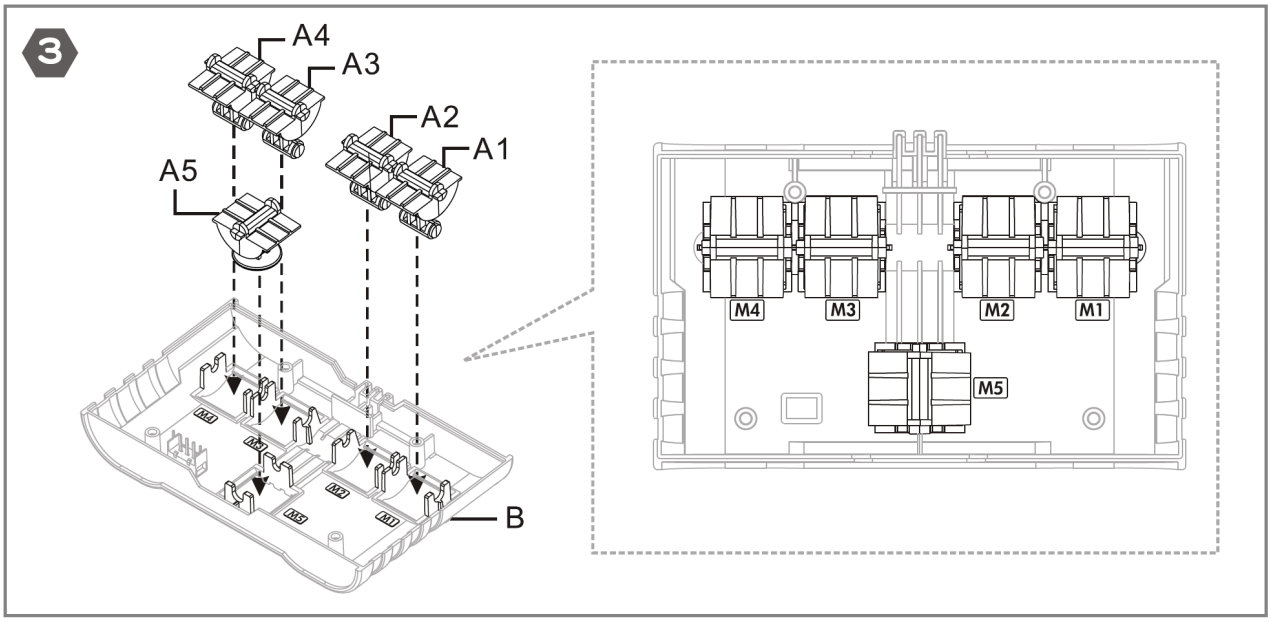


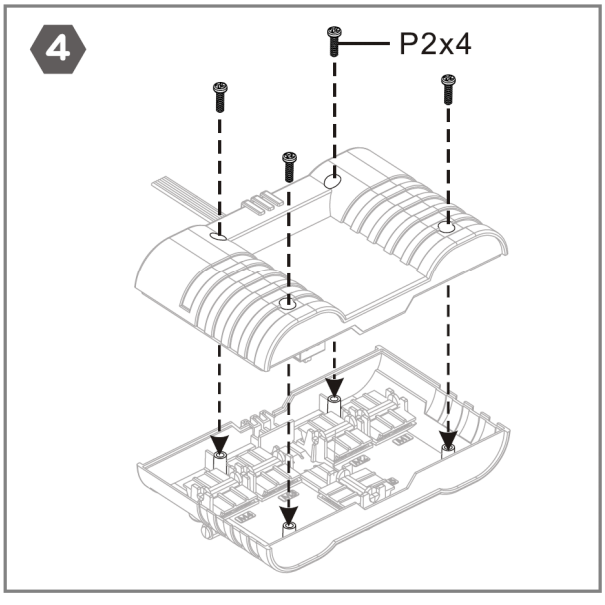
Remote Control – Afstandsbediening – Unité de contrôle Unidad de control – Fernbediening

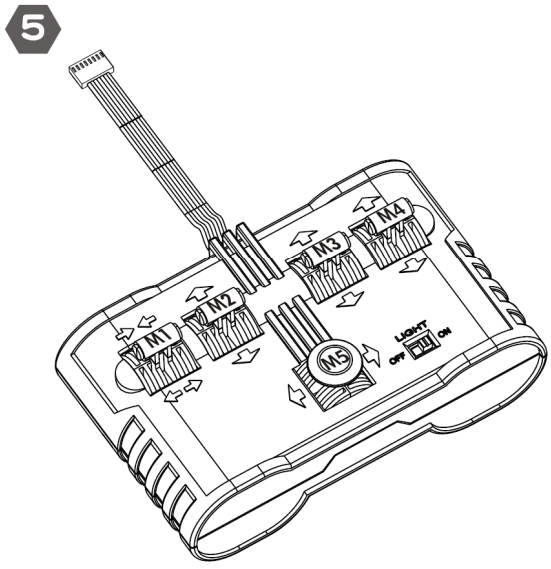
1

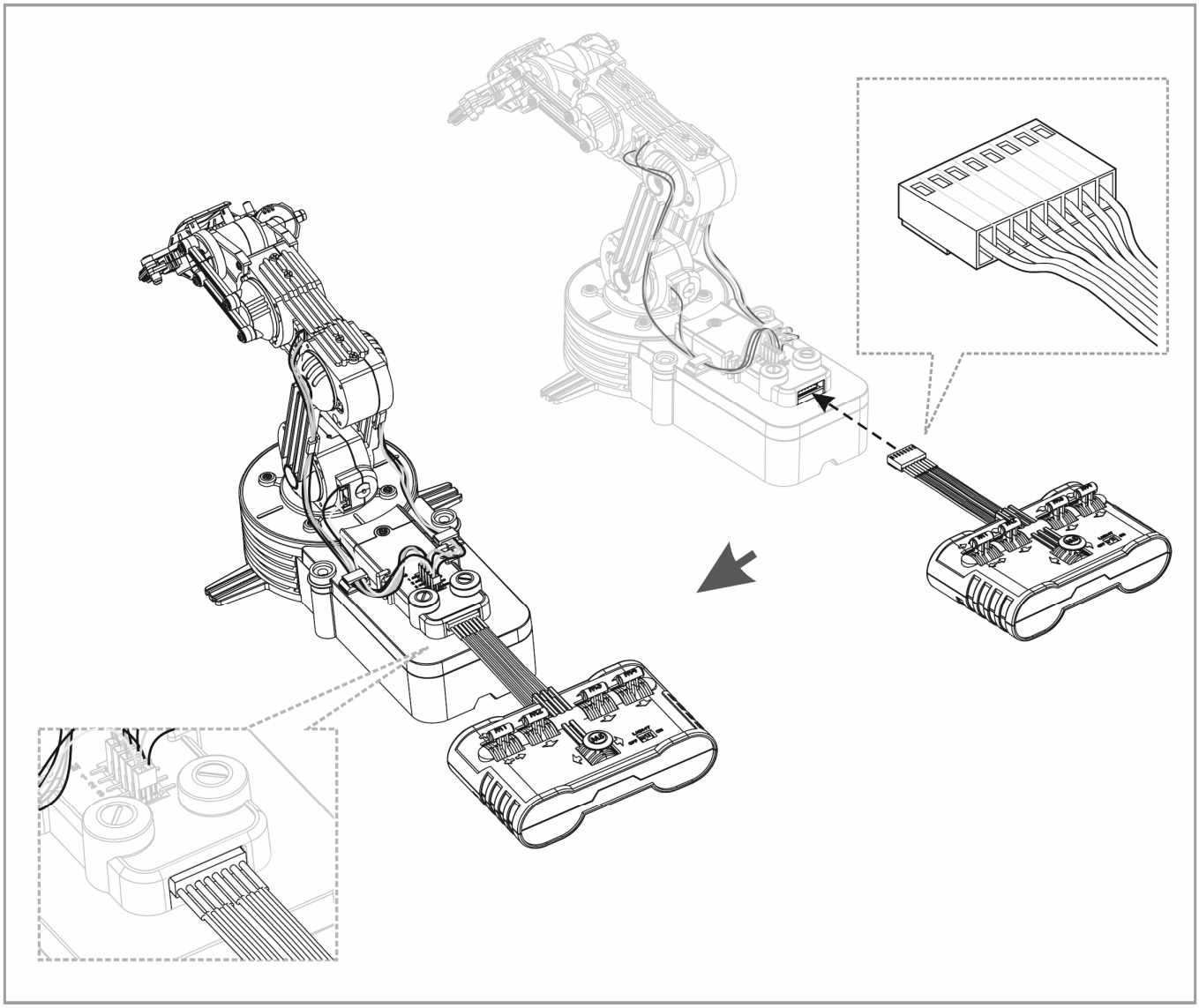



2
P2x5
P1x5
O
X


3
A4
A3
A2
A1
A5
B
M4
M3
M2
M1
M5


4
P2x4


5
M1
M2
M3
M4
M5
LIGHT
OFF
ON



Referencia Electrónica Embajadores: KV6A010

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