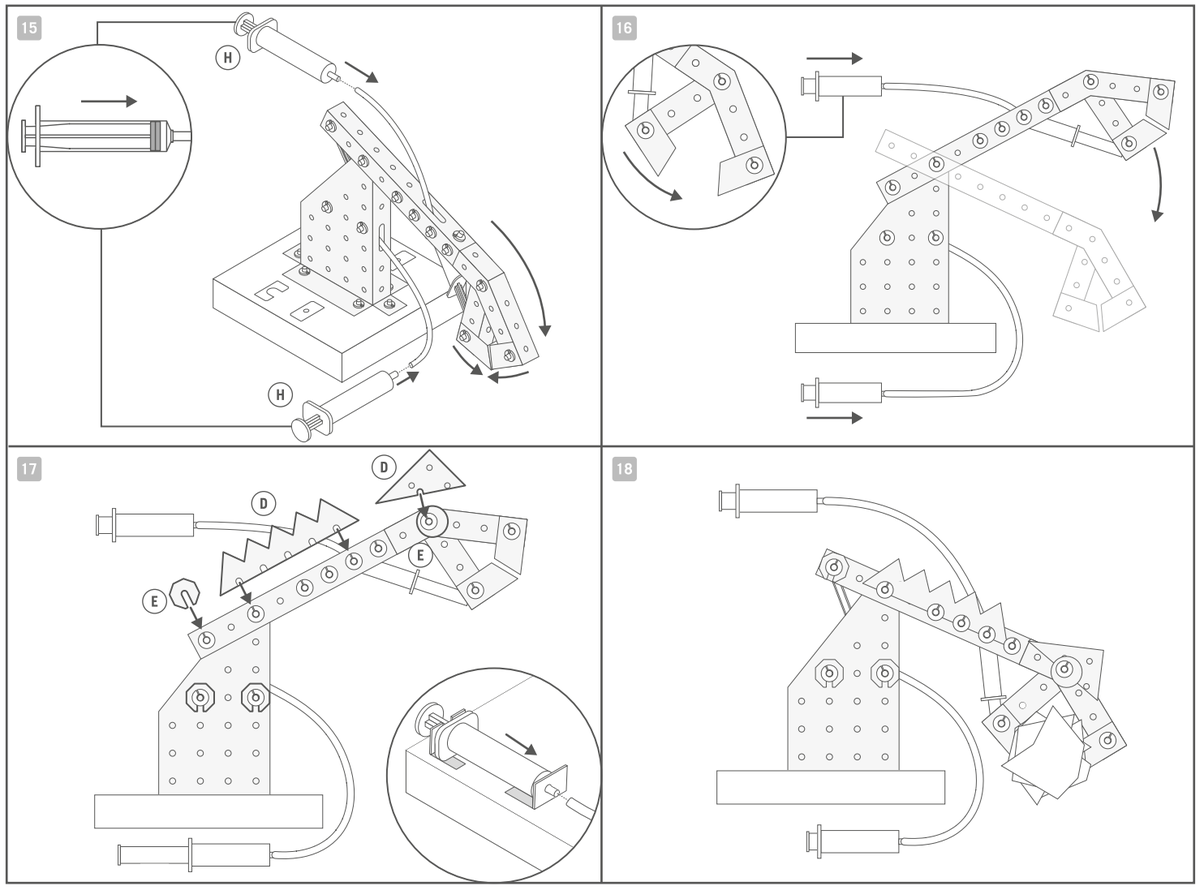

15. Push the arm to its lowest position and close the jaw. Push the plungers of the large syringes (H) fully in then insert these syringes to the ends of the tubes.
16. Check that the robot arm is functioning properly by pulling then pushing the plungers of the syringes to raise and lower the arm and open and close the jaw.
17. Decorate your Pneumatic Arm with the decors (D and E) to make it into monster robotic arm. You may secure the two large syringes on the platform. (Fold the supporting structures up. Disconnect both tubes from the large syringes. Insert the syringes into the holes of supporting structures. Reconnect the tubes to the large syringes.)
18. Now you can operate your Pneumatic Arm. Get a piece of used paper (e.g. newspaper) and scrunch it to make a paper ball about 5 cm across. Can you pick it up and drop it with the Pneumatic Arm? Amaze your friends and family with this cool and fun pneumatic mechanism.
You may put some weight e.g. a small book into the Platform, or use some adhesive tabs to stick it on the table surface, to stabilise the Robotic Arm when it is in operation.

D. TROUBLE SHOOTING

If the arm or jaw do not move:
• Redo step 15, making sure the plungers of the large syringes are pushed in fully and the arm is fully down and the jaw fully closed. This will allow the air in the syringes to be balanced.
• Check that all the tube connections are secure.

E. FUN FACTS

• In the Pneumatic Arm, when you press in one of the plungers, the air in the syringe gets squeezed and its pressure rises. This makes the air pressure in the syringe it is linked to rise too. Air pressure pushing on the plunger in this syringe pushes its plunger out. Pulling on a plunger reduces the air pressure. Then air pressure outside the second syringe pushes its plunger back in.
• Pneumatics is the use of compressed air or other gases to operate machines.
• Most pneumatic machines need a powerful air pump to pressurize the air so that the air can push pistons in and out of cylinders to move the parts of machines.
• Pneumatic drills use compressed air to force a hammer into the ground again and again.
• Trucks have pneumatic brakes (called air brakes) in which air pressure pushes the brake pads onto discs on the wheels to slow the truck.
• Pneumatic drills are often used in mines because electric drills makes sparks that could set off explosions.
• The famous engineer Isambard Kingdom Brunel built an air-powered 'atmospheric railway' in England in the 1840s, but it failed because air leaked though leather flaps designed to keep the air in a tube.
• Robot arms like this Pneumatic Arm work in factories picking up and moving things or operating tools such as screwdrivers and welders.

QUESTION AND COMMENTS: We value you as a customer and your satisfaction with this product is important to us. If you have comments or questions, or you find any part of this kit missing or defective, please do not hesitate to contact our distributor in your country. You will find the address printed on the package. You are also welcome to contact our Marketing Support Team: Email: infodesk@4m-ind.com, Fax (852) 25911566, Tel: (852) 28936241, Web site: WWW.4M-IND.COM

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TECHCRAFT
PNEUMATIC ROBOT ARM

PLEASE SCAN THE QR CODE FOR VIEWING MULTI-LANGUAGE INSTRUCTIONS.

FR. Veuillez scanner le code QR pour afficher les instructions multilingues pour ce kit. **DE.** Bitte scanne den QR-Code, um die mehrsprachige Anleitung für dieses Set anzusehen. **NL.** Scan de QR-code om de instructies voor deze set in verschillende talen te bekijken. **IT.** Scansiona il codice QR per visualizzare le istruzioni multi-lingua per questo kit. **ES.** Escanee el código QR para ver instrucciones en varios idiomas para este kit. **JA.** QRコードをスキャンして、本キットの多言語説明書をご覧ください。

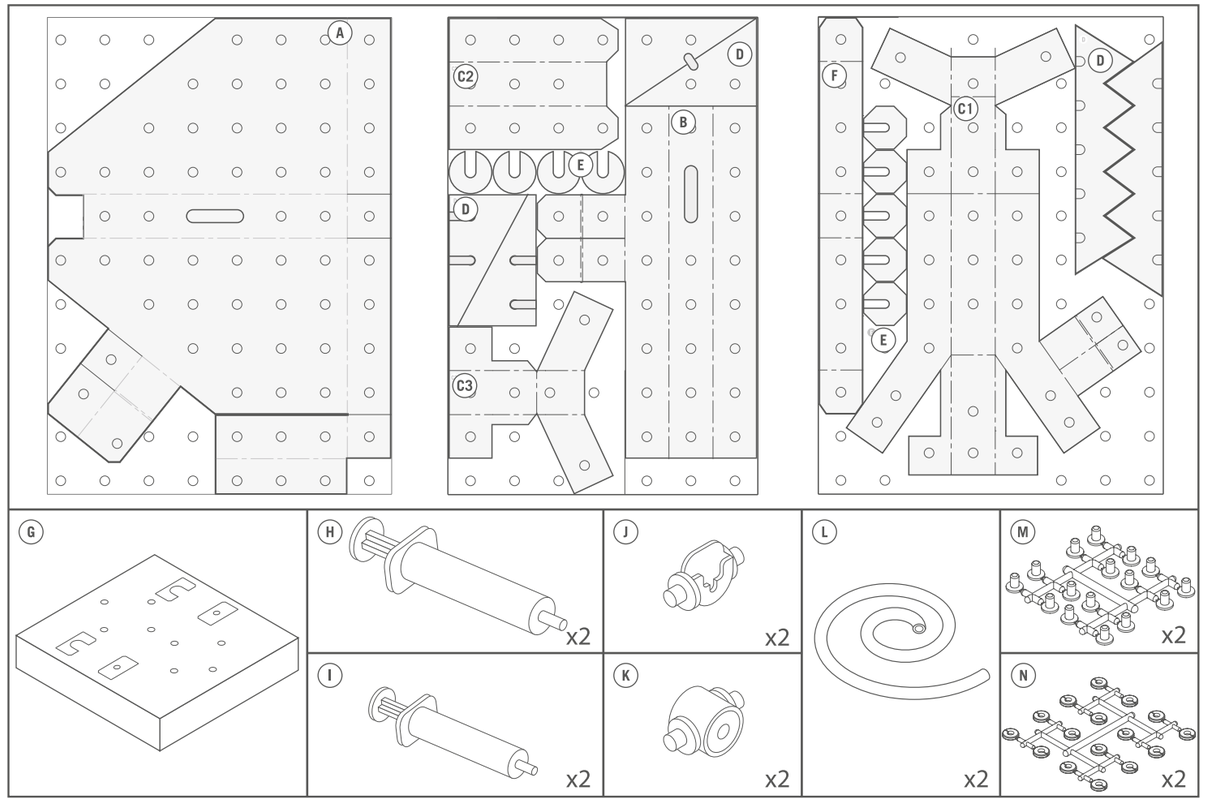
⚠ WARNING:
CHOKING HAZARD - Small parts
Not for Children under 3 years.

TO PARENTS: PLEASE READ THROUGH THESE INSTRUCTIONS BEFORE GIVING GUIDANCE TO YOUR CHILDREN.

A. SAFETY MESSAGES

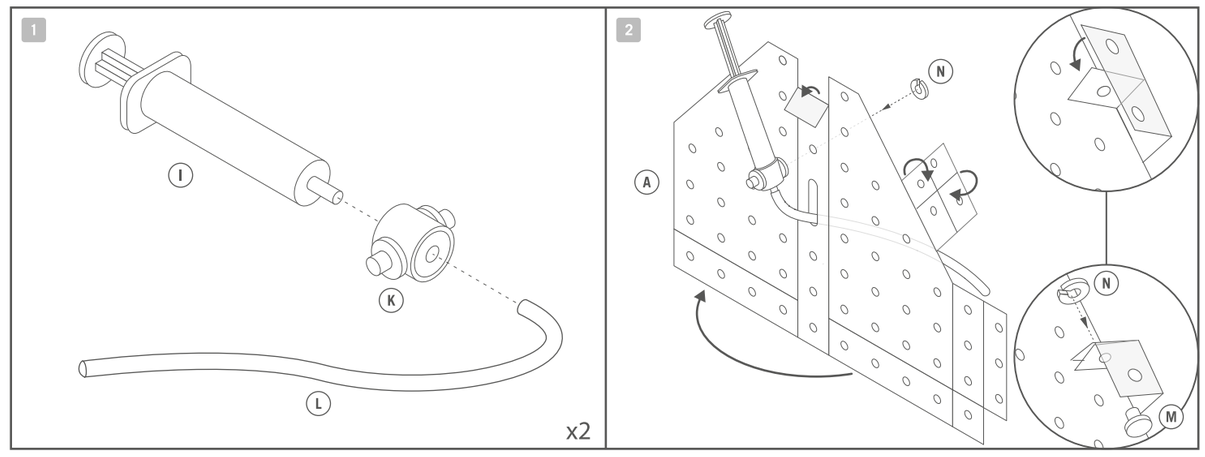
1. Please read through all the instructions and keep them since they contains important information.
2. This kit is intended for children over the age of 5.
3. This kit and its finished product contain small parts which may cause choking if misused. Keep away from children under 3 years old.

B. CONTENTS

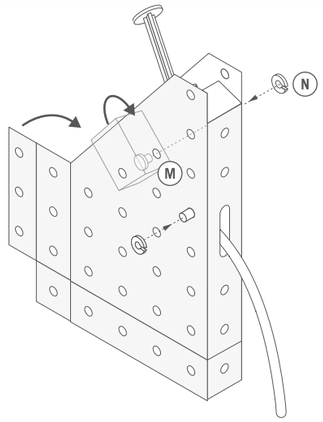


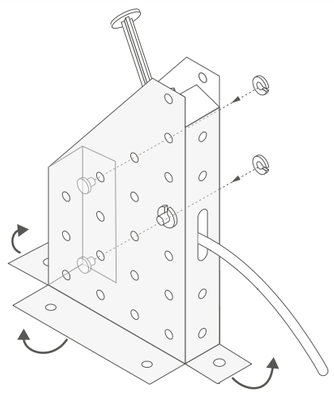
Part A: Stand, Part B: Arm, Part C1-C3: Jaw, Part D: Fins Decors, Part E: Eyes and Nuts Decors, Part F: Base Platform Support, Part G: Base Platform, Part H: Large Syringe x 2, Part I: Small Syringe x 2, Part J: Plunger Cap x 2, Part K: Syringe Holder x 2, Part L: Tube x 2, Part M: T Connector x 2 sets, Part N: C Connector x 2 sets.

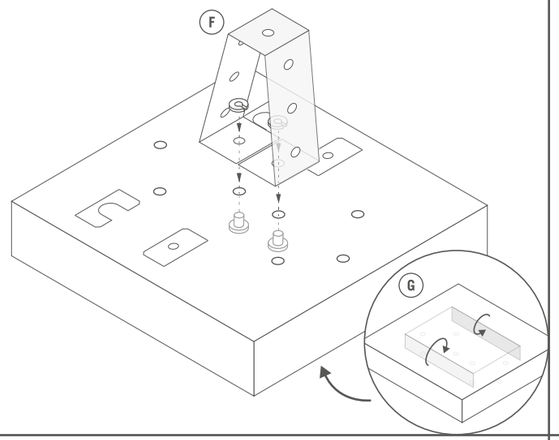
C. ASSEMBLY

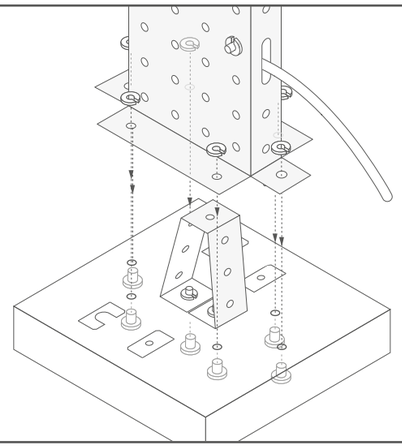


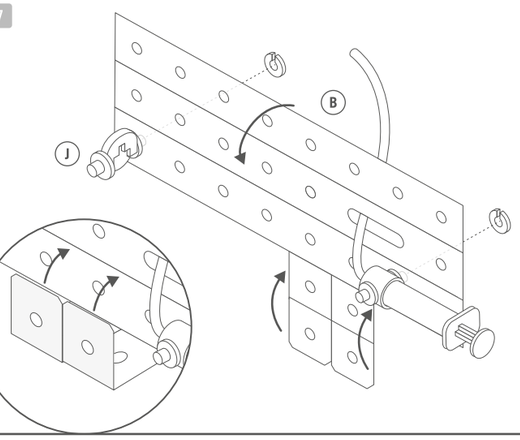
Stand and Base Platform Construction:
1. Put a syringe holder (K) onto a small syringe (I) then push a tube (part L) onto the syringe. Repeat this step for another small syringe.
2. Put the syringe onto the stand (A) and then secure it from behind with a C connector (N). Thread the tube through the long hole in the stand. Make the folds as shown in the diagram and secure with a T connector (M) and C connector.

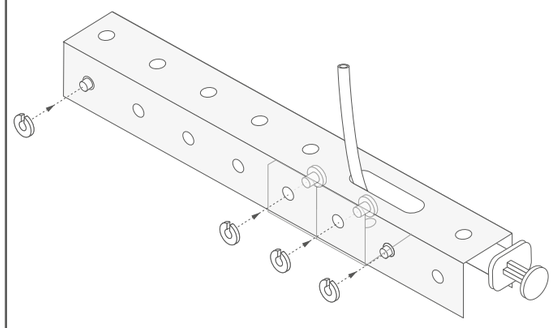


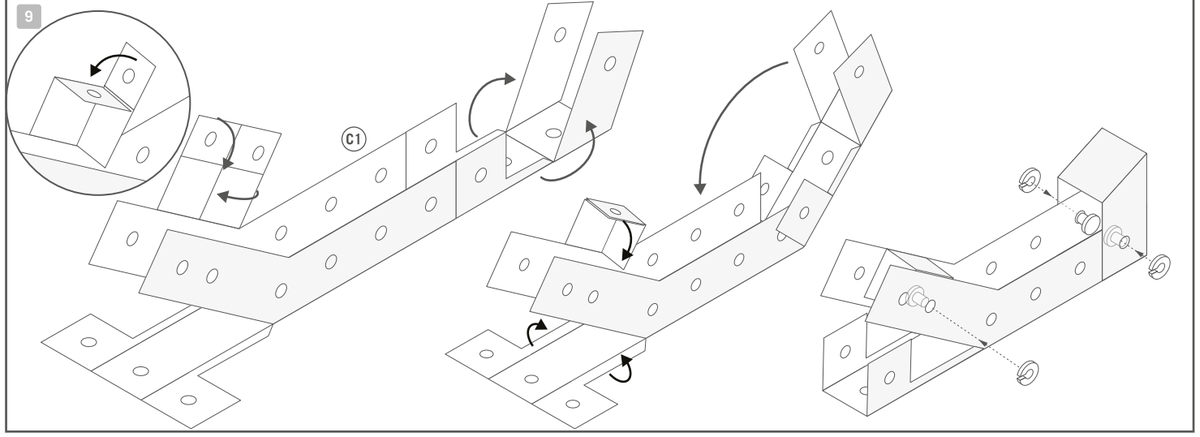


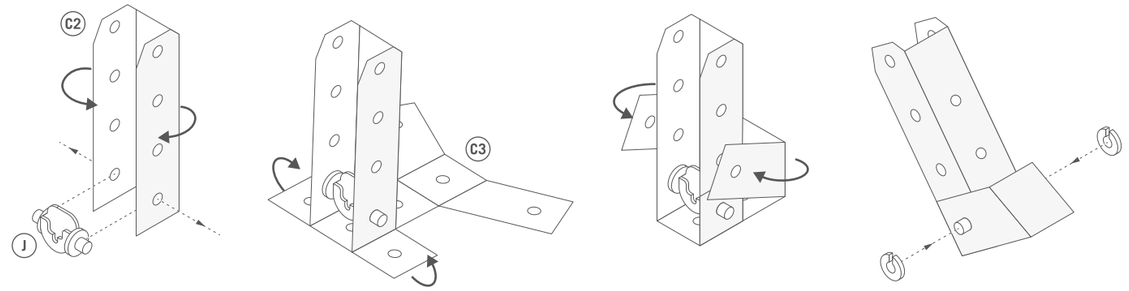


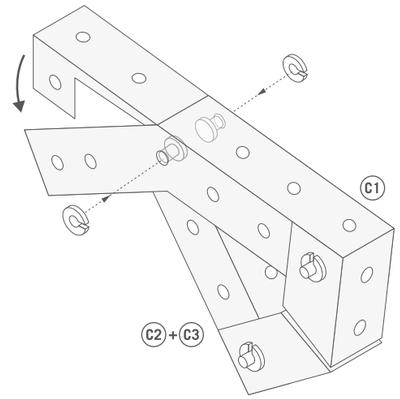


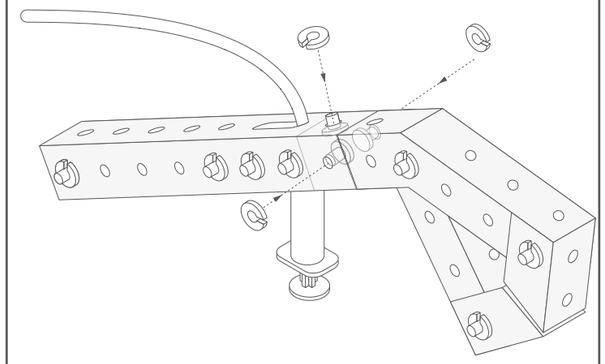


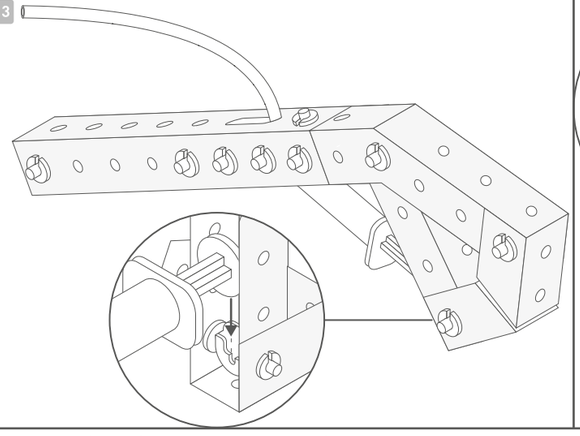


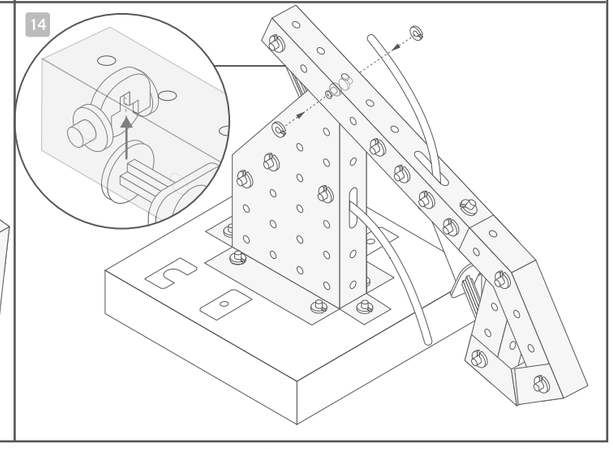












3. Wrap the sides of the stand to create a 3D structure. Fold the top box down and secure it with T and C connectors. Also fold the rear flap.
4. Secure the rear flap with T and C connectors. Also fold up the base flaps as shown.
5. Make the folds in the base platform (G) as shown. Push open the bottom flaps. Fold the base platform support (F) as shown and secure it to the base platform from underneath with T and C connectors.
6. Place the stand over the base platform support and secure the stand to the base platform with six sets of T and C connectors.

Arm Construction:

7. Secure another syringe set (made in step 1) to the arm (B) with a C connector. Thread the tube through the long hole in the arm. Fix a plunger cap (J) at the end of the arm with another C connector.
8. Fold the arm as shown and secure with T and C connectors.

Jaw Construction:

9. Fold the first jaw section (C1) as shown and secure it with T and C connectors. This structure is the robot's upper jaw.
10. Fold the second jaw section (C2) as shown. Place a plunger cap between the two bottom holes. Put section C2 onto the final jaw section (C3), fold up C3 as shown and secure it with C connectors. This completed structure is the robot's lower jaw.
11. Place the lower jaw inside the upper jaw and secure it with T and C connectors.
12. Slide the jaw assembly into the end of the arm as shown and secure it with three sets of T and C connectors.
13. Insert the end of the syringe plunger into the plunger cap in the lower jaw.
14. Place the arm on top of the stand and secure it with T and C connectors. Insert the end of the plunger of the syringe inside the stand into the plunger cap under the arm.