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**Introduction**

This amazing vehicle is fast and furious—and powered by AIR!

Watch and learn as compressed air explodes out of the tank to run a pneumatic motor powering gears and moving your vehicle. Compressed air vehicles have been in the works for years with functional locomotives in the 1870's and cars in early 20th century. This is the technology behind the fantastic vehicle that is the Air Screamer. Pump up the volume … of air. Fill the tank one crank at a time.

The crank is built into the Air Screamer's body. Safety valves are in place that bleed off over pumped air and eliminate the possibility of disaster. If you crank too much, the safety valve lets out air until the tank reaches optimum pressure.

Assembly and operation is a breeze. A pump-up bar with a pressure meter is built into the car for easy operation. This meter measures the volume of compressed air. The silicon tube (red in color) creates an air tight fit. When the air chamber is full, you can release the compressed air; the air then expands and drives the vehicle a distance up to 165 Feet (50 meters) in 35 seconds. The Air Screamer is amazingly fun and requires no batteries or specific weather conditions to limit its use. Just construct, fill with air, and get ready to watch it zoom!

For builders ages 10 and up.

**Tools You May Need**

<table>
<thead>
<tr>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagonal Cutter</td>
</tr>
<tr>
<td>Safety Glasses</td>
</tr>
</tbody>
</table>

**Permanent Marker**

<table>
<thead>
<tr>
<th>Ruler</th>
</tr>
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</table>

**Mechanical Parts List**

- Important: If any parts are missing or damage, DO NOT RETURN TO THE RETAILER. E-mail us at support@elenco.com or call (800) 533-2441

- Product contains functional edges and sharp points.

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Tapping Screw</td>
<td>20</td>
</tr>
<tr>
<td>P2</td>
<td>Tapping Screw</td>
<td>6</td>
</tr>
<tr>
<td>P3</td>
<td>Round Shaft</td>
<td>1</td>
</tr>
<tr>
<td>P4</td>
<td>Round Shaft</td>
<td>1</td>
</tr>
<tr>
<td><strong>Part No.</strong></td>
<td><strong>Description</strong></td>
<td><strong>QTY</strong></td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>P5</td>
<td>Round Shaft</td>
<td>1</td>
</tr>
<tr>
<td>P6</td>
<td>Hex Shaft (Short)</td>
<td>1</td>
</tr>
<tr>
<td>P7</td>
<td>Hex Shaft (Long)</td>
<td>1</td>
</tr>
<tr>
<td>P8</td>
<td>Spring</td>
<td>1</td>
</tr>
<tr>
<td>P9</td>
<td>O-ring (Black)</td>
<td>2</td>
</tr>
<tr>
<td>P10</td>
<td>Red Cap (Small)</td>
<td>7</td>
</tr>
<tr>
<td>P11</td>
<td>Red Cap (Medium)</td>
<td>2</td>
</tr>
<tr>
<td>P12</td>
<td>Red Cap (Big)</td>
<td>1</td>
</tr>
<tr>
<td>P13</td>
<td>Spacer</td>
<td>1</td>
</tr>
<tr>
<td>P14</td>
<td>Bottle Top</td>
<td>1</td>
</tr>
<tr>
<td>P15</td>
<td>Silicon Tube</td>
<td>1</td>
</tr>
<tr>
<td>P16</td>
<td>Oil Bag</td>
<td>1</td>
</tr>
<tr>
<td>P17</td>
<td>Valve (Clear Blue)</td>
<td>2</td>
</tr>
<tr>
<td>P18</td>
<td>Sponge</td>
<td>1</td>
</tr>
<tr>
<td>P19</td>
<td>Sticker</td>
<td>1</td>
</tr>
<tr>
<td>P20</td>
<td>PET Bottle</td>
<td>1</td>
</tr>
</tbody>
</table>

**Do not touch the oil while fitting the silicon tube.**

(Spare part: 1 pc)
Cut the plastic parts when they are required.
Do not cut them in advance.
Tip: Cut Off The Burrs Before Assembly

How To Fit Air Tube

How To Cut Air Tube

1 Measuring & Marking

2 Cutting

Follow the steps above: Cut the air tubes when they are required. Do not cut them in advance.
1 Prepare air tube before assembly.

- Incorrect
- Correct

Scale 1:1

4 5/16" | 11 cm

×2
2! Prepare air tube before assembly.

![Diagram showing the correct and incorrect assembly of the air tube with dimensions specified as 9cm.]

Correct

Incorrect
1. Prepare air tube before assembly.

2. Prepare air tube before assembly.

Tube Module B Assembly

4 1/2” | 11.5 cm

5 1/2” | 14 cm

4 1/2” | 11.5 cm

5 1/2” | 14 cm

A1

×2

×1
Screw on P14 onto PET bottle tightly to avoid air leakage.
How To Oil The Parts

Do not spill any oil from the B7 oil bowl. Keep oil contained.

= Apply Oil
Note: Oil the parts when 🥤 appears

⚠️ Do not oil outside the noted shaded areas as shown below.

Example:

B8
Video Tips
View a video on this project at https://www.elenco.com/teachtech/
To better understand the assembly and operations of each project, view the Video Tips.

Make sure P10 is placed in the proper direction to avoid air leakage.

Push & pull the oiled part D16 several times until it moves smoothly.

Incorrect
Correct

Incorrect
Correct

P10
Red Cap (Small)

D16

D20
D12
**Note:**
Lightly pull on both ends of the spring to make sure it has good strength & extension before assembly.
Valve Assembly

Pay close attention to the following steps correctly to avoid air leakage.

Use C5 to assist you in setting P9 onto E2.

Ensure the direction of two P17 to avoid air leakage.

Use B14 to insert (O-ring) two P9.

If P9 (O-Ring) was set improperly as shown in above incorrect (X) fig, redo step 6 again.

Place P4 on the table, cap B14 to P4 as shown.

Video Tips

View a video on this project at https://www.elenco.com/teachtech/
1. Seal the hole of the boss side with a finger.


Make sure that both P17 move in the direction indicated by the arrows when D4 is pushed in.

Make sure that both P17 move in the direction indicated by the arrows when D4 is pulled back.

Confirm that D4 cannot be pushed in easily.
1 Seal the inlet hole with a finger.

2 Pull the D4 back.

Air leakage testing – Tube Module B

1 Correct

Install E2 in the correct position as shown above.

2 Incorrect

Fold the tube and insert it into the hole as shown below.

1 Fold the tube.

2 Insert the folded tube into the hole.
Hold A3 firmly!

Repeat a “Push & Pull” movement using D4 15-20 times to collect air into PET bottle.

Check that the pressure meter pointer swings to the left and holds its position.

Results shown below will reveal if tube module B is installed correctly or is leaking air.

Air Leakage

Pointer stays still

Working Functionally

Pointer moves to the above position
Check the following locations if air leaks occurred, and re-install as below:

**Location 1:**
Back to page 8, and re-install step 5 again.

**Location 2:**
Back to page 10, and re-install steps 7-13 again.

**Location 3:**
Back to page 12, and re-install steps 1-6 again.

Be sure to remove air tube & D4 from A3 after testing.

Place D4 on B7 to avoid oil spills.
Vehicle Body Module Assembly

1

Insert the hex shaft P6 into the D5 as shown in the right fig. (scale 1:1)

2

Make sure parts D2/D5 are at opposite positions.
Make sure parts D5 & D2 are properly connected as shown above.
Cut off burrs before assembly.

Slightly hammer P5 into D1.

Correct
Gently tap D13 with hammer to the bottom as shown below.
Ensure that P10 is inserted in the proper direction to avoid air leaks.

Tip: Use C5 to assist you in setting P10 easily.

Make Sure P10 Set To B13 Step By Step As Shown Below.

Video Tips
View a video on this project at https://www.elenco.com/teachtech/
Ensure the direction of P10 to avoid air leakage.

Note: Direction of P10 on step 13 is different from step 11 & 12.

Correct

Incorrect

Tip: Use C5 to assist you in setting P10 easily.

Tip:

Use C5 to make it smooth if P10 was twisted during assembly.
Take out B13 if P10 (Red Cap) was twisted during assembly. Un-twist P10 and re-insert B13 into A2.

Do not mix up D9 & D14, make sure to use D9 for assembly.

Note:
Make sure to lock A2 / D9 firmly.
Push & pull the oiled part B10/B13 several times to make them work smoothly.
Route the air tube to the position as shown above.
Make sure the airtube is facing the correct direction.
D 14

A2

Pu sh  &  p u ll oiled p arts B10 and B13 several tim es to m ake su re they move sm oothly.

B13

D o  n o  m i x  u p  D 9  &  D 14,  m a k e su re  t o  u s e  D 14 f o r  a s s e m b l y.

Note:
Make s re to lock A2 into D14 firmly.

Do not mix up D9 & D14, make sure to use D14 for assembly.

B10

& pull oiled parts B10 and B13 several times to make sure they move smothly.
Ensure the correct direction of air tube.
Make sure air tube is installed at a right position as shown above. If positioned wrong, air tube may fail to pump.
Check if air tubes are clamped during assembly. Pull the tube (as shown above) to make sure it is moving freely.

Be careful not to clamp the air tubes during assembly.
Make sure there is no oil on connector for assembly.
How To Play

1. Spin the rear wheel (as below) to release air completely.

2. Rotate the rear wheel and have the "▽” align to the protrusion bar (as below), then start to pump.

3. Pumping as below figures.

   ! **In the beginning, pump up at least 20 times to start.**
   (To obtain the best results, do not stop pumping until pressure meter measured and pointed to the red range.)

As an equipped safety device, excess air will be automatically released once pressure meter is in the "red" range.

Distance More Than

50M

PUSH TO GO
Trouble Shooting

1. Check if pressure meter can not gauge to red range, or if air leaks from anywhere.

1-1. Check if air tubes are installed correctly. (Below marked positions to help you quick check the air tubes, for exact assembly steps - refer to page 4 “How To Fit Air Tube”)

1-2. Check if D9,A2 / D14, A2 are loose..
( refer to page 24, step 15 & page 29, step 22 )
1-3 Check if P10 & D16 are installed correctly. (refer to page 10, step 7)

1-4 Check if P14 is fastened tightly. (refer to page 8, step 5)

1-5 Check if E2 / A3 are loose. (refer to page 12, step 4)
1-6 Check if P9 (O-ring) is seated flat. (refer to page 12, step 6)

1-7 Check if P17 is installed in the right direction. (refer to page 12, step 3)

1-8 Check if P10/B13 are installed in the correct direction. (refer to page 22, steps 11-13)
Tip:
Use C5 to adjust if P10 was twisted during assembly.
2 If air tubes are loosened while pumping.
   2-1 Check if connectors have oil on surface. Take off the connectors/air tubes, make sure to wipe off the oil and use neutral detergent to clean the parts thoroughly.
   2-2 Check if air tubes are kinked or clamped during assembly. Slightly pull the tube (as shown below) to make sure it is moving freely.

3 If the pressure meter does not function while pumping.
   3-1 Check if pointer is installed correctly (refer to page 11, step 12)

   ![Correct](image1)
   ![Incorrect](image2)

   3-2 Check if air tubes are clamped (refer to Trouble Shooting 2-2)

4 Check if D2 / D5 are installed in the right direction. (refer to page 17, step 2)

   ![Correct](image3)
   ![Incorrect](image4)