

F4 INSERTER

INSTRUCTION AND SERVICE MANUAL



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1. Safety

1.1 Introduction



Read and understand all the safety measures and instructions

- Ensure your hand is clear from the active end of the F4 Inserter before pulling trigger.
- Never dismantle or attempt to service the F4 inserter without first disconnecting it from air supply.

1.2 General Description of Operation

The Adept F4 Inserter provides rapid insertion of the Adept Two Flange Plug with greatly reduced operator effort. The F4 Inserter requires a compressed air supply to operate. The 2 Flange Plug is manually loaded between the 4 arms. Hold the F4 Inserter with your dominant hand using a pistol grip. Aim the 4 arms for the anus and push firmly forwards so they are recessed in to approximately 30mm. Pull the trigger while holding the F4 inserter forward allowing the orange ram to extend to maximum travel. Releasing the trigger will retract the ram leaving the 2 Flange Plug lodged in the Lamb's colon.

1.3 Intended Use

- The Adept F4 Inserter is intended to insert Adept plastic or soluble Two Flange Plugs only.
- Recommended air pressure range is 80 PSI to 120 PSI.

1.4 Warnings

- Use of F4 Inserter without an appropriate spring balancer suspension may induce operator fatigue.
- Only use Adept Two Flange Plugs with this product.
- Only use replacement parts specified in the spare parts list.
- Use of air pressure outside the range of 80PSI to 120PSI will compromise operation.

2. Installation

2.1 Compressed Air Connection

The compressed air supplied to the dispenser must be **clean and dry**. We recommend using a water trap filter to achieve the best air. Recommended operating air pressure is 100 PSI.

The F4 Inserter air inlet has a ¼" BSP female thread which is supplied fitted with a standard ¼" male ARO connector. If this type of connector is not suitable, it may be changed to suit the coupling system available.



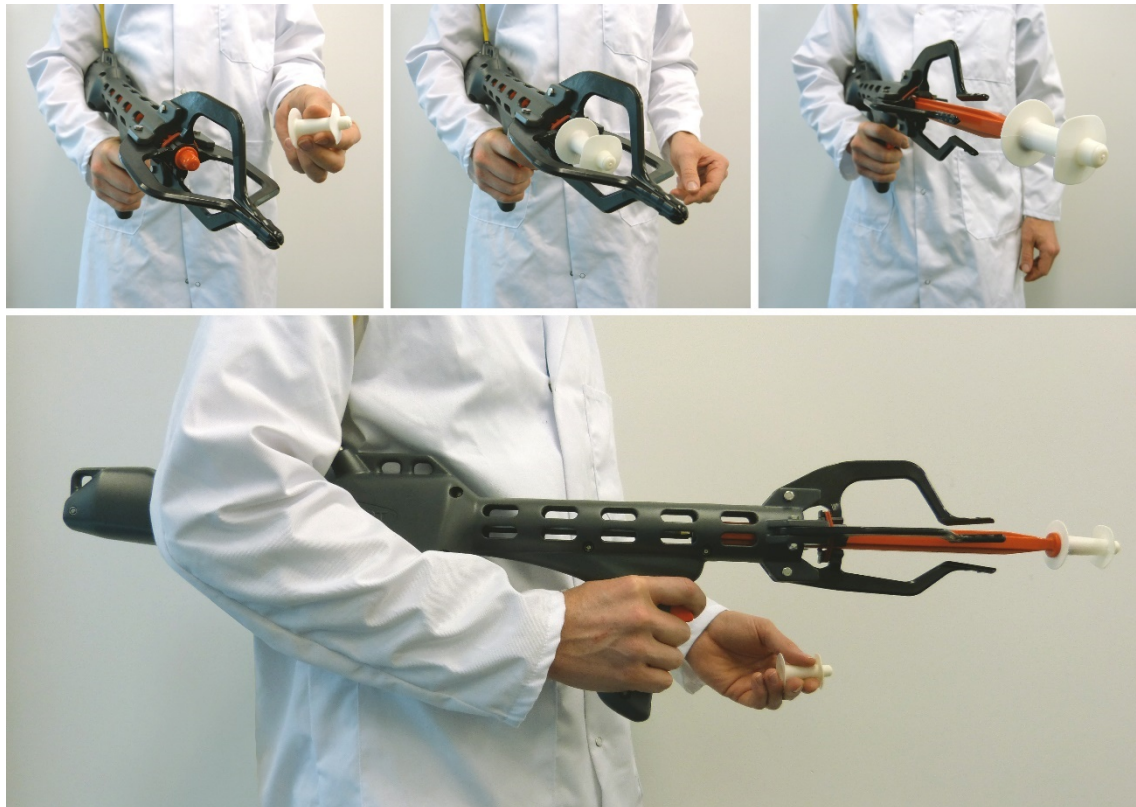
2.2 Suspending the F4 Inserter

The F4 Inserter is supplied with a spring hook carabiner on the top of it. This is where you will attach a Coil Spring Balancer allowing it to hang at a convenient position and angle. The weight of the F4 Inserter and supplied pressure hose is approximately 2 kg. The coil spring balancer must be selected to suspend 2 kg.



3. Operation

3.1 Plug Loading



To load the F4 move the plug in between space in the top arms and position it firmly on the orange rod head. The orange head is shaped so that the plug will stay in place even if the F4 is inverted.

3.2 Plug Insertion

Hold the F4 Inserter with your dominant hand using a pistol grip and aim the 4 spreader arms for the anus and push firmly forwards so they are recessed in to approximately 30mm. Pull the trigger while holding the F4 inserter forward allowing the orange ram to extend to maximum travel. Maintain forward pressure on the F4 while the plug is being inserted to ensure correct insertion depth is achieved. Releasing the trigger will retract the ram leaving the plug lodged in position.

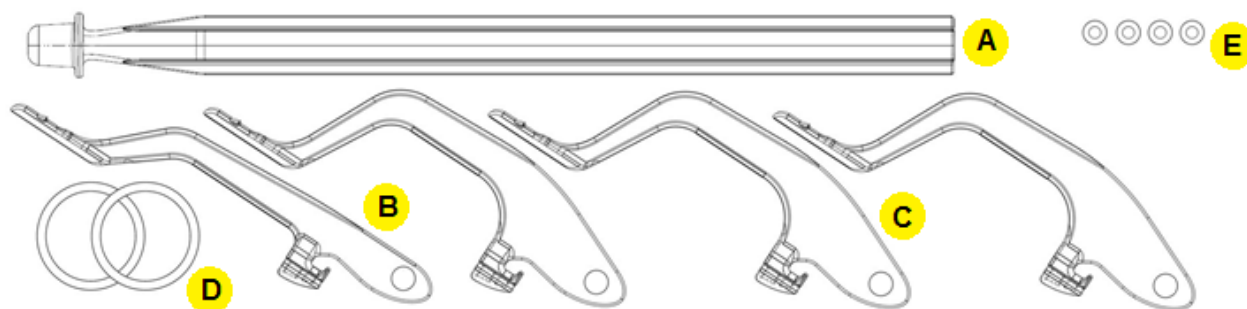
3.3 Cleaning

At shift end the F4 Inserter can be fully immersed in hot water and cleaned thoroughly as part of usual equipment end of processing clean-up. The unit has drainage channels in the handle which allows the inside of the unit to be flushed.

4. Maintenance Kit Installation - Part number: 1503-820

To ensure the F4 Inserter maintains optimal performance and reliability, it is recommended the following Maintenance Kit components are replaced when showing any signs of wear. If the arms or actuating rod movement is no longer smooth this is a sign that these parts are worn and need replacing.

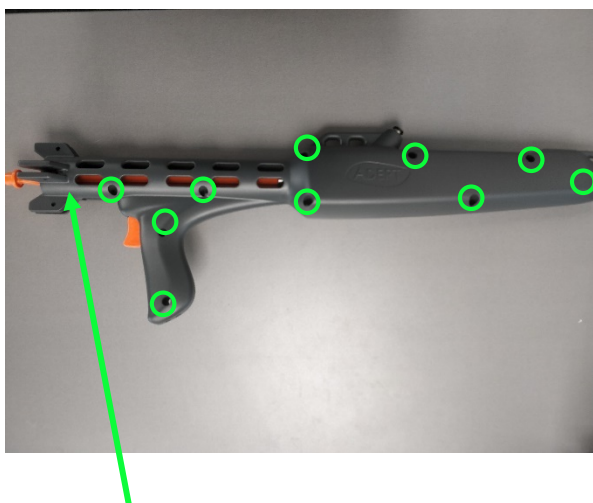
The maintenance kit comprises of:



Item	Description	Part No	Qty
A	F4 Inserter – Actuating Rod	1503-011E	1
B	F4 Inserter – Lower Arm (Including new wear pad)	1510-011	1
C	F4 Inserter – Upper Arm (Including new wear pad)	1510-012	3
D	O-Ring 1" x 3/32	1503-015	10
E	F4 Inserter – Arm Spacer	1503-003	4

4.1 Actuating Rod Replacement

Use an 8mm spanner and 8mm socket to undo the hex head bolts holding on the upper and lower arms and remove them. Use an Allen Key to remove the 10 x Cap screws from the F4 handle housing (**Part No 22 & 23**). Separate the two handle parts (**Part No 16 & 17**) allowing access internally.



Remove upper and lower arms and cap screws



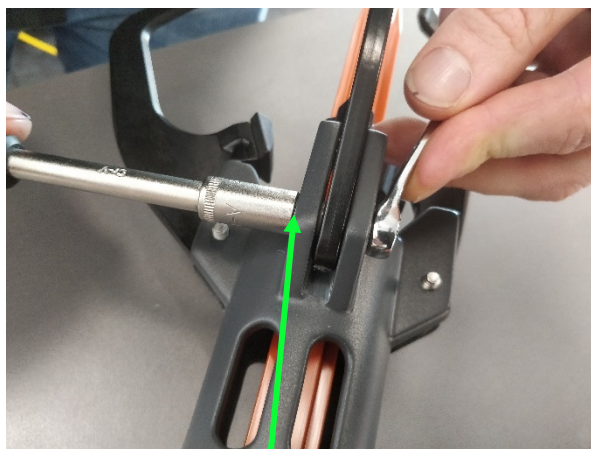
Separate left and right hand body parts

Remove the Pneumatic Cylinder (**Part No 26**) attached Actuating Rod (**Part No 13**). Use 17mm and 10mm spanners to unscrew the old Actuating Rod from the end of the cylinder ram after the back nut is loosened. Install the new actuating rod and reassemble the F4.

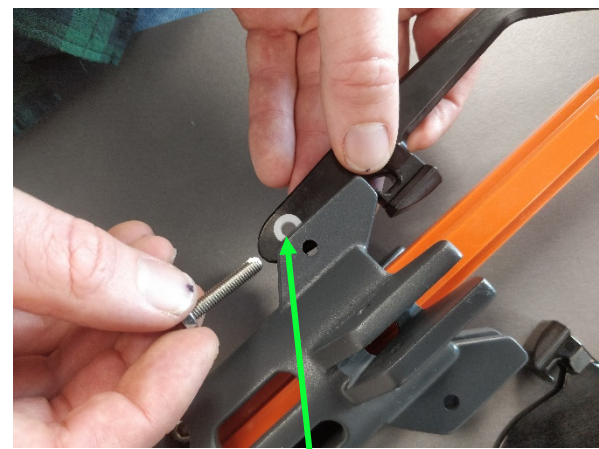


4.2 Lower and Upper Arm replacement

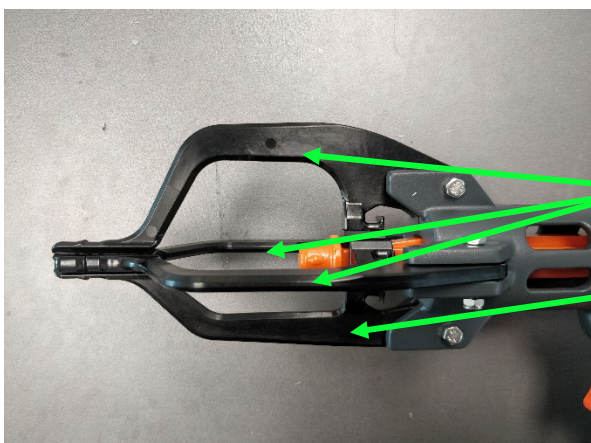
Use an 8mm Spanner to remove the 3 x Upper (**Part No 15**) and 1 x Lower Arm Assemblies (**Part No 14**) from the F4 Housing. Install replacement arms and included replacement 4 x Arm Spacers (**Part No 18**). **Caution:** Do not overtighten hex bolts screws to avoid jamming the arms.



Undo hex bolt and nut to remove arms



Ensure replacement Arm Spacer is in place



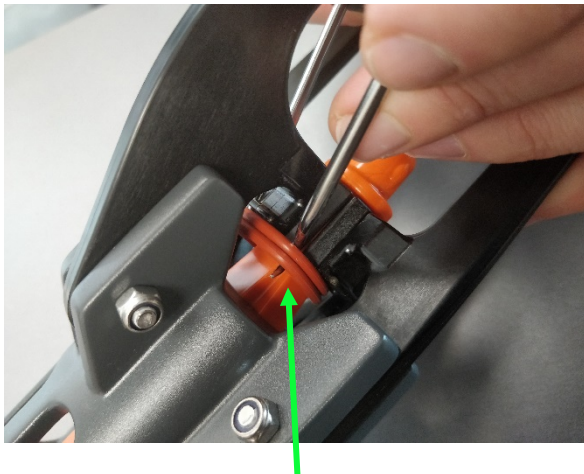
3 X Upper Arms are installed in top and side mounting locations

Lower Arm is installed in bottom position

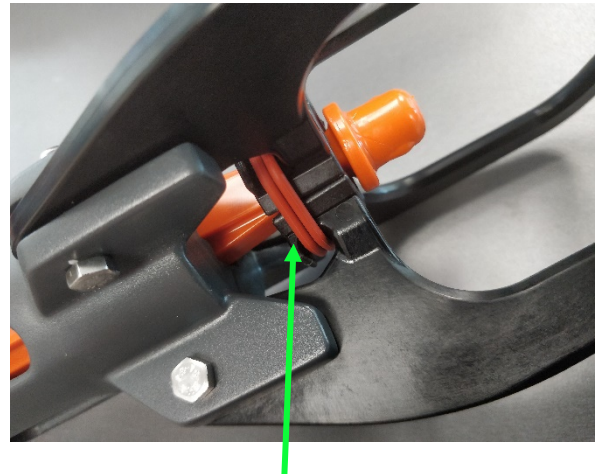
Important: Ensure the Lower Arm (*Part No 14*) is installed on the bottom inserter mounting point. The Lower Arm is smaller than the Upper Arms and must be installed in the bottom position for correct F4 operation.

4.3 O-Ring installation

Remove the worn O Rings (*Part No 25*) from the hooks on the Lower (*Part No 14*) and Upper arms (*Part No 15*) using an O Ring removal tool or screwdriver to pry them off. Replace with 2 x new items.



Pry off old worn O Rings



New O Rings installed on Arms

5. Troubleshooting

1. F4 Inserter is inactive and will not activate:

- Is unit connected to mains air source?
- Is there a restriction in the hose?
- Is there mechanical obstruction preventing the ram moving forwards?
- Is there a mechanical obstruction preventing the trigger being pressed?

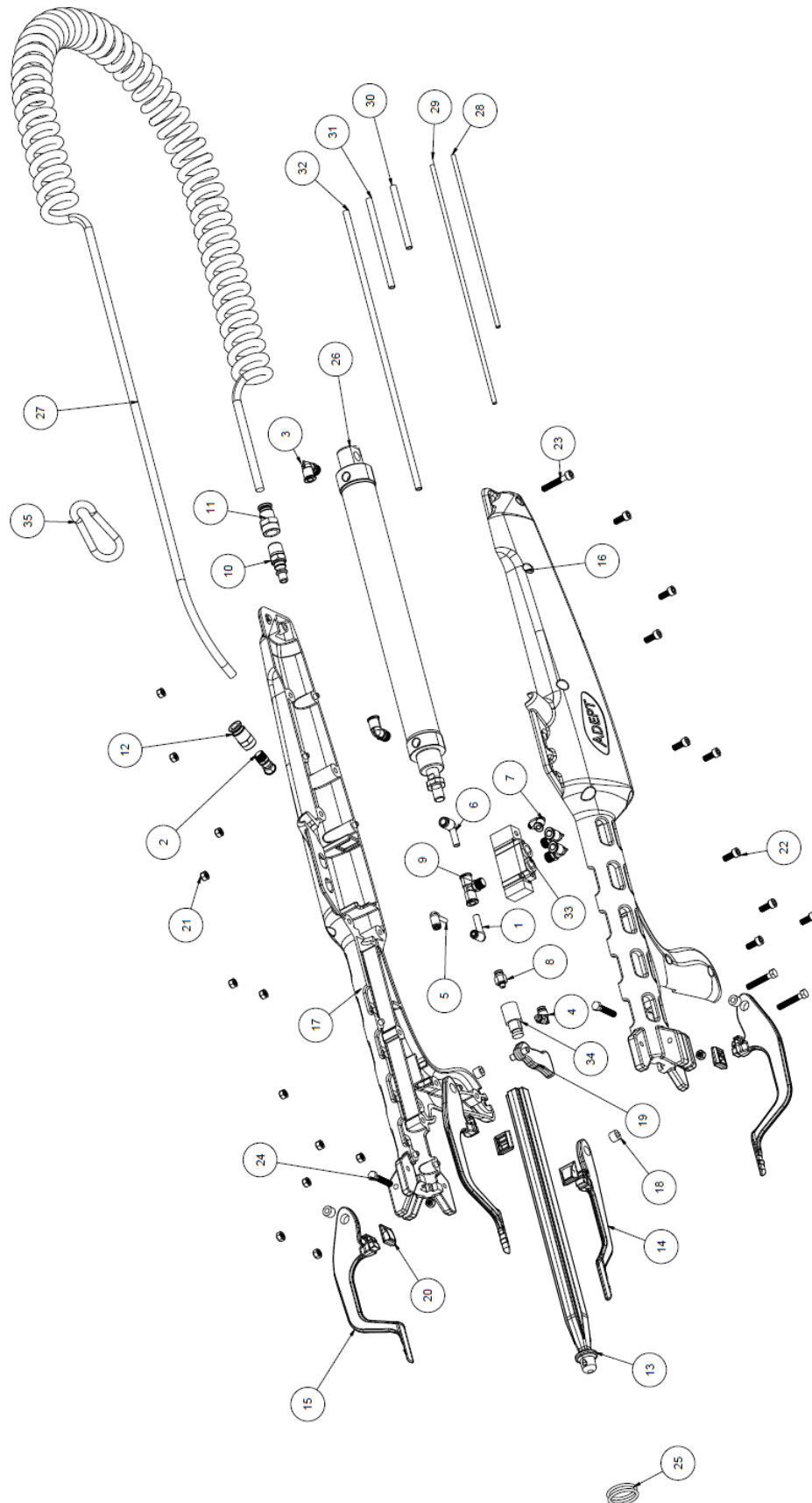
2. F4 Inserter is difficult to insert:

- Do all four arms return to meet centrally?
- Is the pressure source set within operating range of 80 – 120 PSI?
- Is there a mechanical obstruction preventing the ram to travel at full force?
- Check if the actuating rod or arms are worn and require replacement.

3. F4 Inserter arms do not meet in the middle:

- Have the O Rings broken or been misplaced?
- Are the arms free to pivot or are they restricted by entrapped dirt?
- Check for wear on the arms or the arm spacers.

6. Part Identification Diagram



Item	Description	Part No	Qty
1	Air Connector - Push Fit Elbow - 6mm M to 4mm F	1503-023	1
2	Air Connector - Push Fit Elbow - 45 deg 6mm to 1/8"	1503-030	1
3	Air Connector - Push Fit Elbow - 1/8 to 6mm"	1503-024	1
4	Air Connector - Push Fit Elbow - 10*32 UNF to 5/32 S/S	1503-025	1
5	Air Connector - Push Fit Elbow - 4mm M to 4mm F	1503-029	1
6	Air Connector - Push Fit Elbow - 6mm M to 6mm F	1503-022	1
7	Air Connector - Push Fit Elbow - M5 to 4mm	1503-027	1
8	Air Connector - Push Fit Straight - 10*32 UNF to 5/32 S/S	1503-026	1
9	Air Connector - Push Fit T - 6mm to 1/8"	1503-028	1
10	ARO Fitting SS ¼ BSPT (Male)	1503-005	1
11	Air Connector - Push Fit Straight - 8mm to G1/4 F	1503-013	1
12	Air Connector - Push Fit Straight - 8mm to G1/8 F	1503-014	1
13	F4 Inserter – Actuating Rod	1503-011E	1
14	F4 Inserter – Lower Arm	1510-011	1
15	F4 Inserter – Upper Arm	1510-012	3
16	F4 Inserter – Handle LHS	1503-001E	1
17	F4 Inserter – Handle RHS	1503-001E	1
18	F4 Inserter – Arm Spacer	1503-003	4
19	F4 Inserter – Trigger	1503-012	1
20	F4 Inserter – Wear Pad	1505-005	4
21	Nut - Nyloc M5 S/S	N/A	14
22	Cap Screw - M5x12 S/S	N/A	9
23	Cap Screw - M5x30 S/S	N/A	1
24	Hex Bolt - M5x30 S/S	N/A	4
25	O-Ring 1" x 3/32	1503-015	2
26	F4 Inserter – Pneumatic Cylinder	1503-006	1
27	Air Hose – 8mm Spiral S/L x 4M	1503-009	1
28	PU Tube Clear - 4mm x 195mm	N/A	1
29	PU Tube Clear - 4mm x 270mm	N/A	1
30	PU Tube Clear - 6mm x 70mm	N/A	1
31	PU Tube Clear - 6mm x 100mm	N/A	1
32	PU Tube Clear - 6mm x 315mm	N/A	1
33	Pneumatic Valve - 5 port 1/8"	1503-031	1
34	Trigger Valve (Pilot) S/S	1503-032	1
35	Spring Hook S/S – 7mm	1503-019	1