

mackworth

# FSG440 Portable Gantry



## Service Manual

## Contents

1.0 – Introduction .....	3
2.0 – Safety Precautions .....	3
3.0 – Servicing .....	4
4.0 – Tools, Equipment and Lubricants Required for Servicing .....	5
5.0 – Disposal .....	5
6.0 – Spare Parts List .....	5
7.0 – Servicing – Removal and Replacement .....	6
7.1 – End Cap .....	6
7.2 – Track .....	7
7.3 – Trolley .....	9
7.4 – Leg .....	11
7.5 – Feet .....	12

## 1.0 – Introduction

This Manual will explain how to carry out interim servicing and parts replacement on the Mackworth FSG Gantry System safely and effectively. This document is divided into sections to help a Service Engineer find the correct information. Each section will show in a step by step fashion the correct way to disassemble and assemble the Gantry. The aim of the Manual is to help and assist you, so that you can provide a successful service for the end user.

## 2.0 – Safety Precautions

**Read and understand this manual in its entirety before servicing the Mackworth FSG.**

- Mackworth authorised personnel must complete the Full and Interim services of Gantry.
- The Gantry System must not be in use by the user during any form of servicing.
- Ensure that the all servicing procedures are followed correctly as instructed in this manual.
- All listed tools and equipment stated in this manual must be used to safely service the Gantry.
- Ensure you have assessed all risks for your environment and any persons within that environment before commencing work.
- Ensure you have all PPE available to carry out the work before commencing.

### 3.0 – Servicing

**To be completed by Approved Service Engineer**

Maintenance should be completed by an approved service engineer every 6 months to ensure the products required standard is maintained. The service history of the product should be documented each service.

When Servicing the Gantry, ensure to fill out the Service Log which is located in the back of the User Manual. When doing so, ensure the Serial Number of the Product and the User Manual match up. Each Gantry has its designated User Manual which is supplied to the User during commissioning.

Component	Service/Inspection required
<b>Generic:</b>	Visual inspection of the external of the Gantry. Significant damage that may affect the function of the Gantry along with a clear safety hazard is unacceptable.
	Check the Labelling on the Gantry to ensure they are all still legible, this includes the Serial Number and other important markings.
	Clean the Gantry at the end of each service. See User Manual for cleaning details.
	Check all main nuts and bolts to see if they are loose, if so tighten accordingly.
	Ensure all Hand Knobs are functioning as intended and without damaged thread.
<b>Gantry Assembly:</b>	Ensure that the Installation of the legs, feet and track is correct and fitted properly, ensure to tighten the star knobs where necessary.
<b>Feet:</b>	Inspect the Feet for damage including cracks or bending.
	Ensure that the feet are flat on the floor, adjust the self-levelling screws where necessary.
<b>Legs:</b>	Ensure height adjustment to the Legs are moving freely and is not jamming.
	Ensure that the locking pins are secured in place with the clips.
	Ensure that the two Legs are set to the same height for a horizontal track.
<b>Track and Trolley</b>	Examine the Trolley to ensure that it rotates smoothly.
	Examine the Trolley to ensure that it is able to traverse along the track smoothly.
	Ensure that the track is able to adjust in length smoothly.

## 4.0 – Tools, Equipment and Lubricants Required for Servicing

When carrying out work on the Mackworth FSG you will require the following:

### **Tools Required**

2mm Allen Key  
Circlip Pliers

### **Equipment Required**

Marker Pen  
Cloth  
Lint Free Cloth  
Silicon Spray

## 5.0 – Disposal

When the Gantry has completed its life cycle and can no longer perform to its intended use safely, the product must be decommissioned by an approved Service Engineer. The following specifies the importance of correct disposal procedure including local laws and being environmentally friendly.

Please observe the local laws on recycling and respect the current laws for disposal within the community the device is being used within. If there is any uncertainty of the below guidelines, contact your local authorities to determine the proper method of disposal of potentially biohazardous parts and accessories.

The relevant components utilised in the manufacture of the device that can be recycled at the end of the device life are:

Fully recyclables:
Aluminium Feet
Aluminium Legs
Aluminium Track
Trolley
Metallic fixing – screws etc.
Initial packaging of the device (cardboard)

## 6.0 – Spare Parts List

For the full list of Spare Parts available for this product. Please refer to the latest revision of the Spare Parts Manual.

Document Number: 992548.

The Spare Parts Manual can be located on the Mackworth Website: <http://mackworthusa.com>

## 7.0 – Servicing – Removal and Replacement

This section will cover the details of how to remove, refit and replace all serviceable parts to the Gantry. The step by step process is to be followed in sequence to perform a successful service on the Gantry. Unless stated otherwise, all images refer to a Mackworth FSG.

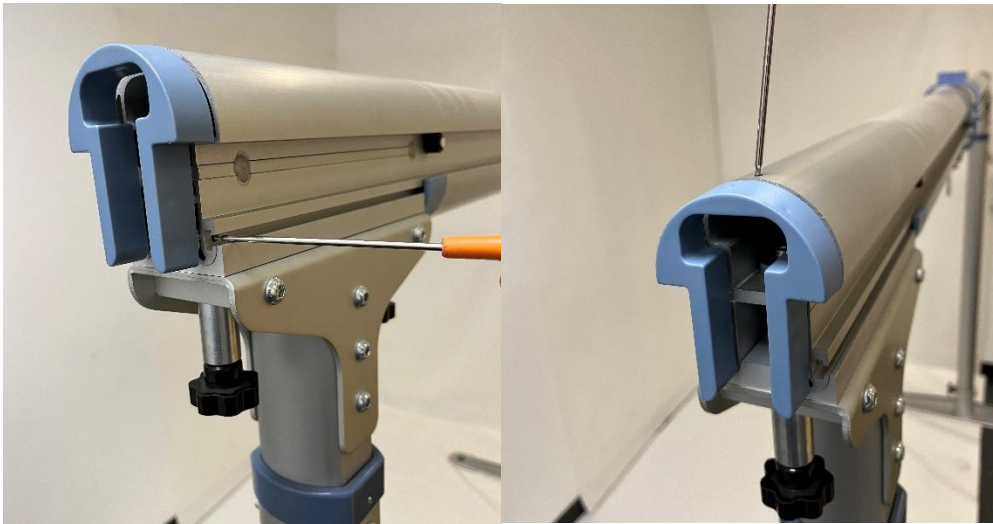
Before servicing the FSG, lower the gantry to its minimum height

### 7.1 – End Cap

This section will instruct the correct procedure on how to remove and replace the End Cap.

#### **Removal**

Step 1 – The End Cap clips must be detached to release the end cap. Locate the three holes in the track and use a 2mm diameter Allen key to release the end cap clips.



Step 2 – Remove the end cap from the track as shown.



Step 3 – Repeat Steps 1 and 2 to remove the opposite end cap.

## Refitting / Replacement

Step 4 – Refitting is a reversal of the removal process noting the following points:

- A) Refit the End Cap in the correct orientation. Ensure that the End Cap Clips locate correctly into the track for correct fitting. Loctite 401 can be used to secure a loose cap.



## 7.2 - Track

In this section it will explain the correct procedure on removing and refitting the Track.

### Removal

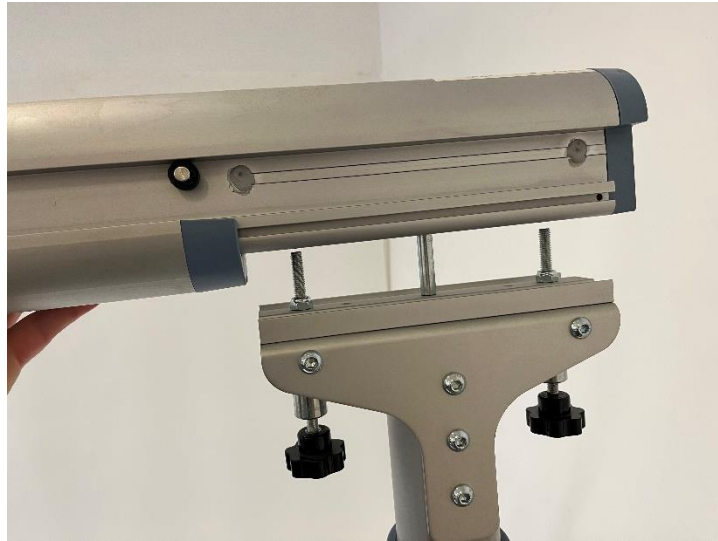
Step 1 – If required, remove the End Caps from the Track. (Refer to section 7.1)

Step 2 – Loosen the two star handles to release the track from the leg post.



Step 3 – Loosen the two star handles at the opposite leg post to release the track from its fixing.

Step 4 – Raise the track from the two leg posts to remove.



### **Refitting / Replacement**

Step 5 - Refitting is a reversal of the removal process noting the following points:

- A) When refitting the Track to the leg posts, ensure that the two leg posts are the track length distance apart to locate the track onto the legs.
- B) Ensure the two leg posts are in the same orientation.
- C) The track can be located in either orientation.
- D) Ensure to fully tighten the star handles to secure the track.



## 7.3 – Trolley

In this section it will explain the correct procedure on removing and reinstalling the Trolley for servicing procedures or replacement.

### **Removal**

Step 1 – The end stop must be removed to allow the trolley to escape. Using Circlip pliers, release the end stop pin.



Step 2 – Remove the rubber bung from the pin.



Step 3 – Remove the pin to release the trolley from the track.



Step 4 – Remove the track from one leg only. See section 7.2 for guidance.



Step 5 – Traverse the Trolley from the track where the end stop has been removed.



### Refitting / Replacement

Step 6 - Refitting is a reversal of the removal process.

A) Ensure that the end stop is refitted.

## 7.4 - Leg

In this section it will explain the correct procedure on removing and reinstalling the Legs for servicing procedures or replacement. The below instructions are relevant to both of the Gantry Legs.

### Removal

Step 1 – Remove the Track from the Gantry. (Refer to section 7.2 for guidance)

Step 2 – Unthread the large star handle from the leg which secures the leg and foot together.



Step 3 – Raise the Leg from its fixing within the foot.



Step 4 – Repeat steps 2 and 3 to remove the other leg from the gantry.

### Refitting / Replacement

Step 5 - Refitting is a reversal of the removal process noting the following points:

- A) Ensure that the bolt is fully secured once tightened.
- B) Ensure that the two legs are in the same orientation when refitting.

## 7.5 - Feet

Within this section it will explain the correct procedure on removing and reinstalling the Feet for servicing procedures or replacement.

### **Removal**

Step 1 – Remove the Legs from the product. (Refer to section 7.3) – The track is not required to be removed.

### **Refitting / Replacement**

Step 2 - Refitting is a reversal of the removal process.

## Disclaimer

While every effort has been made to ensure the accuracy of information contained in this service manual, no liability can be accepted by Mackworth for any errors or omissions. Mackworth operates a policy of continuous improvement. Specifications and other data are subject to change without notice.

