

Training manual - DS10



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Contents

Contents

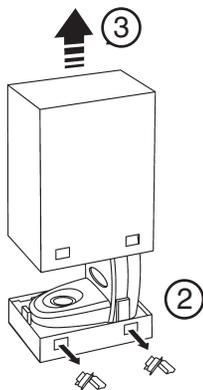
Installation and set-up	1
Hardware installation	1
Unpacking the machine	1
Inside the box	2
Loading the probe module	2
Renishaw DS10 connections	3
Machine maintenance	4
Cleaning	4
Cleaning the scanner	4
Cleaning the probe body, probe module and stylus	4
Cleaning the accessories	5
System Specification	6
Renishaw DS10	6
Minimum PC specification	7
Parts lists	8
Main parts list	8

Installation and set-up

Hardware installation

Unpacking the machine

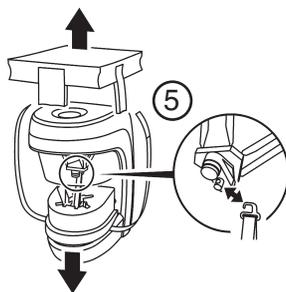
1. Remove the outer box and follow the instructions printed on the box inside.



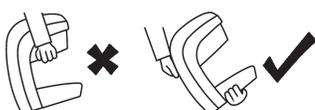
2. Remove the 4 × retaining clips.
3. Remove the outer cover and place the machine on a solid work surface.



4. Undo the strap that holds the mechanism packaging.



5. Remove the transit packaging by unhooking it from the probe body.

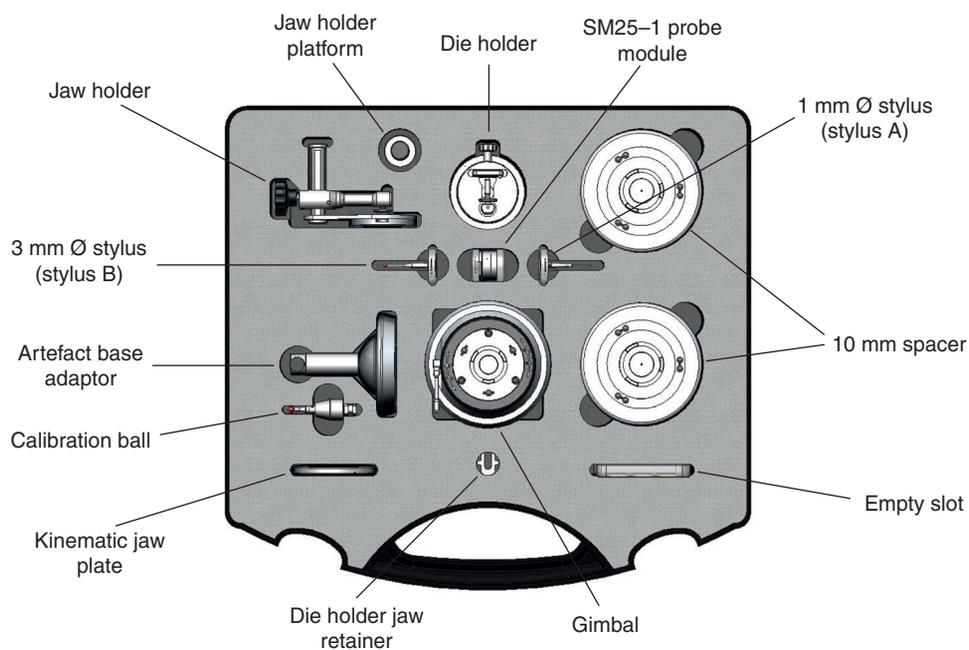


6. Lift the DS10 scanner from the packaging and place on a solid work surface.

Inside the box

- 1 × Renishaw DS10 scanner
- 1 × power supply (specific to region)
- 1 × USB cable
- 1 × accessories kit

Accessories kit



To view a list of all available parts, see the 'Parts List' section at the rear of this document

Loading the probe module

The probe module needs to be connected to the probe body to enable the measuring system to operate.

⚠ CAUTION: Do not touch the glass window as it can impair the accuracy of the scanned data.

1. Remove the probe module from the accessory case and remove the protective end caps.



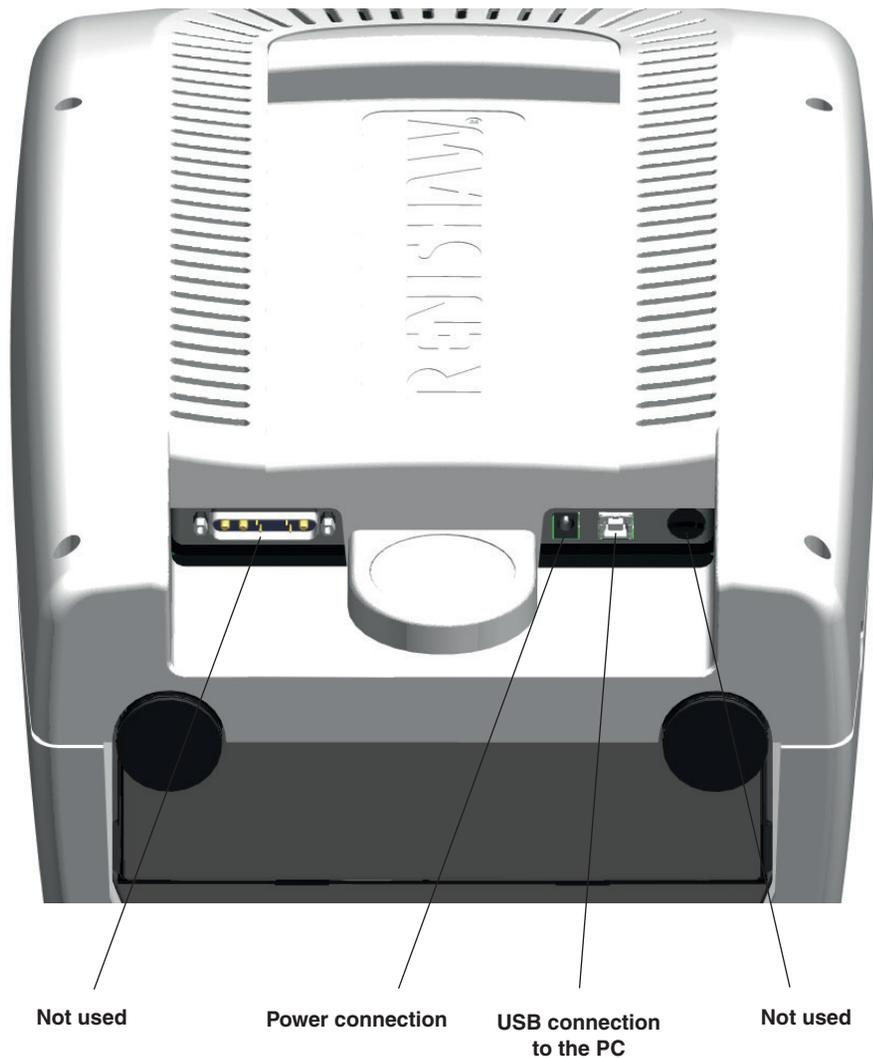
2. Remove the end cap from the probe body.



3. There is a magnetic location system that retains the module in position. Align the front of the probe module (indicated by the dot marker above the word 'Renishaw') with the front of the probe body.
4. Slightly tilt the module with the lower alignment dot facing towards you, offer it up and 'roll' it into position, allowing the magnetic force to gently connect the kinematic joint.



Renishaw DS10 connections



Machine maintenance

The Renishaw DS10 scanner is a precision instrument and must be handled accordingly.

Cleaning



WARNING: Disconnect the power before cleaning the scanner.

Cleaning the scanner

The components of the scanner do not require any special maintenance other than cleaning. A lint-free cloth and glass cleaner can be used to clean all outer surfaces of the scanner body. Avoid cleaning the internal components and mechanics of the scanner. If these areas do need cleaning, an air-blast should be used. Cleaning solutions are not recommended.

Cleaning the probe body, probe module and stylus

The probe assemblies are fitted with kinematic coupling mechanisms. These utilise precision ball and V-groove seatings, electrical contacts and permanent magnets.

It is recommended that these features are cleaned at the following intervals:

- Before the scanner is used for the first time.
- After every 500 changes.

Removing the probe module and stylus

You must remove the probe module and stylus from the probe body before cleaning the probe. The probe body forms part of the mechanism of the scanner and cannot be removed.

Remove the stylus by holding the stem and tilting it away, breaking the magnetic joint. Remove the probe module by holding it and tilting it away from the probe body.

Cleaning the probe body and module

A cleaning kit is supplied for cleaning the kinematic coupling mechanisms of the probe assembly. This comprises 'yellow tack' strips and an optical cleaning cloth.



IMPORTANT: Do not use the yellow tack to clean the optical window of the probe body or module.

1. Clean the external surfaces only using a lint-free cloth. All parts must be kept dry.
2. With clean hands, take off a small piece of yellow tack and shape it into a ball. Press it onto and into each feature.
3. Using the optical cleaning cloth, clean the optical windows on the underside of the probe body and topside of the probe module.

Cleaning the stylus mount and stylus

Regularly inspect the ball of each stylus for damage or component material deposits.

1. Clean the stylus ball and mating face using the cleaning cloth or a solvent.

Refitting the probe module and stylus

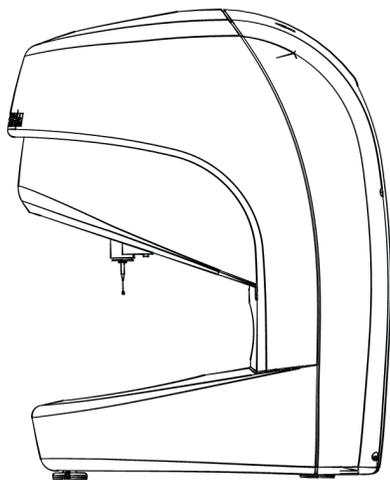
1. Align the front of the probe module (indicated by the dot marker above the word 'Renishaw') with the front of the probe body.
2. Slightly tilt the module with the lower alignment dot facing towards you, offer it up and 'roll' it into position, allowing the magnetic force to gently connect the kinematic joint.
3. Align the stylus with the probe module by pairing the white line with dot marker.
4. Tilt the probe so the stem is facing towards you, offer it up to the module and roll it into position, allowing the magnetic force to gently connect the kinematic joint.

Cleaning the accessories

1. Dampen a cloth with glass cleaner and clean each of the accessories.
2. Use a soft brush if any of the clamping faces need cleaning.

System Specification

Renishaw DS10



Dimensions	Width	300 mm (11.8 in)
	Depth	400 mm (15.7 in)
	Height	550 mm (21.7 in)
Weight	25 kg (maximum)	
Operating environment	Temperature	15 °C to 26 °C (maximum temperature change of 2 °C per hour)
	Relative humidity	20% to 80%
	Altitude	2000 m maximum
Transportation environment	Temperature	20 °C to +70 °C
	Humidity	0% to 95%
Voltage for power supply (ac to dc adaptor)	100 V to 240 V ac	
Frequency range	50 Hz to 60 Hz	
Voltage for scanner	18 V dc	
Power supply rating	70 W	
Communications to PC	USB	
Connectors on scanner	USB, power	
Switch	On / off power	

Minimum PC specification

Processor	Intel Pentium 4, 3.0 GHz (or equivalent)
Hard drive	100 MB minimum free space is required for installation. Additional hard disk space is required to store frameworks as they are created. A minimum of 200 GB is recommended.
Memory	1 GB RAM (for Windows XP SP3) 2 GB RAM (for Windows Vista SP1 and Windows 7)
Graphics adaptor	Fully DirectX 9 compatible graphics adaptor 256 MB (minimum) video RAM
Colour display resolution	1024 × 768 capable
Mouse	Scroll-wheel or 2-button mouse or pointing device
CD-ROM drive	Required for software installation
USB	Three USB ports are required
Broadband internet connection	Minimum 2 Mb/s, operational
PC operating system	Microsoft Windows XP SP3 (x32 Edition only) Windows Vista (x32 and x64) Windows 7 (x32 and x64)

Note: A dual-core processor is recommended if operating the scanner and milling machine from the same PC.

Parts lists

Main parts list

Part	Part number	Description
	A-5351-0060	Probe body and module cleaning kit
	A-2237-1111	Probe module (SM25-1)
	A-5351-4150	Packaging kit
	A-5351-4151	Gimbal
	A-5351-4152	Jaw holder
	A-5351-4153	Die holder
	A-5351-4154	Artefact base adaptor
	A-5351-4155	10 mm spacer
	A-5351-4156	Jaw holder platform
	A-5351-4157	Calibration ball
	A-5351-0095	Link abutment holder kit
	A-5495-0060	Implant bridge holder kit
	A-5351-1003	Wax abutment holder kit
	A-5351-4159	1 mm stylus (Stylus A)
	A-5351-4260	3 mm stylus (Stylus B)
	A-5351-4233	T-stylus (Stylus C)
	A-5351-4270	Die holder jaw retainer
	A-5351-4271	Kinematic jaw plate kit
	P-EA02-0020	Power supply unit
	P-CA38-0006	Power cable (UK)
	P-CA38-0036	Power cable (US)
	M-5351-1025	Dust cover

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