

AM2 adjustment module

The AM2 adjustment module is designed to provide quick and accurate angular alignment of the PH10MQ motorised probe head with the axes of the co-ordinate measuring machine and/or the autochange rack.

The AM2 consists of an adjuster plate, which is attached to the quill of the CMM, and a set of adjusters fitted to the flange of the head.

The head is fixed to the adjuster plate by a pair of captive screws.

The AM2 module provides a highly repeatable mounting, allowing a head to be removed and replaced without the need for further adjustment.

Because all adjustable parts remain with the head on removal, more than one head can be set up for use on the same machine. Therefore, the time taken to exchange heads is minimised.

This module does not provide overtravel protection.

Installation

The AM2 can be supplied already assembled on the head. Installation requires a 2.5 mm hexagon key and four suitable cap screws to attach the adjuster plate to the quill of the CMM. These will usually be M3 (refer to figures 2 and 3).

1. Unscrew the two securing screws (D) to release the adjuster plate from the head. Attach plate to the CMM quill using four suitable cap screws, ensuring correct orientation. Tighten screws.
2. Offer head up to quill and plug in head and multiwire cables as appropriate. While ensuring that balls of AM2 adjusters engage the seatings on the adjuster plate, tighten the securing screws.

NOTE: Springs under the heads of the screws allow a controlled load to be applied.

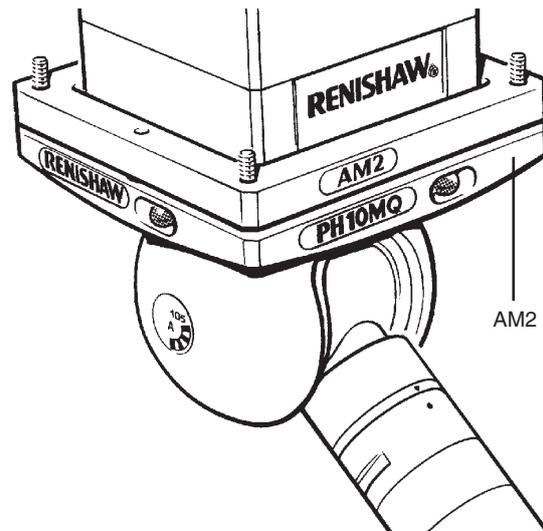


Figure 1 - The AM2 fitted with a PH10MQ motorised probe head

Adjustment

The three axes of adjustment are defined with the head mounted vertically, viewed from the front:-

Roll - about an axis running front to back

Pitch - about an axis running left to right

Yaw - about the vertical axis

A special tool, consisting of a concentric hexagon key and socket spanner is supplied (A-1036-0010). This should be located on the adjusters and locknuts recessed into the face of the head mounting flange.

NOTE: Springs are fitted under the adjuster locknuts to provide some preload during setup.

The correct procedure is:-

- a. Slacken the locknut slightly using the outer part of the tool.
- b. Set the adjuster using the inner part of the tool.
- c. While holding the adjuster stationary, tighten the locknut.

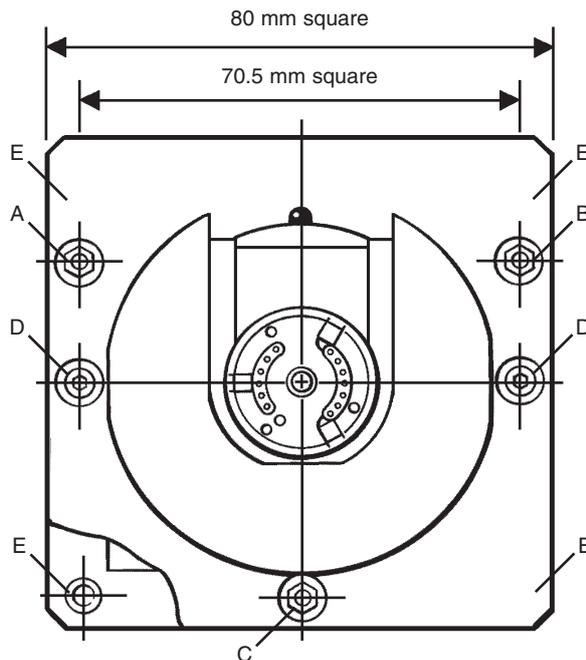


Figure 2 - View from below the PH10MQ and AM2 attached to quill

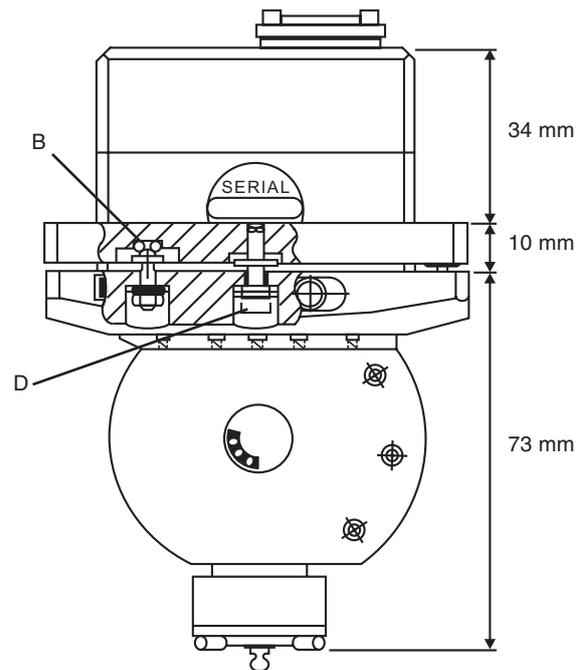


Figure 3 - View from the side

The cut-away section shows the positions of the adjusting screws and the mounting screws.

NOTE: All dimensions are nominal.

- A** Yaw adjustment screw
- B** Roll adjustment screw
- C** Pitch adjustment screw
- D** Securing screw
- E** "AM2 to quill" mounting screws

NOTE: As settings are changed, the tension on the two securing screws may have to be altered. Always check that all three adjuster balls are in firm contact with their seatings.

The order of setting is as follows:-

1. Roll - alterations of up to $\pm 1^\circ$ are possible using the right hand adjuster (this will introduce a small pitch error).
2. Pitch - alterations of up to $\pm 1^\circ$ are possible using the rear adjuster.
3. Yaw - alterations of up to $\pm 1^\circ$ are possible using the left hand adjuster.

When all adjustments have been carried out, make sure all securing screws are tightened.

The head can now be removed at any time by releasing the securing screws and will not require further adjustment when replaced.

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