CONSTRUCTIONS ALLOWED

TO GET A POINT.....	PRESS.....	THEN SELECT.....
Intersection to two lines	POINT key	Line 1 and line 2
Intersection of a line and a circle	POINT key	The line and the circle
Intersection of two circles	POINT key	The two circles
The point on a line closest to the datum	POINT key	The line
The mid-point between two points	POINT key	The two points
The mid-point between a point and circle or line	POINT key	The point and the circle or the point and the line
An offset point	POINT key	The point and a distance
Center point of a circle	POINT key	The circle
Average point	POINT key	Multiple points
A perpendicular point	POINT key	The line and a point

TO GET A LINE.....	PRESS.....	THEN SELECT.....
A best fit line	LINE key	Multiple points along the line.
A line perpendicular to a line through a feature	LINE key	The line and circle, or line and point
A bisector line	LINE key	Any two lines
Calculated line	LINE key	The point and angle
An offset line	LINE key	The line and distance

TO GET A CIRCLE.....	PRESS.....	THEN SELECT.....
Best fit circle	CIRCLE key	Multiple points around the circle
Calculated circle	CIRCLE key	The point and a distance
An offset circle	CIRCLE key	The circle and a distance
A bolt hole pattern	CIRCLE key	The circles

RELATIONSHIPS

TO DETERMINE A DISTANCE	PRESS.....	THEN SELECT.....
A straight line 2D distance between features	DIST key	Two points, a point and a line, a point and circle, a line and a circle, or two circles
A distance between two circle centers	DIST key	The two circles
The Nearest distance between two circles	DIST key	The two circles then press the MORE key.
The Farthest distance between two circles	DIST key	The two circles then press the MORE key twice
Nearest and Farthest distance of an Annular ring	DIST key	The two circles that make up the Annular ring

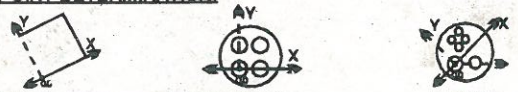
TO DETERMINE AN ANGLE	PRESS.....	THEN SELECT.....
The angle between two lines	ANGLE	The two lines
The Vertex of an angle	ANGLE	The two lines; the Vertex point will appear in the feature list as a point.

DATUMING IS QUICK AND EASY:

Skew sets axis alignment for the part. Can be set from any defined line feature.

Midpoint | Line-line intersection | Bolt hole pattern

DATUM POINT DETERMINATION:



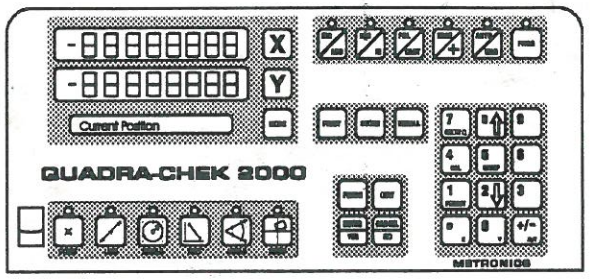
Normal alignment | Alignment from two features | Flexible alignment

SEE WHAT SIMPLICITY AND VERSATILITY ARE ALL ABOUT....

Among the many features you'll find are:

- Message display window
- All multipoint features, up to 50 points each
- Presets and constructions
- Shaft Checking function
- Linear error correction
- Segmented Linear error correction
- Versatile printouts
- 109 Datum memories
- Storage of entire feature

- Optional add-ons:
  - Optical edge detection
  - Electronic protractor
  - Non-Linear error correction
  - Seven function keypad
  - Footswitch



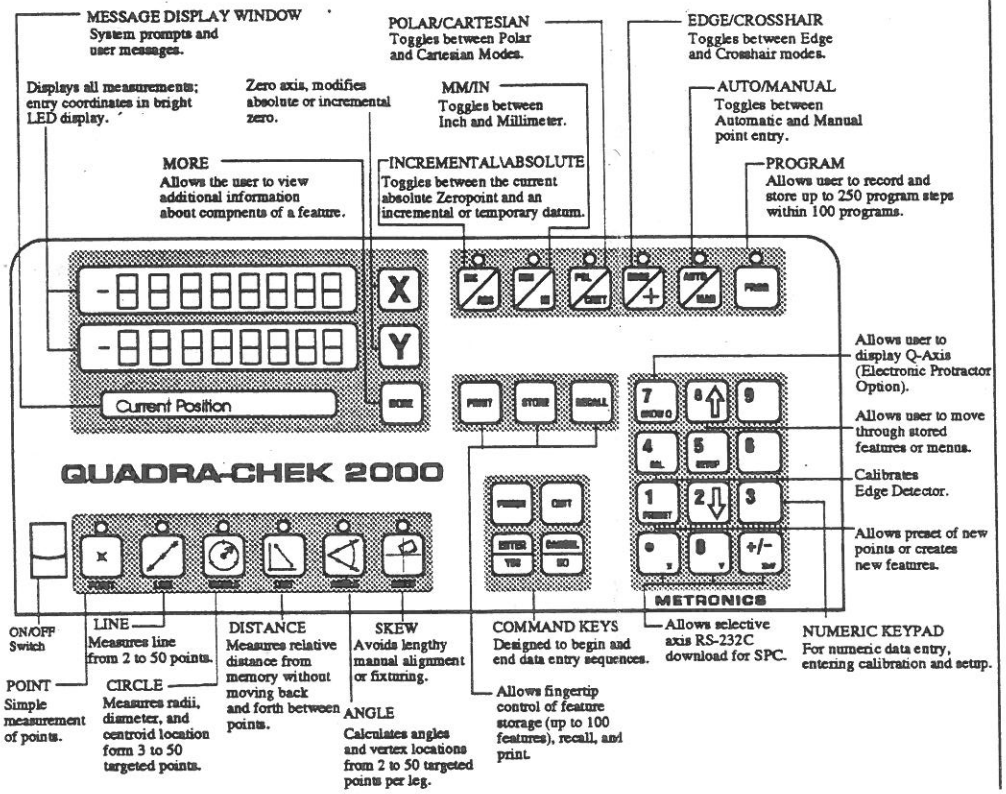
QUADRA-CHEK 2000

POCKET

REFERENCE GUIDE

METRONICS, INCORPORATED
BEDFORD, NEW HAMPSHIRE, USA

11A10076
REV. 3



SETUP MENU DESCRIPTION

1.	CLEAR	Clears features, errors, programs, remote keys and skew.
2.	MEASURE MAGIC	Allows the user to automatically create the correct geometric features by entering points.
3.	MIN/MAX	Used for Shaft Checking, this continuously monitors the probe position until FINISH is pressed.
4.	ANGLE TYPES	Switches from DMS to Decimal Degrees.
5.	REMOTE KEYS	Configures remote keys.
6.	ANNOTATION	Sets annotation forward or backward.
7.	SET DEFAULT	Used to reset to factory defaults.
8.	PRINT ALL FEATURES	Downloads all features (including temporary) through RS-232 port.
9.	PRINT PROGRAMS	Downloads programs through RS-232 port.
10.	FEATURE FORMAT	Sets printout format 32,40, or 80 column.
11.	RS-232	Configures RS-232 download parameters.
12.	PRINT SETTINGS	Downloads setup parameters.
13.	TEST	Independently runs diagnostic testing.
14.	DISPLAY RESOLUTION	Sets display resolution.
15.	DEFAULT UNITS	Sets units for inch or millimeter.
16.	FLASH DELAY#	Sets duration for which messages are displayed.
17.	AXIS DIRECTIONS	Sets X, Y, and Q axis directions.
18.	SUPERVISOR	Dealer setup parameters;Password required.
19.	LANGUAGES	Selects English, French, German, Spanish, or Italian.

MEASURE MAGIC

This function automatically creates the correct geometric features simply by entering points. By following a few simple rules and probing techniques, measuring a part will become so fast and easy you'll probably want to use it most of the time.

SINGULAR MODE

1. Press the SETUP (5) key. *Enter Setup?* appears in the message window.
2. Press ENTER. *Clear* appears in the message window.
3. Press the DOWN ARROW once. *Measure Magic?* appears in the message window.
4. Press ENTER. *Probe Feature* appears in the message window and the 5 measurement function keys will be lit.

Now probe points on any geometric feature pressing the FINISH key after completing the measurement.

AUTO REPEAT MODE

Follow steps 1 through 4 above. Once Measure Magic is initiated, press any one of the lit function keys. This will keep Measure Magic active until FINISH is pressed.

AUTO REPEAT/AUTO STORE

Follow steps above. Once Measure Magic is initiated, press the STORE key instead of a measurement function key. This will automatically store the feature after it is measured and keep Measure Magic active until FINISH is pressed.

MEASURE MAGIC PROBING TECHNIQUES:

Point Measurement
Probe ONE point. Press FINISH.

Distance Measurement
Probe TWO points. Press FINISH. Note: *Relations* must be ON to calculate a distance.

Line Measurement
Probe THREE or more points. Press FINISH. Note: If *Relations* is set to NO, then a Line may be probed with TWO points.

Circle Measurement
Probe THREE or more points. Press FINISH. Note: There must be at least 180 degrees of arc from the first to the last probed point.

Angle Measurement.
Probe a minimum of THREE points and an equal number of points on each leg of the angle. Press FINISH.

Note: Angles and Distances will only be generated if *Relations* is initiated and probing techniques are correct.

MIN/MAX RADIUS FUNCTION

This function also known as the Shaft Checking function, continuously monitors the probe position until FINISH is pressed. Once pressed, the Min/Max information is placed on the temporary feature list as *"a1 MinMax Rg"*. Pressing the MORE key will display *"a1 MinMax +-Y.* These features can be stored in permanent storage the same way as any other feature.

To initiate the MinMax function:

1. Press the SETUP (5) key.
2. Press ENTER.
3. PRESS THE down arrow UNTIL "MinMax?" appears.
4. Press ENTER. "MinMax X/Y" appears in the message window.

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A NOTE ON PROGRAMMABILITY:

The enhanced versatility of the Quadra-Chek 2000 series allows the user to program any of the measurement shown below to speed up repetitive tasks and improve productivity. The QC-2000 can store up to 100 programs with 250 program steps.

CIRCLE, CIRCLE, DISTANCE – SLOT MEASUREMENT
This program was completed by simply entering the Program Record Mode and entering the sequence of keystrokes that are required for measuring the features of interest. This sequence is then repeated whenever the program is recalled.

The following program list was generated by recording a simple measurement of the distance between two circles.(i.e., a Slot).

	STEPS	EXPLANATION
0.	Program 0	Program Label
1.	Circle	Probe first circle
2.	Finish ?	Wait for FINISH keypress to complete circle
3.	Store	Store as feature # 01
4.	0	
5.	1	
6.	Enter	
7.	Circle	Probe second circle
8.	Finish ?	Wait for FINISH keypress to complete circle
9.	Store	Store as feature # 02
10.	0	
11.	2	
12.	Enter	
13.	Distance	Construct distance
14.	Recall	Recall the first circle
15.	0	
16.	1	
17.	Enter	Automatically selects feature #01
18.	Enter	Selects feature #02.
19.	Finish	Finish distance construction
20.	Store	Store as feature #03.
21.	0	
22.	3	
23.	Enter	
24.	End Program	Program completed.

METRONICS