

# Wireless Crankshaft Deflection Kit



The Wireless Crankshaft Deflection Test Kit utilizes a Bluetooth crankshaft gage for crankshaft web deflection tests. By simply tapping on iPad, users can have deflection data recorded easily and error-free.

Thanks to the built-in angle measurement, there is no need to mark test points on the crankshaft web again. The Crankshaft Test app will notify users once the crankshaft rotates to test locations. A PDF test report can be generated and stored at the end of each test. This system covers various crankshaft web gaps ranging from 160 to 720 mm with an included extension rod set.



| Crankshaft Deflection    | Specification                      |
|--------------------------|------------------------------------|
| Measurement Range        | 0.4 in/10 mm                       |
| Resolution               | 0.0001 in/0.001 mm                 |
| Accuracy                 | 0.00012 in                         |
| Wireless Data Rate       | 10 Hz                              |
| Transmission Range       | 20 m (indoors)/<br>30 m (outdoors) |
| Crankshaft Web Gap Range | 160-720 mm<br>145-720mm optional   |
| Working Temperature      | 0-50°C                             |

| Crankshaft Deflection        | Specification        |
|------------------------------|----------------------|
| Connection                   | Bluetooth Low Energy |
| Angle Measurement Resolution | 1°                   |
| Rechargeable Battery         | 400 mAh              |
| Battery Life                 | 50 hrs               |
| Charging                     | 5 VDC USB            |



Bluetooth Low Energy



Rechargeable



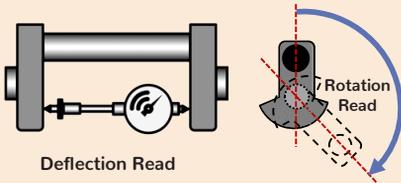
All-in-one gage



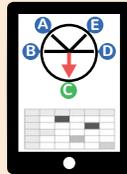
Both deflection and rotational measurement



Data saving



Deflection Read



### Included in the Package:

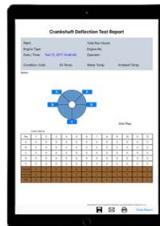
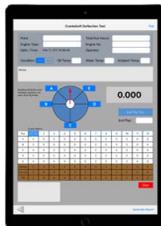
- Wireless Crankshaft Gage 1X
- Adjustable Probe 1X
- Extension Rod Set (1/2" to 6" one each) 1X
- 60° Punch 1X
- Protective Carrying Case 1X
- USB Charging Cable 1X
- USB Power Adapter 1X
- Crankshaft Deflection Test App for iPad

### App Features:

- Wireless data recording
- Rotating angle indicator
- Measurement results organized in table
- Automatic test point notification
- Automatic vertical/horizontal deflection calculation
- End play test included
- Test report generation
- Tester signature
- Local report storage manager
- Email report and wireless printing



For iPad



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The software & hardware can be customized.  
Contact Motions for details.

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# Wireless Pile Load Test Kit

Wireless Pile Load Test Kit measures pile deflection under different load conditions with multiple (up to 6) Bluetooth dial indicators, BlueDials, and a Bluetooth pressure sensor, BluePSI, on iPad. The BlueDials measure pile movements during load application, and the BluePSI, mounted on the hydraulic pump, monitors load change. The app runs on iPad and pairs with BlueDials and BluePSI. Readings from all wireless gages are synced, updated and logged in the app.



| Bluetooth Pressure Sensor  | Specification                       |
|----------------------------|-------------------------------------|
| Measurement Range          | 5K, 15Kpsi (more options available) |
| Accuracy                   | 0.25% of full scale                 |
| Data Transmission Interval | 5s (adjustable)                     |
| Transmission Range         | Up to 20 m                          |
| Working Temperature        | -20 - 85°C                          |
| Battery Life               | 2 years at 5s interval with CR2050  |
| Pressure Port              | 1/8-18 NPT (more options available) |

| BlueDial               | Specification                       |
|------------------------|-------------------------------------|
| Measurement Range      | 2 in/50 mm (more options available) |
| Resolution             | 0.0005 in/0.01 mm                   |
| Accuracy               | 0.001 in                            |
| Wireless Data Rate     | 10 Hz                               |
| Transmission Range     | 20 m (indoors)/30 m (outdoors)      |
| Working Temperature    | 0-50°C                              |
| Bluetooth Battery Life | 50 hrs (rechargeable)               |

NOTE: Wireless Pile Load Test Kit can be customized with different pressure or BlueDial gages. Please contact us for details.

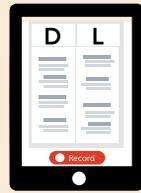
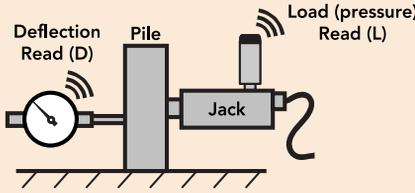
Bluetooth Low Energy

Rechargeable

Both deflection & load measurement

Multi-platform software capability

Data saving



- Included in the Package:
- BlueDial(s): Bluetooth Dial Indicator(s)
  - Bluetooth Pressure Sensor 1X
  - Protective carrying case 1X
  - Wireless Pile Load Test app for iPad
  - iPad with rugged protective case (optional)

### App Features:

- Easy pairing/unpairing with sensors
- Simultaneous recording of BlueDials and pressure sensor
- Measurement results organized in table
- Remote zeroing of BlueDial readings in the app
- Automatic calculation of average deflection
- Option to enter jack calibration equation for automatic pressure-load conversion
- Excel CSV export via email
- Local saving on iPad for future access and export

# Wireless Benkelman Deflection Test Kit

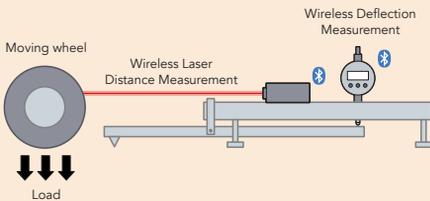


The Wireless Benkelman Test Kit is a novel tool for Benkelman beam deflection testing. It consists of a Bluetooth dial indicator, BlueDial, to measure deflection of flexible pavements under the action of moving wheel loads, and a Bluetooth laser measurer to measure distance between the Benkelman beam and the moving truck. The app/software on iOS/Android smart devices or Windows PC pairs with both Bluetooth measurement devices simultaneously to sync and record their readings.



| BlueDial            | Specification                            |
|---------------------|--|
| Measurement Range   | 0.5 in/12.7 mm, 1 in/25.4 mm, 2 in/50 mm |
| Resolution          | 0.0005 in/0.01 mm, 0.00005 in/0.001 mm   |
| Accuracy            | ±0.001 in, ±0.0002 in                    |
| Wireless Data Rate  | 8 Hz                                     |
| Transmission Range  | 30 m                                     |
| Working Temperature | 0-50 °C                                  |
| Battery             | 400 mAh rechargeable, 50 hr battery life |

| Laser Measure       | Specification             |
|---------------------|---------------------------|
| Measurement Range   | 6 in - 165 ft/0.15 - 50 m |
| Resolution          | ± 1/32 in/0.5 mm          |
| Accuracy            | ± 1/16 in/1.5 mm          |
| Wireless Data Rate  | 2 Hz                      |
| Transmission Range  | 20 m                      |
| Working Temperature | -10-45 °C                 |
| Battery             | 2x AAA                    |



### Included in the package:

- BlueDial(s): Bluetooth Dial Indicator (default 1x, can add more)
- Bluetooth Laser Measurer 1x
- Protective Carrying Case 1x



### More Features with our FREE Apps/Software\*

- Simultaneous reading of multiple devices
- Data plotting on iPhone/iPad/Android
- Continuous or single data point recording
- Max, Min, TIR measurement
- Remote zeroing from the app
- GO/NG judgment with green/red color indication
- Real-time cloud data streaming worldwide
- Custom formula calculator
- Large analog probe meter with adjustable range
- Data saving in local database
- Data export in CSV via email and cloud drives
- Keyboard entry to Excel or SPC software on PC
- Apple Watch support



\*Availability of features varies between apps/platforms.

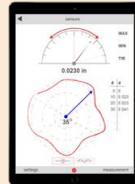
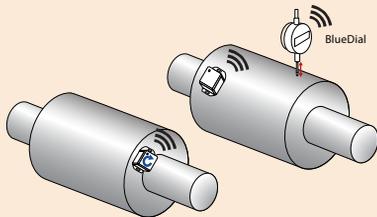
# Wireless Rotor Runout Kit

Wireless Rotor Runout Kit is a novel tool for rotor runout measurement. It consists of a Bluetooth dial indicator (BlueDial), a Bluetooth angle sensor (BlueAngle) and the iPad application Runout. Together, these sensors work to seamlessly measure both circumference deflection and rotor rotating angle to show the real contour of the rotor. The multiple-sensor connectivity of the app also allows users to add extra BlueDials to conduct runout tests on different planes simultaneously.



| BlueDial BD10-783/793 | Specification                          |
|-----------------------|--|
| Measurement Range     | 0.5 in/12.7 mm                         |
| Resolution            | 0.0005 in, 0.01 mm/0.0001 in, 0.001 mm |
| Accuracy              | 0.0008 in/0.00012 in                   |
| Wireless Data Rate    | 10 Hz                                  |
| Transmission Range    | 20 m (indoors)/30 m (outdoors)         |
| Working Temperature   | 0 - 50 °C                              |
| Rechargeable Battery  | 400 mAh                                |
| Battery Life          | 60 hrs                                 |

| BlueAngle            | Specification         |
|----------------------|-----------------------|
| Measurement Range    | 360 °                 |
| Resolution           | 0.1 °                 |
| Wireless Data Rate   | 50 Hz                 |
| Transmission Range   | Up to 20 m            |
| Dimensions           | 1.58 x 1.58 x 0.79 in |
| Working Temperature  | 0-50 °C               |
| Rechargeable Battery | 150 mAh               |
| Battery Life         | 10 hrs                |



### Included in the Kit:

- BlueDial(s)
- BlueAngle 1X
- Rotor Runout iPad app



### App Features:

- Wireless connectivity with deflection (dial indicator) sensor and angle sensor
- Multiple sensor connectivity (up to 9 simultaneously)
- Probe meter for deflection readings
- User-defined range for probe meter
- Analog rotating indicator for rotor angular position
- Remote zeroing of deflection and angle sensors
- User-defined number of test points on rotor circumference
- Cartesian plot and polar plot
- Direct screenshot of the results and plots to save in local
- Values and positions of Max/Min summarized in result table
- Measurement export via AirDrop or email in CSV format
- PDF report with test information, machine image, test results, notes, tester signature and map
- Local test records manager to retrieve previous data and reports



# Wireless Pressure Measurement Kit



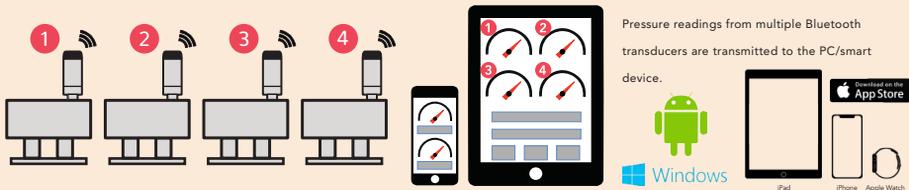
Wireless Pressure Measurement Kit uses an iPhone/iPad/Android/PC to connect to multiple Bluetooth pressure transducers (BluePSI) and simultaneously monitor pressure change at multiple locations. BluePSI is a series of pressure sensors for measurement of liquid or gas pressure. It has high resolution (24-bit ADC), high accuracy ( $\pm 0.25\%FS$ ), a long battery life (up to 2 years with a coin battery), and a good water- and dustproof rate (IP67). Most importantly, it eliminates the need of hardwiring and manual data logging thanks to its Bluetooth 4.0 wireless connectivity. Users can easily monitor and record pressure conditions at multiple locations.



| Bluetooth Pressure Sensor | Specification                         |
|---------------------------|---------------------------------------|
| Measurement Range         | 30 - 15,000 psi                       |
| Accuracy                  | $\pm 0.25\% FS$                       |
| Proof Pressure            | 2x measurement range (20,000 psi max) |
| Burst Pressure            | 5x measurement range (20,000 psi max) |
| Transmission Range        | Up to 20 m                            |
| Transmission Interval     | 5 s (adjustable)                      |
| Weather Proof             | IP67                                  |
| Working Temperature       | -20 - 85 °C                           |
| Battery Life              | 2 years at 5 s interval with CR2050   |
| Battery Type              | CR2050/CR2032                         |
| Pressure Port             | 1/4-18NPT                             |

## Features

- Long battery life - up to 2 years with a standard coin battery
- IP67 harsh environment proof
- High accuracy reading  $\pm 0.25\% FS$
- Multiple sensor reading capability up to 14 on iOS device



## More Features with our FREE Apps/Software\*

- Simultaneous reading of multiple devices
- Data plotting on iPhone/iPad
- Continuous or single data recording
- Max, Min, TIR measurement
- Remote zeroing from the app
- Real-time cloud data streaming worldwide
- Custom formula calculator
- Large analog probe meter with adjustable range
- Measurement voice read in 9 languages
- Data export in CSV via email and cloud drives
- Keyboard entry to Excel or SPC software on PC



\*Availability of features varies between apps/platforms.