GAPGUN™ 3

The smartest way to check product build geometry

Gap   Flush   Step   Mismatch   Radii   Chamfers   Scratches   Fasteners & Rivets   Weld Profiles   Seals   CAD Profiles

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Most leading automotive and aerospace companies use the GapGun.

Current commercial applications Include:

Aerospace
- **External body panels**
- **Composite panels**
- **Doors, hatches and other openings**
- **Carbon fibre layering**
- **Turbine blade profiles**
- **Measurements to jigs and fixtures**
- **Scratches and dents**

Automotive
- **Final assembly / painted vehicles**
- **Body in white / unpainted vehicles**
- **Ring gauges and checker blocks**
- **Dashboards, consoles, plastic trim**
- **Steering wheels**
- **Sealant beads**

Other
- **Drum and brake pad inspection**
- **Weld profiles**
- **Power turbines**

The GapGun's colour touchscreen clearly presents all the information your operators need to do their job. This completely eliminates paperwork and allows operators to spend more time collecting data, with less training.
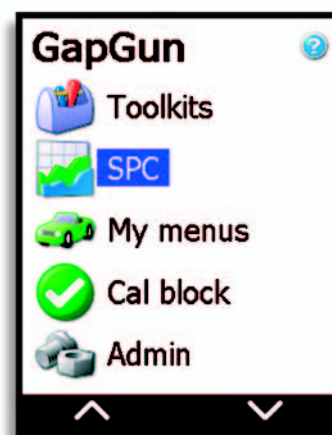
The GapGun menu system guides operators through even the most complex tasks. You can also easily customise the complete menu system to match your exact requirements and workflow.

The GapGun can measure on any painted surface, including metallic or pearl, black, red, white or silver. Virtually any opaque, non-mirrored surface, including carbon fibre, rubber and plastics can be measured automatically.
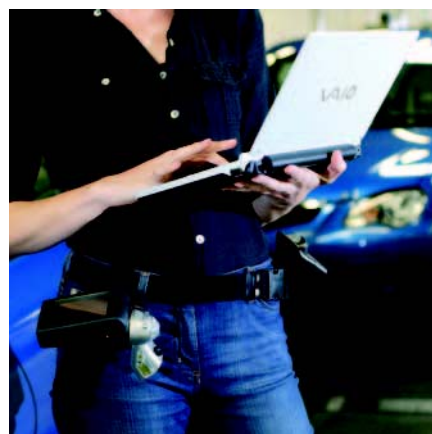
The GapGun interfaces to your PC by WiFi, directly feeding results into automatic measurement reports.

7 Key reasons to choose the GapGun

Our distribution network serves customers in 25 countries worldwide

Automotive

Bentley

Daewoo

Daimler Chrysler

Ford

General Motors

Honda

Jaguar Land

Rover

Mitsubishi

Porsche

Smart

Subaru

Toyota

Visteon

Volkswagen Group

Aerospace
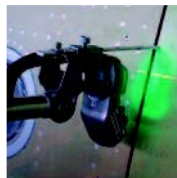
Airbus

BAE Systems

Boeing

Lockheed Martin Mitsubishi

heavy Industry Northrop

Grumman

Rolls Royce

Spirit Aerosystems

1 Fast, strong and easy to use

The GapGun is small, light and ruggedly designed. It can take multiple measurements from most surface shapes up to ten times faster than other gauges.

2 No surface contact

The GapGun never touches your product, eliminating surface damage, reducing measurement variation, and facilitating new types of measurement.

3 Proven precision

Conforming to QS9000-MSA for a wide variety of complex measurements, and supplied with a traceable calibration, the GapGun provides a dramatic improvement in accuracy, repeatability and reproducibility.

4 Robot compatible

The measurement head can be removed from the GapGun's body and attached to a robot or co-ordinate measuring machine (CMM), ensuring consistent measurements and providing a fully automated measurement solution.

5 True portability

You don't have to be tethered to a PC. You can connect your GapGun by Ethernet or 802.11 WiFi to a laptop or other computer.

6 On-screen graphics

Photographs upload automatically to the GapGun's large colour touch screen, guiding new operators to the correct point to measure.

7 Full SPC

The GapGun's Statistical Process Control system enables comprehensive planning, collection and analysis of measurement data. Automatic data transfer interfaces are available for most current SPC packages.

Airbus is one of a large number of manufacturers that have selected the GapGun after running detailed evaluations of competing technologies and devices.

Maximise your accuracy and repeatability

The GapGun system comes equipped to operate either non-contact (no standoffs) or contact (with standoffs). Because adding or removing the standoffs takes only seconds, you can maximise performance by selecting the best method for each measurement point.

Always use the GapGun without standoffs (non-contact)

- Where accuracy and repeatability are critical.
- On any surfaces that are soft, plastic, or may move.
- Where surface damage is a concern.
- For hard to reach, concave, or restricted areas.

Otherwise, use the GapGun with standoffs (contact)

- Where speed is more important than accuracy (contact is approximately 15% faster).
- For measuring at arms length or on small complex features.
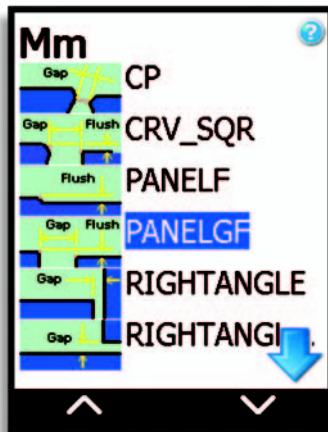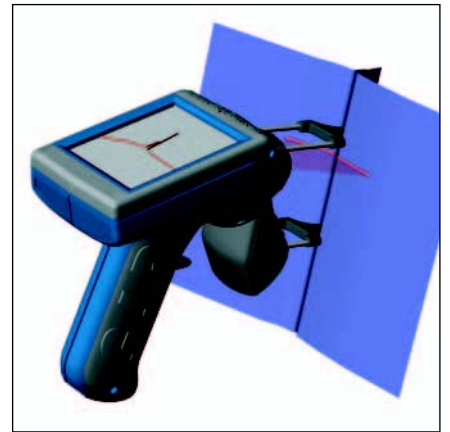- Where an application specific standoff is used.
- To train new operators.

Measure non-contact
Use GapGun without standoffs for maximum accuracy and repeatability.
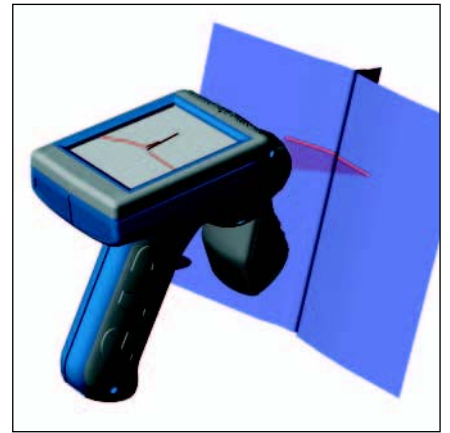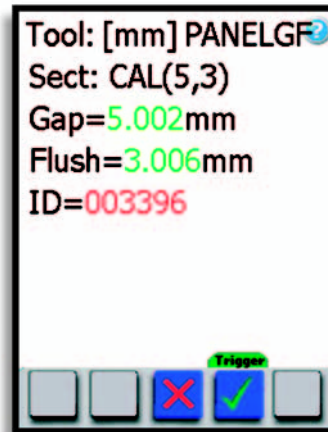
Measure contact
Use GapGun with standoffs for speed in specific applications.

The GapGun comes ready configured to measure a wide variety of common applications. You can create your own infinite variations on these initial building blocks.

Measurement results are displayed onscreen in mm or inch using standard red/green colouring conventions and warning sounds to indicate "go/no go" conditions.
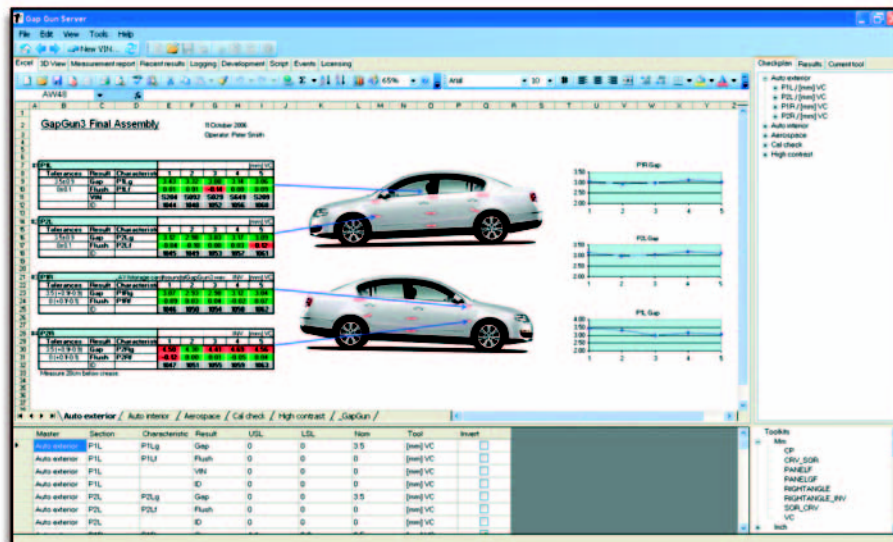
Set up the GapGun either using its built-in teach mode, or via the GapGun checkplan software on the PC. Thereafter, the GapGun automatically synchronises both checkplans and measurement data in real-time with your corporate network, PC or laptop.

Twice as accurate
Ten times faster
True non-contact

The GapGun is accurate and repeatable even in areas that are traditionally hard to measure.

The GapGun is incredibly versatile. One system can be used for dozens of different applications.

Lightweight, portable and self contained: the GapGun provides a complete quality control solution that can even be used in the most difficult to access areas.

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SPECIFICATIONS

HEAD TYPES*

SUPER-HIGH RESOLUTION
Field of view:
7mm / 0.3"
Resolution:
10µ / 0.0005"

Scratches, defects, fasteners, chamfers and profiles, turbine blades, small gap and flush, radii.

HIGH RESOLUTION
Field of view:
15mm / 0.6"
Max gap & flush:
10mm / 0.4"
Resolution:
25µ / 0.001"

Aerospace high accuracy gap and flush, large fasteners.

STANDARD
Field of view:
40mm / 1.6"
Max gap & flush:
25mm / 1"
Resolution:
60µ / 0.002"

Generic, automotive or aerospace gap and flush, interiors, sealants, ring gauges.

WIDE ANGLE
Field of view:
80mm / 3.1"
Max gap & flush:
50mm / 2"
Resolution:
120µ / 0.005"

Large gap and flush, profile measurement, CAD verification.

The GapGun was developed by:

thirddimension

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MEASUREMENT CAPABILITY*

Accuracy	GapGun systems meet Cp and Cpk 6-sigma standards for their intended applications. Please contact us for detailed performance figures for your application.
Repeatability	Proven to <15% QS9000-MSA for a wide variety of measurement sections.
Output format	Customisable, including millimetres, inches and thousandths of inches .
Surfaces	Measures all known automotive paints, carbon fibre, unpolished and galvanised metals including steel and aluminium, plastics, soft furnishings. Glass and mirrored surfaces can also be measured.
Operating principle	Laser triangulation.

SOFTWARE

Virtual Toolkit™	Extensive toolkit that allows measurement of virtually any gap, flush, radius, scratch, chamfer, fastener, seal or profile. Add-on packs for specialised aerospace and automotive applications are available.
SPC	Use the GapGun's built in SPC or link directly to your existing SPC software.
Data input	CAD data from file. Checkplans from MS Excel.
Results output	Freely customisable, including DMIS, QDAS, MS Excel, plain text, CSV, point cloud.
User interface	Simple creation of menus and graphics for Gap Gun LCD.
Language	Customisable: English, French, German, Spanish, Japanese Kanji, etc.
Integration	Optional developers' SDK allows integration with third party software.

MEASUREMENT HEADS

Weight	170g (0.4lb)
Dimensions	50 x 41 x 105mm (2.0 x 1.6 x 4.1") W x D x H.
Laser	Class 2M or 3R, with automatic laser intensity adjustment.
Standoff	50mm (2") from front of measurement head.

HANDLE

Weight	370g (0.8lb); optional internal battery 50g (0.1lb).
Dimensions	76 x 117 x 165 (3.0 x 4.6 x 6.5") W x D x H.
Storage	64MB (virtually unlimited measurement results storage capability).
Screen	Daylight readable full colour 240 x 320 pixel.
Input devices	Touchscreen and trigger.
User feedback	Audio output and vibrator for high noise environments.
Head rotation	Measurement head can be angled through +/-90 degrees, maximising accessibility and comfort.

SYSTEM

Environmental	IP50
Operation	0-40°C (32 -104°F) onboard temperature sensing.
Storage	–10 - 40°C (14 -104°F).
Connectivity	Connect directly to MS Windows™ networks via100MBPS Fast Ethernet or 802.11 wireless LAN.

WARRANTY AND SERVICE

Maintenance and service
Agreements available from your local distributor.

For more information please visit: www.GapGun.com

Authorised dealer.

METROVISION

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*Quoted performance and field of view figures are for specific gap and flush measurement applications. Contact us for detailed performance figures (Cp, Cpk, R&R, measurement range) for your application.