Care Points

- 5519 Refractometer works with DOT 4 brake fluid only.
- Calibration sample fluid must be new DOT 4 fluid taken from a sealed container to ensure no moisture has contaminated the calibrating fluid.
- Take care of the refractometer and keep it clean; return all components to box when not in use.
- The 5519 is a precision optical instrument and should be handled with care; don't touch or scratch the optical surfaces, don't clean with paper products, use supplied soft cloth.
- Do not store in areas of high temperatures or humidity

Brake Fluid Precautions

- Brake fluid is flammable - keep away from sources of ignition, especially hot surfaces like exhaust pipes or manifold.
- Brake fluid damages paintwork - flush spillages with clean water and dry off immediately.
- Wear eye protections and keep skin contact to a minimum. If brake fluid enters eyes, immediately rinse with clean water and seek medical attention. If swallowed seek medical advice immediately.
- Dispose of waste brake fluid responsibly and in accordance with local authority regulations.

Safety First. Be Protected.

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Guarantee

If this product fails through faulty materials or workmanship, contact our service department direct on: **+44 (0) 1926 818186**. Normal wear and tear are excluded as are consumable items and abuse.

TOOL CONNECTION
The Complete Connection

Distributed by The Tool Connection Ltd

Kineton Road, Southam, Warwickshire CV47 0DR
T +44 (0) 1926 815000 **F** +44 (0) 1926 815888
info@toolconnection.co.uk **www.toolconnection.co.uk**

5519

LASER®

Brake Fluid Refractometer (Dot 4)

Instructions

www.lasertools.co.uk

Description

Glycol-based brake fluid starts to absorb moisture from the moment it is put in the system. The fluid attracts moisture through microscopic pores in rubber hoses, past seals and exposure to the air. The problem is obviously worse in wet climates where humidity is high.

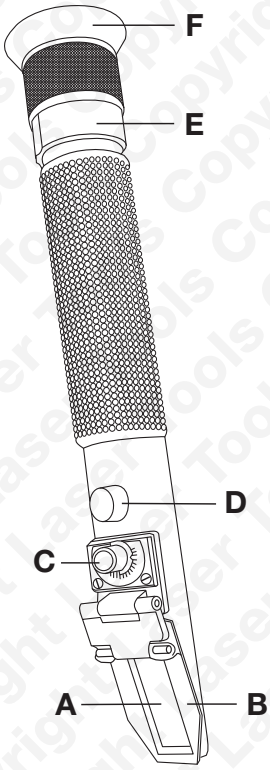
The 5519 Brake Fluid Refractometer is a precision optical testing instrument for measuring the boiling point and therefore the percentage of water present in DOT 4 brake fluids.

Quickly, and with just two drops of brake fluid, an accurate indication of the water contamination percentage can be obtained.

Many manufacturers recommend that the brake fluid in their vehicles is changed every two years. In addition to the safety issue, water-contaminated brake fluid promotes corrosion and pitting in caliper pistons and bores, wheel cylinders, master cylinders, steel brake lines and ABS modulators.

Technical Data	
DOT 4 fluids only	
Range of Measurement	1-6% water and boiling point.
Minimum scale	0.5% or degrees C
Accuracy	±0.5%

Components	
A	Main Prism
B	Daylight Plate
C	Temperature Adjustor
D	Calibration Screw
E	Focus Adjustment
F	Eyepiece



Calibration

1. Set the temperature adjustor **(C)** to the ambient temperature (degrees Celcius).
2. Open the daylight plate **(B)** and place one or two drops of new DOT 4 brake fluid (from a sealed container) on to the main prism (**A**). Close the daylight plate so that the liquid spreads evenly across the entire surface of the prism without any air bubbles or dry areas. Allow the sample to rest for approximately 30 seconds before continuing with step 3 (to allow the sample temperature to adjust to ambient temperature).
3. Hold the 5519 Refractometer so that the daylight plate is facing a light source and look into the eyepiece **(F)**. Turn the focus adjustment **(E)** to bring the graduated scale into clear focus. The lower portion of the field is light blue, the upper portion white.
4. Remove the dust cap from the calibration screw **(D)** and (using the supplied precision driver) turn the inner screw until the edge of the upper white field and the lower light blue field meets exactly on the zero lines on the scale. The instrument is now calibrated to clean, new DOT 4 brake fluid at the ambient temperature. If the ambient temperature of the room or environment changes by more than 5° we recommend that calibration is carried out again to maintain accuracy.

Testing the Sample

1. Open the daylight plate **(B)** and place one or two drops of brake fluid on to the main prism **(A)**. Close the daylight plate so that the liquid spreads evenly across the entire surface of the prism without any air bubbles or dry areas. Allow the sample to rest for approximately 30 seconds before continuing with step 3 (to allow the sample temperature to adjust to ambient temperature).
2. Hold the 5519 Refractometer so that the daylight plate is facing a light source and look into the eyepiece **(F)**. If required, turn the focus adjustment **(E)** to bring the graduated scale into clear focus.
3. The reading is taken from where the blue-white boundary crosses the graduated scale. The scale provides a direct reading from the brake fluid.
4. After measurement clean the surface of the prism and the daylight plate with a moist, soft cloth. Then dry off and store in the supplied case.