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5025 Diesel Exhaust Fluid (DEF) Refractometer



WARNING! To prevent equipment failure or damage resulting in personal injury:



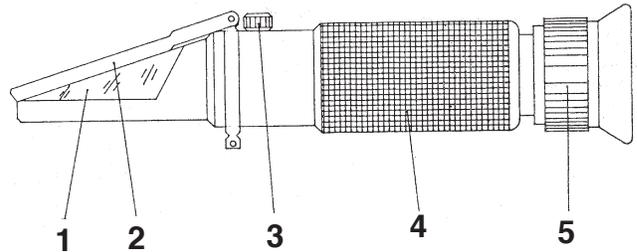
- Read and follow all warnings in this instruction sheet before operating this unit. If the operator cannot read English, operating instructions and safety precautions must be read and discussed in the operator's native language.



- Wear eye protection and protective clothing when working with DEF. Contact with DEF may cause personal injury.



- Do not drink DEF. If swallowed, give two glasses of water, induce vomiting, and call a physician.



1. Prism
2. Cover plate
3. Correction screw
4. Mirror tube (holds the reticle scale)
5. Eyepiece (focusing ring of diopter)

Accessories

- | | | |
|------------|----------------|-----------------|
| Eyeshade | Screw driver | Plastic dropper |
| Soft cloth | Plastic bottle | Pointer |

Application

The refractometer is a portable, precision, optical instrument used for measuring Diesel Exhaust Fluid (DEF) concentration.

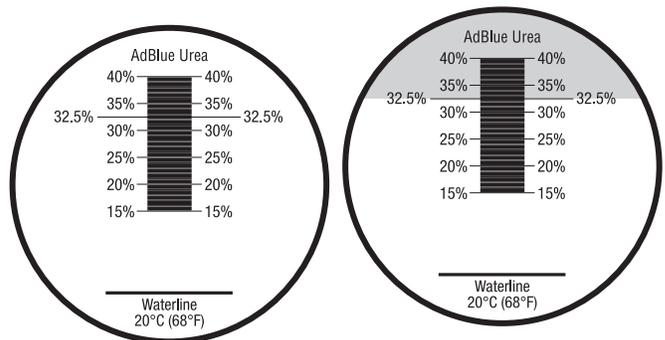
When a liquid sample is placed on the prism, the light passing through it is bent. The more concentrated the liquid, the more the light will bend. The refractometer contains a reticle, or scale, that is enlarged through the eyepiece to measure this light.

The values on the scale have been established to evaluate the DEF condition.

Specifications

Style: Diesel Exhaust Fluid (DEF)
 Size: 27 x 40 x 160 mm (1.06 x 1.57 x 6.3 in.)
 Weight: 176 g (0.39 lbs)

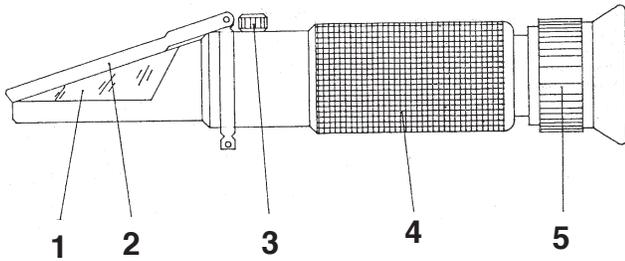
Range	Resolution
15 – 40%	0.5%



The scale without any liquid on the prism.

The scale with liquid on the prism. The reading is taken at the point the shadow line crosses the scale.

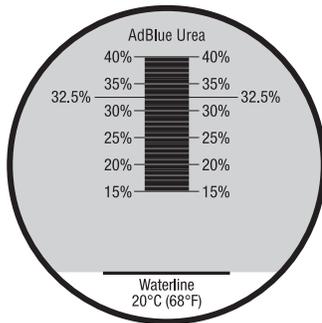
CAUTION: To prevent personal injury, read and understand all operating instructions and helpful hints before operating the refractometer.



The following instructions outline how to operate the refractometer. Item numbers refer to the illustration above.

1. Aim the front end (prism [1] and cover plate [2] end) of the refractometer toward a bright light. Adjust the focusing ring of the diopter (5) until the reticle (scale within the mirror tube) can be seen clearly.
2. To set the refractometer to a null or zero point :
 - (a) Open the cover plate.
 - (b) Place one or two drops of pure distilled water on the surface of the prism.
 - (c) Close the cover plate and press it lightly.
 - (d) Through the eyepiece, observe where the shadow line falls.
 - (e) If necessary, use the screw driver provided to adjust the correction screw (3) and make the shadow line coincide with the water line.

The refractometer should now have a null point, and you are ready to begin measuring.



3. Open the cover plate, and use the soft cloth provided to wipe the water off the surfaces of the prism and cover plate.
4. Using the plastic dropper, place one or two drops of the liquid on the prism surface.

WARNING: To prevent personal injury, use the plastic dropper provided when measuring DEF.

5. Close the cover plate and press it lightly.
6. After measurements are taken, use the soft cloth to wipe the liquid completely from the prism surface and let the surface dry.

CAUTION: To prevent damage to the refractometer, do NOT use water to wash the instrument.

7. Replace the refractometer in its case, and store it in a dry, clean area.

Helpful Hints and Maintenance

- The distilled water and the liquid to be measured should be at the same temperature.
- The null point should be adjusted once every 30 minutes.
- Clean the prism completely to prevent residual impurities, which could cause error during measurements.
- The refractometer is a precision optical instrument; handle with care. Do NOT touch the optical surfaces.
- Avoid strong shock during transportation.

Replacement Parts

Replacement Kit No. 560722 contains one each of the following:

- Calibration Screwdriver
- Plastic Dropper
- Soft Cloth w/ pouch
- Distilled Water Bottle
- Black Plastic Stick