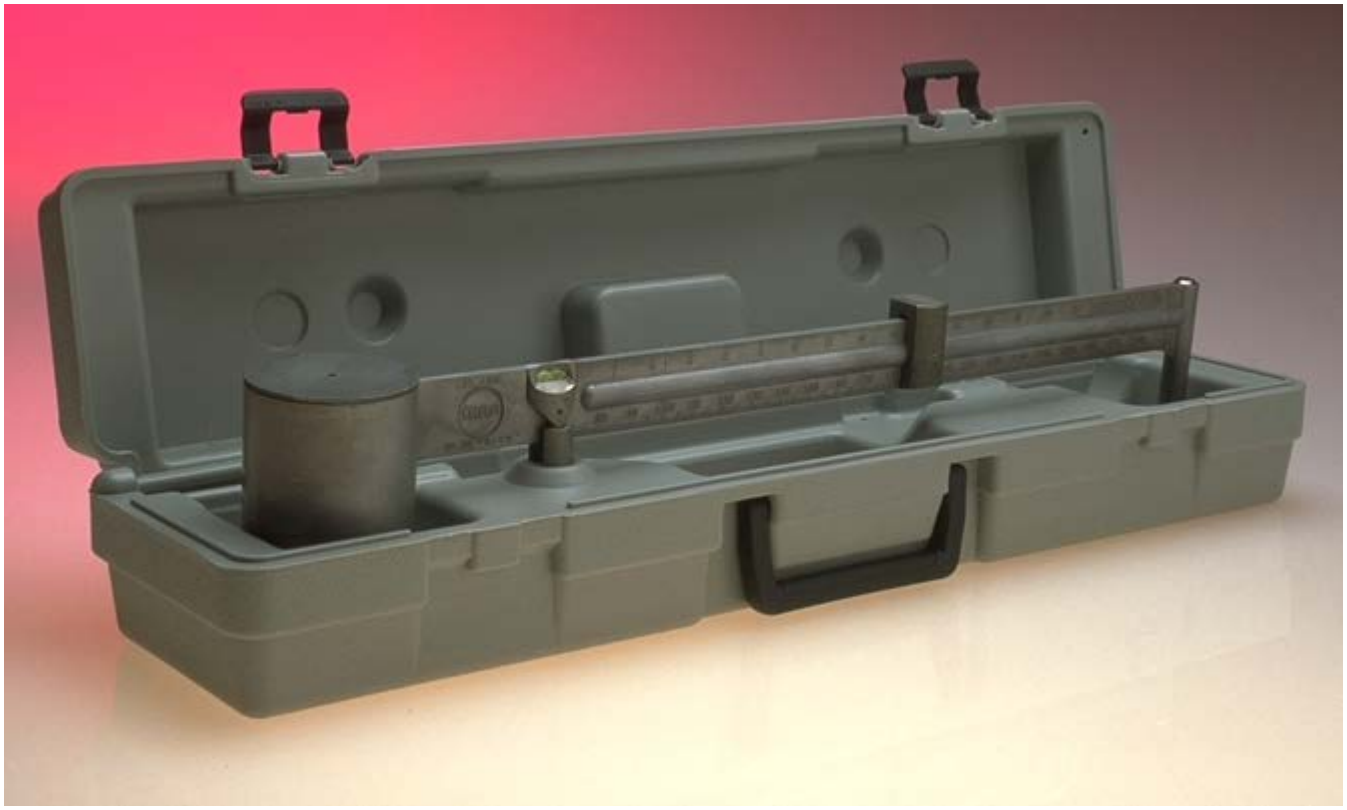
fann®

Model 140
Mud Balance
Instruction Manual



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DESCRIPTION:

The Fann Four Scale Mud Balance is an accurate, self-contained measuring device used to determine the density of drilling fluid. It has a range of 7 to 24 pounds per gallon or Specific Gravity of 0.84 to 2.88. The Mud Balance consists of a constant-volume balance cup and lid connected to a balance arm that has four graduated scales. On one side are scales for measuring density in pounds per gallon (LB/GAL) and specific gravity (SP GR-g/cm^3). On the other side are scales for measuring pounds per cubic feet (LBS/CU.FT) and pounds per square inch per 1000 feet of depth (LBS/SQ.IN./1000 FT).

A rider is moved along the balance arm to indicate the scale readings. There is a knife edge attached to the arm near the balance cup, and a bubble level built into the knife edge to level the arm. A fulcrum is mounted on a base stand, if used, or in the plastic carrying case, if it is used.

PROCEDURE:

1. The balance cup should be clean and dry before it is filled with the drilling fluid sample.

2. Drilling Fluid samples containing large amounts of gas should be deaerated using the Fann Deaerator before a density measurement is attempted.

3. Place the base stand or the carrying case on a surface that is approximately level.

4. Fill the balance cup with the sample to be tested. Tap the side of the balance cup several times to break up any entrained air or gases. Put the lid onto the balance cup by pushing it downward with a slow rotating motion until it is firmly seated. Make sure that some of the test sample is forced out through the vent hole in the lid. (This action will also help to rid the sample of any entrained air of gas.)

5. Clean any sample from the outside of the balance cup and lid.

6. Fit the knife edge of the balance arm into the fulcrum and balance the assembly by moving the rider along the arm. The Mud Balance is balanced and level when the level bubble fluctuates an equal distance to either side of the center line.

7. Take the reading from the side of the rider nearest the balance cup. (The arrow on the rider is pointing to this side). The measurement reading should be reported to the nearest 0.1 lbs/gal, 0.5 lbs/cu ft, or 0.01 g/cm^3 (which is equivalent to specific gravity, lb/sq In/1000ft).

8. Empty the sample from the cup. Clean and dry the entire assembly as soon as possible.

CALIBRATION:

The Mud Balance calibration can be checked using fresh water. At 70°F (21°C) fresh water should give a reading of 1.00 on the specific gravity scale lb/sq In/1000ft, 8.34 on the lbs/gal scale, and 62.3 on the lbs/cu ft scale. This spot on the balance arm is marked with a longer scale division line called the water line. Small amounts of mud on the balance arm or rider can cause improper readings. If the Mud Balance does not give the correct reading for fresh water, the instrument should be thoroughly cleaned.

NOTE: Replacing the lid on the balance cup with a new lid can cause the Mud Balance to be out of calibration. Check the calibration whenever a different lid is used and, if necessary, recalibrate using the new lid.

If the Mud Balance continues to give improper readings for fresh water after cleaning, It should be recalibrated. This is done by removing the screw cover from the weight adjustment compartment and adding or removing lead shot until the Mud Balance is correctly calibrated.

PARTS LIST:

Part No.	Description	Part No.	Description
206740	Lid (See Note)	206776	Cover Screw
206742	Lead Shot (Vial)	206777	Knife Edge
206744	Fulcrum	206779	Rider
206751	Plastic Carrying Case	206781	Base with Fulcrum*

*Not required if the 206751 carrying case is used.

Warranty

Fann Instrument Company warrants only title to the equipment, products and materials supplied and that the same are free from defects in workmanship and materials for one year from date of delivery. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED OF MERCHANTABILITY, FITNESS OR OTHERWISE BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. Fann's sole liability and Customer's exclusive remedy in any cause of action (whether in contract, tort, breach of warranty or otherwise) arising out of the sale, lease or use of any equipment, products or materials is expressly limited to the replacement of such on their return to Fann or, at Fann's option, to the allowance to Customer of credit for the cost of such items. In no event shall Fann be liable for special, incidental, indirect, consequential or punitive damages. Notwithstanding any specification or description in its catalogs, literature or brochures of materials used in the manufacture of its products, Fann reserves the right to substitute other materials without notice. Fann does not warrant in any way equipment, products, and material not manufactured by Fann, and such will be sold only with the warranties, if any, that are given by the manufacturer thereof. Fann will only pass through to Customer the warranty granted to it by the manufacturer of such items.

Return of Items

For your protection, items being returned must be carefully packed to prevent damage in shipment and insured against possible damage or loss. Fann will not be responsible for damage resulting from careless or insufficient packing.

Before returning items for any reason, authorization must be obtained from Fann Instrument Company. When applying for authorization, please include information regarding the reason the items are to be returned.

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