OHAUS®

HARVARD TRIP BALANCE
Series 1400 and 1500

Instruction Manual

INTRODUCTION

This manual covers Installation, Operation and Maintenance for the Ohaus Harvard Trip balances: Models 1450-SD, 1550-SD and 1560-SD. To ensure proper operation of the Balance, please read this manual completely.

DESCRIPTION

The Ohaus Harvard Trip Balance Series are precision weighing instruments, designed to provide years of service with virtually no maintenance. Harvard Trip Balances employ a two-pan design based on the classic Roberval balance principle. They have the additional advantages of magnetic damping, beams with sliding weights and two styles of weighing platforms.

Two-pan Balances of this type are commonly used for comparative weighing to determine the difference in mass between two objects rather than their absolute value. Built-in sliding masses on the side beam, Model 1450-SD, is usually sufficient for this purpose. The 1450-SD Balance is a single side beam model. The 1500 Series (Models 1550-SD and 1560-SD) are double side beam models for higher capacity weighing. Maximum Balance capacity for all Harvard Trip Balances is 2kg/5lbs. The Platforms used on the Balances are 6" diameter stainless-steel plates.

Harvard Trip Balance Model 1550-SD.

UNPACKING AND ASSEMBLY INSTRUCTIONS

Harvard Trip Balances are shipped as follows:

- Completely assembled Balance
- Instruction manual
- Warranty card

Your new precision Balance has been packed in a carton specifically designed to protect it during shipment. Follow these instructions and your Balance will be operational in just a few minutes. Carefully unpack and verify that all items are on hand.

1. Remove the Balance from the carton by pulling on the cardboard inserts.

2. Remove cardboard inserts from Balance.

3. Remove the two round rubber beam retainers from between the Base and Platform End Loops. All packing material should be retained if you anticipate

INSTALLATION

Place the Balance on a reasonably flat, level surface away from sources of vibration and drafts. Move the sliding weight (Poise) all the way to the left facing the front of the Balance. On Model 1560-SD, slide the tare weight (Poise) all the way to the left. This will result in the Balance being very nearly at zero.

OPERATION

Zeroing the Balance

To set the Balance exactly at zero, adjust the knurled Zero Adjust Knob which is located at the right end of the Beam. It is advisable to check the zero balance periodically because foreign material may accumulate on the Platform or the Beams. This can produce a slight change in the zero balance position. In addition, whenever the Balance is moved, the zero balance **must** be rechecked. Any appreciable change in the inclination of the working surface will affect accuracy.

The Base of each Balance is leveled on a surface plate at the factory and will rest evenly on any perfectly flat surface. The Balance may rock slightly if the working surface is not absolutely flat. This should be eliminated by shimming under the Base. Be sure to adjust the zero balance after leveling.

Weighing

Once the zero balance has been checked, proceed as follows:

1. Place the unknown mass on the left Platform.

2. Move the large Poise on the lower Beam to the right until it reaches the first notch which will cause the right Platform to drop.

3. Move the large Poise back one notch, which will allow the right Platform to rise again.

4. Move the small Poise on the upper Beam to the right until the Balance is brought into equilibrium.

5. To determine the weight of the unknown mass, add the amounts indicated on the two Beams.

If the capacity on the Balance exceeds the Beam capacity, additional masses are necessary to take advantage of the full capacity.

To weigh masses which exceed the Beam capacity, proceed as follows:

1. Place additional masses on the right Platform to compensate for the excess weight of the unknown mass.

2. Adjust the Poises on the Beams to bring the Balance into equilibrium.

3. To determine the weight of the unknown mass, add the weight (s) on the right Platform to the amounts indicated on the two Beams.

Use of the Tare Poise (Model 1560-SD)

For those models which are equipped with the Tare Beam assembly, a patented Tare Poise can be used to tare off containers which weigh less than 200 grams. With the container on the left Platform, slide the Tare Poise to a position on the Tare Beam which indicates approximate balance. Rotate the Poise in either direction to position it precisely on the Tare Beam to counterbalance the container on the left hand Platform.

When not in use, the Tare Poise is to be moved all the way to the left of the Tare Beam. The Spring inside the Tare Poise should also be pushed to its left most position in order to obtain zero balance.

Specific Gravity Determination

A Clamp and Rod Support, Ohaus part number 183-00, is an accessory used to elevate the Balance for suspending a specimen in water. The rod is inserted into the 1/2 inch recess on the underside of the Base. By means of a fine wire or thread, the specimen is attached to the Check Pin which connects the Platform Loop to the Check Rod. The procedure for weighing a suspended specimen is the same as that for weighing an unknown mass on the Platform.

CARE AND MAINTENANCE

The following practices will assure that your Balance will give you years of satisfactory and trouble-free service.

When the Balance is not in use, remove any mass or weights from the Platforms. Move one of the Poises from zero so that the Balance is not in equilibrium. This will stop the Balance from oscillating and prevent unnecessary wear.

Use and store the Balance in places free of vibration. **Never** lubricate the scale bearings. The Bearings in these Balances are high grade polished agate V-blocks and the knife edges are hardened, precision-ground steel. This type of Bearing works most efficiently when clean and dry.

Keep the Balance clean at all times, being particularly careful not to let dirt accumulate in the vicinity of the Bearings. If the Bearings should become dirty, try to clean them using an air syringe. The Model 106-00 Balance Cover is recommended to keep the Balance clean when not in use.

Cleaning Magnet Faces

In general, most foreign matter may be easily removed by an air syringe. If the Damper Vane still does not move freely, proceed as follows:

1. **CAREFULLY** turn the Balance on its side.
2. Remove the four (4) screws that mount the Magnet Case to the underside of the Base.
3. Remove the Magnet Case.
4. Clean the Magnet faces by pressing a piece of adhesive-backed tape against them.
5. Reinstall the Magnet Case.

SERVICE INFORMATION

For service assistance in the United States, please call Ohaus Corporation toll-free at (800) 526-0659. An Ohaus Product Service Specialist will be available to help you.

SPECIFICATIONS

MODEL	1450-SD	1550-SD	1560-SD
Capacity (g/lb)	2000	2000	2000
Weigh beam capacity x readability	10g x 0.1g	10g x 0.1g	10g x 0.1g
		200g x 10g	200g x 10g
Tare range	--------	--------	225g
Platform size (in/cm)	6/15.2 dia.		
Platform type	Plate		
Dimensions (W x H x D) (in/cm)	14 x 9.5 x7 / 35.5 x 24.1 x 17.8		
Net weight (lb/kg)	4.7 / 2.1		
Shipping weight (lb/kg)	5 / 2.3		

PARTS INFORMATION

If you require replacement parts or would like to purchase accessories, please call Ohaus Corporation toll-free at (800) 526-0659. An Ohaus Product Parts Specialist will be available to help you.

ACCESSORIES

Description	Model No.	Item No
Polypropylene footed scoop, (12" x 6" x 2.75" deep) and Counterweight	107-00	80780001
Specific gravity rod and clamp	183-00	80780011
Weight set, Metric, 1000 gram x 1 gram	80850115	80850115
Balance Cover, silver metallic vinyl plastic, 16" x 9.5" x 7"	106-00	80850262

LIMITED WARRANTY

Ohaus products are warranted against defects in materials and workmanship from the date of delivery through the duration of the warranty period. During the warranty period Ohaus will repair, or, at its option, replace any component(s) that proves to be defective at no charge, provided that the product is returned, freight prepaid, to Ohaus.

This warranty does not apply if the product has been damaged by accident or misuse, exposed to radioactive or corrosive materials, has foreign material penetrating to the inside of the product, or as a result of service or modification by other than Ohaus. In lieu of a properly returned warranty registration card, the warranty period shall begin on the date of shipment to the authorized dealer. No other express or implied warranty is given by Ohaus Corporation. Ohaus Corporation shall not be liable for any consequential damages.

As warranty legislation differs from state to state and country to country, please contact Ohaus or your local Ohaus dealer for further details.

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