



DEPARTMENT OF TRADE AND COMMERCE
STANDARDS BRANCH

E-17

OTTAWA August 25, 1965.

NOTICE OF APPROVAL

FOR

CANADIAN WESTINGHOUSE MOULDED DRUM 5-DIAL CYCLOMETER
REGISTERS FOR USE ON TYPES "D2" AND "D3" WATTHOUR METERS

Apparatus

Register Ratios 555-5/9, 277-7/9, 111-1/9, 27-7/9 and 13-8/9*
Multiplier 1

* 5-dial only, other ratios may be 5-dial or 4-dial through the use of a mask over the 5th reading drum.

Description

On this register, the test dial is placed on the right side of the register where it can be observed through the side of the glass cover.

There are two designs identical in outward appearance, both have the test dial pointers gear driven from the take-off gear but in the older design the first reading drum is also gear driven from the test dial so that both test dial and first reading drum follow the disc revolutions closely.

In the newer design, the drum shaft is of larger diameter and an over-ride assembly is interposed between the test dial and the first reading drum which introduces backlash between the two equivalent to slightly more than one test dial revolution. The effect of the backlash at this point is evident when the first reading drum is at 9 when a further small movement of the test dial causes turnover of the 1st drum. At this point the test dial must make slightly more than one revolution to take up the backlash after which the test dial and first reading drum continue in step until turnover at 9 is reached once again.

To avoid this effect it is recommended that positions 9 and 0 be avoided when dial testing.

The following further description applies equally to both designs -

A dog inside the first reading drum makes contact with a weight attached to a disc that turns about the drum shaft.

Description (Con'd)

Rotation of the first drum raises this weight until it reaches top dead centre when it falls and in so doing advances the second drum one digit.

Because there is approximately $3/4$ of a revolution of backlash between the dog and the weight, it is possible to manipulate the register, or the meter with the register attached, in such a manner as to swing the weight backward or forward thus causing the second reading drum to advance or fall back one digit depending upon the initial positions of the weight and first reading drum.

The correct zero reading should be re-established when the meter is restored to its operating position.

It is possible with the weight behind the dog, as would happen if the 1st drum were to be rotated backward, that the 1st drum may pass through zero in normal operation without adding a digit to the 2nd drum. This is characteristic of the design and is not a defect and it occurs only in the initial operation until the dog and weight get in their normal operating positions.

A register that has been removed from a meter may be reset to zero in two operations. First, the two right hand drums can be reset to zeros by turning the 1st drum. Second, the main drum shaft extension on the right hand end is depressed to disengage the 3rd, 4th and 5th drums from the first two. Then the released 3rd drum can be turned in either direction to most easily reset all three drums to zeros, making sure when remeshing these drums that the numbers are properly located in the window and that the gearing is fully meshed.

The test dial pointer may be aligned with the reference line by slipping it on its shaft.

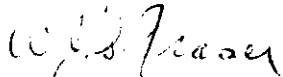
This register is basically a 5-dial and has slots adjacent to the 1st and 5th drums to take the prongs of a mask that can be installed to cover one or the other. This can be done either in the factory or in the field.


This approval covers the use of this register either as a 4-dial x 1 with the mask over the 5th drum, or as a 5-dial x 1 without the mask. Meters with a 200 ampere rating must be presented with the register as a 5-dial.

The use of this register with the mask over the 1st drum is not permitted.

This circular supersedes circular S-EA.606 of January 9, 1964 to cover moulded drum cyclometer registers of two designs.

Approval granted to: The Canadian Westinghouse Company Limited,
Hamilton, Ontario.


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