



Department of consumer and corporate affairs / Ministère de la consommation et des corporations



STANDARDS BRANCH - DIRECTION DES NORMES

**NOTICE OF APPROVAL
AVIS D'APPROBATION**

G-105

OTTAWA May 6, 1974

CANADIAN METER COMPANY "SPEEDREADER" PULSE
GENERATING INDEX AND REMOTE REGISTER

APPARATUS

A. Pulse Generating Index Assembly

1. Clock-type register with either 1 or 2 cu. ft. test dials for use on standard and T.C. gas meters AL-120, AL-175 and AL-225, and with 2 cu. ft. test dial for use on the standard and T.C. gas meter AL-425.
2. Electromechanical pulse generator, actuated by the meter, produces electrical pulses of the following characteristics:
 - (i) Peak voltage 9.0 volts
 - (ii) Peak amperage 100 mA
 - (iii) Pulse duration 0.25 sec.
 - (iv) Capacity per pulse 100 cu. ft.

B. Remote Register Assembly

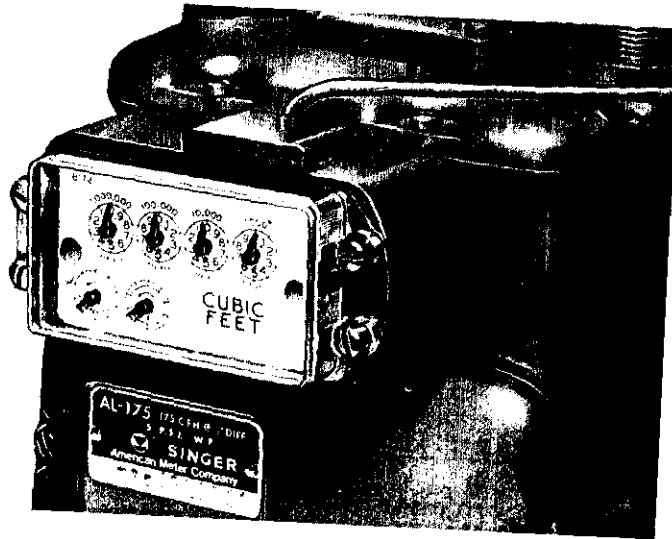
1. Four or five Digit Counter-type register with two fixed zeros, reading in increments of 100 cu. ft.
2. Electromechanical Register actuator, advances the index registration by one digit for each pulse received.

c. Interconnecting Cable

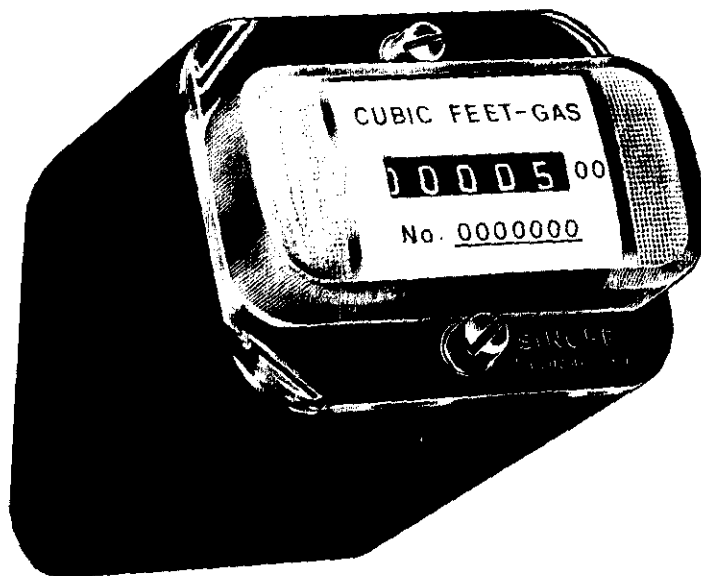
1. Two-conductor, Belden #8486, or equivalent. Maximum transmission distances, using copper wire as the conductor, one as follows:

| | | |
|-----------------|---|--------|
| Up to 500 Feet | - | 19 AWG |
| Up to 600 Feet | - | 18 AWG |
| Up to 1000 Feet | - | 16 AWG |

CANADIAN METER CO. PULSE GENERATING INDEX AND REMOTE REGISTER



PULSE GENERATOR



REMOTE COUNTER

DESCRIPTION

The 'Speedreader' system provides a means for remote reading of a gas meter, e.g. at a point outside a building, when the meter itself is located inside.

The complete registration system comprises two main assemblies, which are the pulse generating index and the remote register. The pulse generating index consists of two sub-assemblies, namely the pulse generator which is attached to the meter in place of a conventional register (illustrated with its method of operation in this circular), and the conventional clock-type register attached to a grey plastic housing of the pulse generator proper. The meter output shaft drives the pulse generator which in turn drives the conventional register. Electrical connections from the pulse generator are located at a sealable terminal box on top of the plastic housing. The terminal box is not weatherproof.

The remote register connected to the pulse generator by a two wire cable, consists of a counter-type register and an electromagnetic relay which advances the counter reading in increments of 100 cubic feet. The assembly is enclosed in a black plastic weatherproof case, with a polycarbonate magnifying lens.

All gas meters intended for use with this remote reading system shall be presented for verification with the pulse generating index assembly attached to the meter. If the test results are satisfactory, the inspector shall seal the register to the meter as part of the sealing process, but leave the terminal box unsealed.

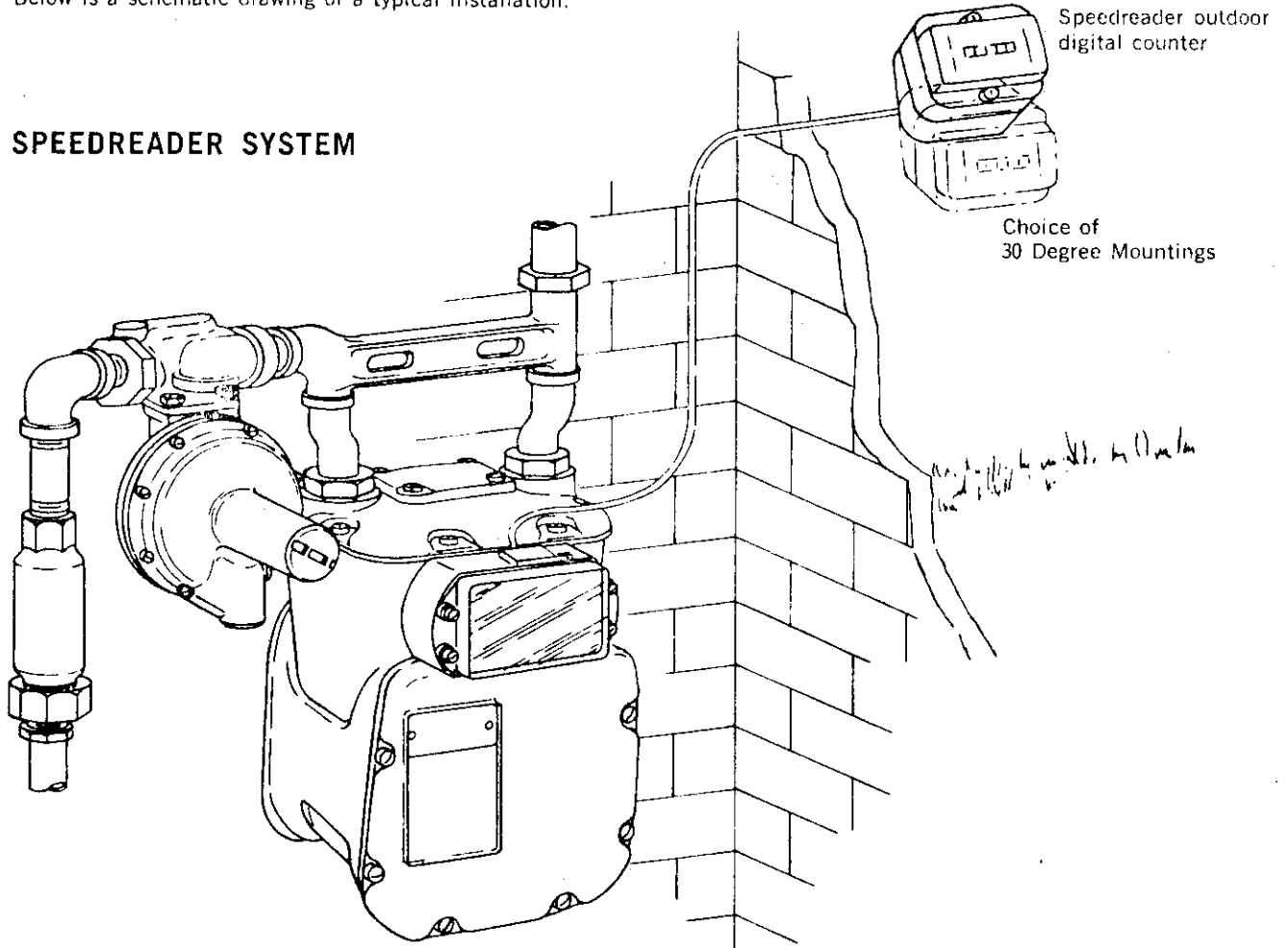
It shall be the responsibility of the gas utility to:

- (i) test all meters fitted with the pulse generating index assembly to determine that pulses are being properly generated;
- (ii) check all remote registers to ensure that pulses are properly received and registered;
- (iii) at the time of installation, set the reading of the remote register to correspond exactly with the reading on the register of the meter;
- (iv) ensure that the meter registration is properly transferred to the remote counter at all times;

CANADIAN METER CO. 'SPEEDREADER' SYSTEM

Below is a schematic drawing of a typical installation.

SPEEDREADER SYSTEM



Domestic Aluminumcase gas meter set
equipped with
Speedreader pulse generator

Speedreader outdoor
digital counter

Choice of
30 Degree Mountings

- (v) seal the remote register and the electrical connections at the pulse generator against tampering.

In cases of dispute the reading on the index of the meter itself, not the remote register, shall be taken as the registration of the meter.

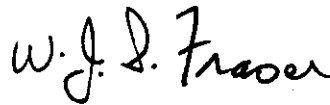
The utility is permitted to change remote registers in any installation provided that the new register is set to correspond exactly with the reading of the meter index.

Approval granted to:

Canadian Meter Company Ltd.,
Milton, Ontario and
Edmonton, Alberta.



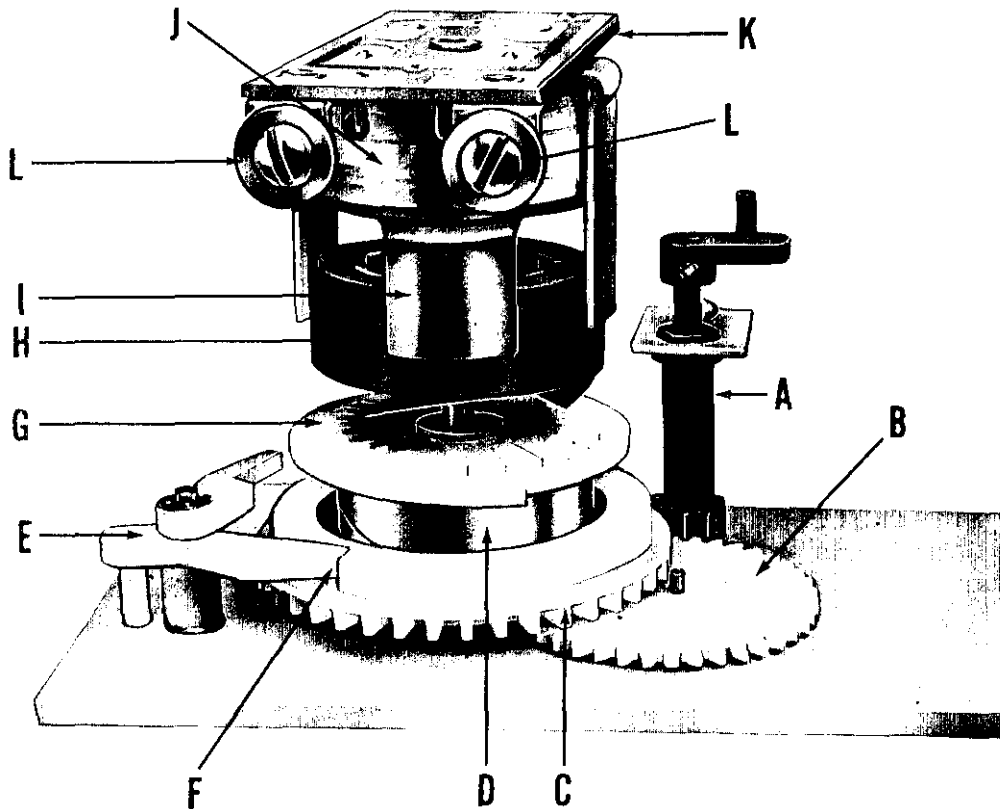
Mr. J. L. Armstrong,
Chief, Standards Laboratory,
Metrology and Laboratory Services.



W.J.S. Fraser,
Chief, Electricity and Gas Division,
Metrology and Laboratory Services.

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CANADIAN METER CO. PULSE GENERATOR



METHOD OF OPERATION

Drive from the meter output shaft drives generator input shaft, A which simultaneously operates the meter index and drives intermediate gear, B. Motion from the intermediate gear is transferred to drive wheel, C which winds spring, D. At the point in the cycle when 100 cubic feet have been measured by the meter, lock release, E falls into cam notch, F which frees driven wheel, G.

The energy stored in spring, D is thus released spinning magnet, H between 4 magnetic poles, I. This induces an electric current in coil, J which is passed through full wave bridge rectifier, K to output terminals, L. A two conductor cable links these connections with the remote counter where the electric pulse activates a solenoid which steps the D.C. counter one digit, symbolic of 100 cubic feet of gas.