OVERHAUL MANUAL

ADDENDUM

MODEL S.104.3.150 - D.C. MILLIAMMETER, 1-0-1 mA

In addition to the information contained in the main part of this manual, the following details apply to the Model S.104.3.150 only.

REVISION RECORD SHEET

Revision No.	Date of Issue	Incorporated by:	Date	Remarks
1				
2				
3				
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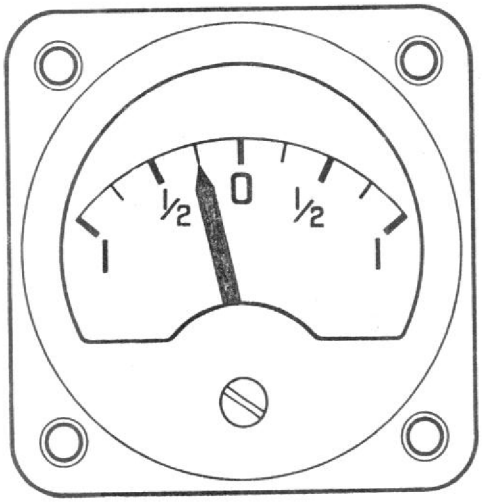
OVERHAUL MANUAL

ADDENDUM

MODEL S.104.3.150 - D.C. MILLIAMMETER, 1-0-1 mA



Description

Model S.104.3.150 is a d.c. milliammeter with a centre-zero scale, and adjusted to have a range of 1-0-1 milliamperes.
The indicator is used in conjunction with an external, centre-tapped, potentiometer, which is actuated by the ailerons of an aircraft. The scale of the indicator is calibrated in terms of trim position.
The scale presentation is illustrated. The figures and their cardinal lines are fluorised; the lance-type pointer is also fluorised. The arc and sub-cardinals are finished white on a matt-black background.
Connections from the external circuit are made to three, 4 B.A. shrouded terminals on the indicator base; the polarity of terminals is marked on the metal shield.
The indicator is calibrated for use at 30^{o} from the vertical, face up.

Data

Resistance of moving element	22 to 30 ohms
Centre-tapped spool (A and B)	each winding 1300 ±7 ohms
Spool C	13,000 ±70 ohms

ADDENDUM

Calibration

If the movement of the indicator has been overhauled, the magnet must be aged and stabilized as described in Chapter 6, para. A, of the manual.
Age and calibrate the indicator using the circuit shown in Fig.6, and the values given in the calibration table.
Mount the indicator at 30^{o} to the vertical, face up. Set the indicator pointer in alignment with the scale zero-cardinal, with the circuit unenergised.
The voltage applied to the indicator circuit, 27.5V d.c., must be accurately maintained when adjusting and checking the indicator.

Calibration Table

Scale value	Resistance R1 (ohms)	Resistance R2 (ohms)
1 (Left-hand)	0	1000
½	250	750
0	500	500
½	750	250
1 (Right-hand)	1000	0

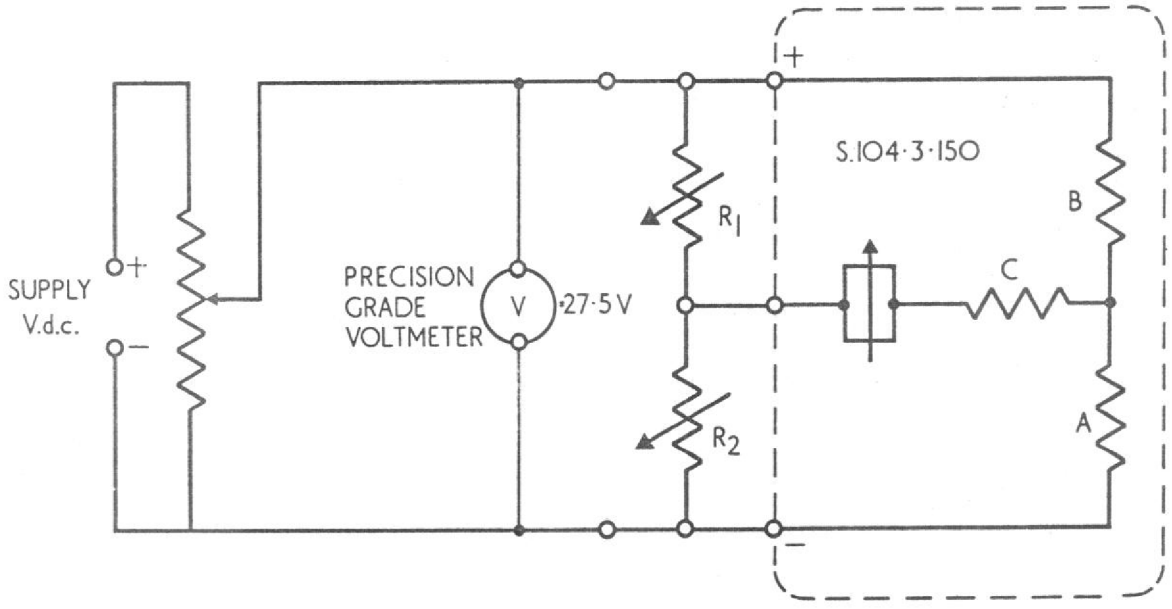


Fig.6 Calibration circuit diagram

Accuracy

With the resistance boxes set to give, in turn, each scale value, the indication should be to ±2% of full scale deflection, that is, $\pm 1.8^{o}$ (angular).

This list to be used with Common Parts List for Model S.104 Form 3

VARIANT PARTS LIST

S.104.3.150

Fig. and Index No.	Nomenclature	Part No.	Units per Assy.
Fig.5	D.C. Milliammeter, 1-0-1 mA	S.104.3.150	
2	Lockwasher, 6 B.A. (Shield)	156976	3
3	Magnetic Shield	163577	1
7	Cover	166879	1
8	Ring, bezel	160244	1
9	Glass	159082	1
10	Spring, zero stud	154087	1
11	Stud, zero	155063	1
12	Screw, 10 B.A. (Black)	156396	2
13	Lockwasher, 10 B.A. (Black)	159306	2
15	Scale, blank	160625	1
16	Shield Plate	160626	1
20	Magnet, small	156002	1
21	Screw, 10 B.A. (Spool)	150330	As Reqd.
22	Lockwasher, 10 B.A. (Spool)	153367	As Reqd.
23	Spool	23A/S104.3.150	1
		23B/S104.3.150	1
		23C/S104.3.150	1
41	Element, Moving c/w springs, pivots, pivot nuts, pivot bases, pointer and balance weights	41/S104.3.150	1
42	Pole piece assembly std.	173458	1
48	Screw and Washer assembly	157716	2
49	Base	163850	1

Sangamo Weston Code appears on front of Scale