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**ELECTRICAL INSTRUMENTS**  
**FOR AIRCRAFT**

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**MODEL S.132**  
**POSITION TRANSMITTER**

*Information contained in this manual affecting safe operation and maintenance has been verified and approved by the Air Registration Board in accordance with Chapter A6-2 of British Civil Airworthiness Requirements. 23. 9. 55.*

*Amendments to this publication invalidate the approval statement unless issued by the manufacturers with the concurrence of the Air Registration Board.*

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## MODEL S132 POSITION TRANSMITTER

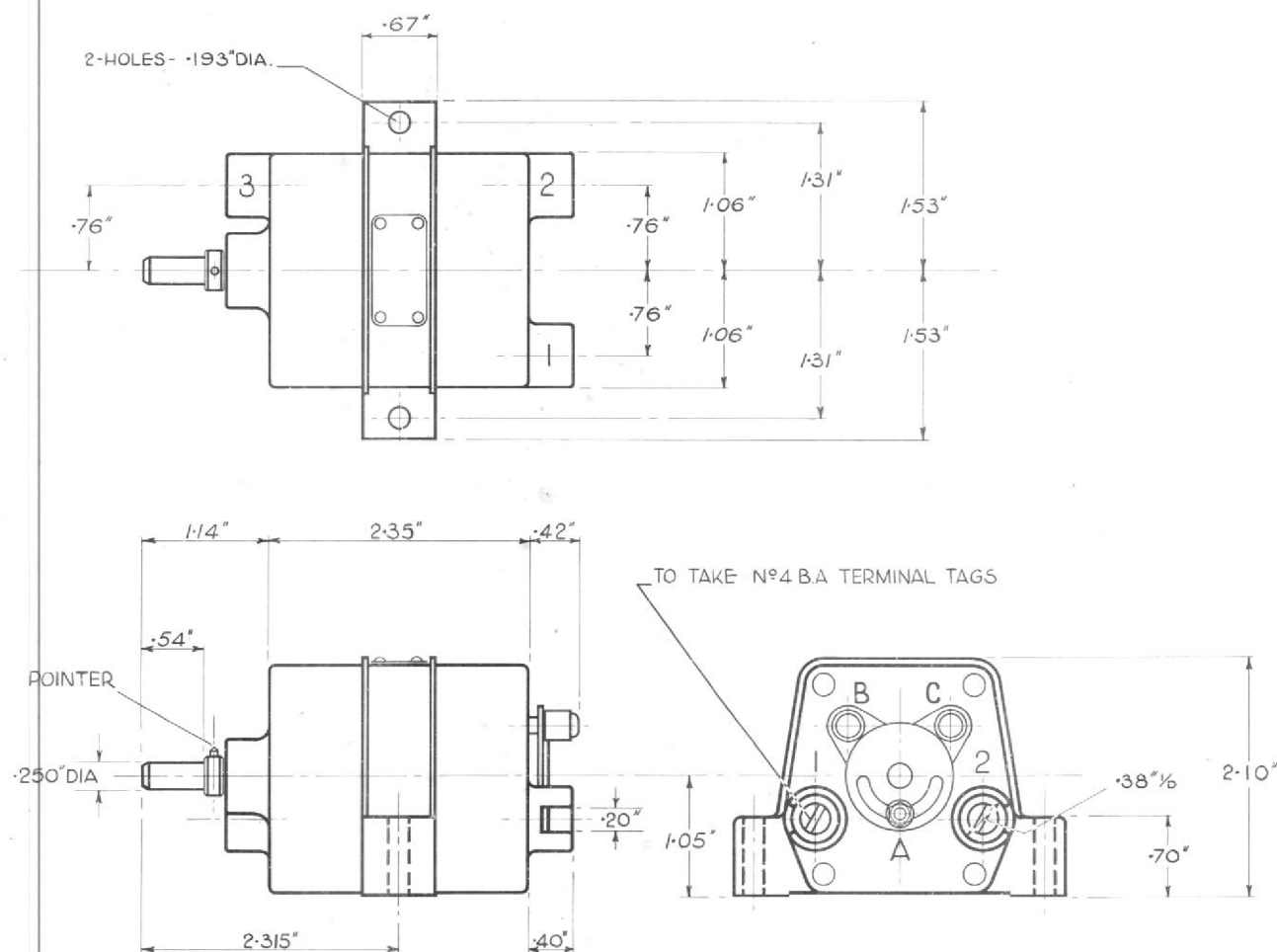
### DESCRIPTION

This transmitter is designed to operate with a ratiometer indicator to provide remote information about the rotary movement of a shaft, or, by the incorporation of a link and lever, about angular motion.

The transmitter can be adjusted on installation to give full-scale indicator deflection for any transmitter displacement within the range  $30^\circ$  to  $300^\circ$ . This adjustment is similar in effect to an infinitely variable gear between the transmitter shaft and the indicator pointer. It is not necessary to apply more than 750 gm/cms to the spindle.

The model S132 consists of a toroidal resistance winding housed in a moulded bakelite case. A wiper arm directly coupled to, but insulated from, the  $\frac{1}{4}$ " diameter stainless steel shaft, carries a spring-loaded contact tip which wipes one side of the toroidal winding. This arm is connected to terminal No. 3 which in turn is connected electrically to terminals 1 and 2.

The transmitter operates on a range of 22-28 volts D.C., but can be supplied to operate from other voltages if required. It will also operate from an A.C. source provided that a suitable transformer and rectifier with an output of 26 volts/60 mA. are used.



## INSTALLATION

The model S132 is secured in position by two No. 2 B.A. bolts. It must be fitted so that when it is connected to the aircraft shaft or lever with either of these in a central position, the pointer on the transmitter shaft is approximately in line with the engraved marking on the transmitter body. If it is not practicable to align the driving member and the transmitter with a reasonable degree of accuracy, then a flexible drive should be used in order to eliminate the possibility of bearing wear.

As the transmitter will operate satisfactorily in any position, the mounting attitude is immaterial.

After installation the transmitter is ranged to the control movement as follows:—

Loosen locknut "A", rotate "B" fully clockwise and "C" fully anti-clockwise.

Make certain that the circuit is connected correctly. Rotate the shaft to one end of its travel, checking that the indicator pointer moves in the desired direction.

With the shaft or lever at the end of its travel, rotate pinion "B" or "C" (*i.e.* the one in the same direction as the pointer) to bring the pointer of the indicating instrument to the end scale mark. Move the aircraft shaft or lever to the other end of its travel and rotate the other pinion to bring the pointer of the instrument to the other end scale mark.

Repeat this operation until correct readings are obtained. As a check, move the aircraft shaft back to the full travel position adjusting on the pinion if necessary. Lock the adjusting device by means of the locknut "A".

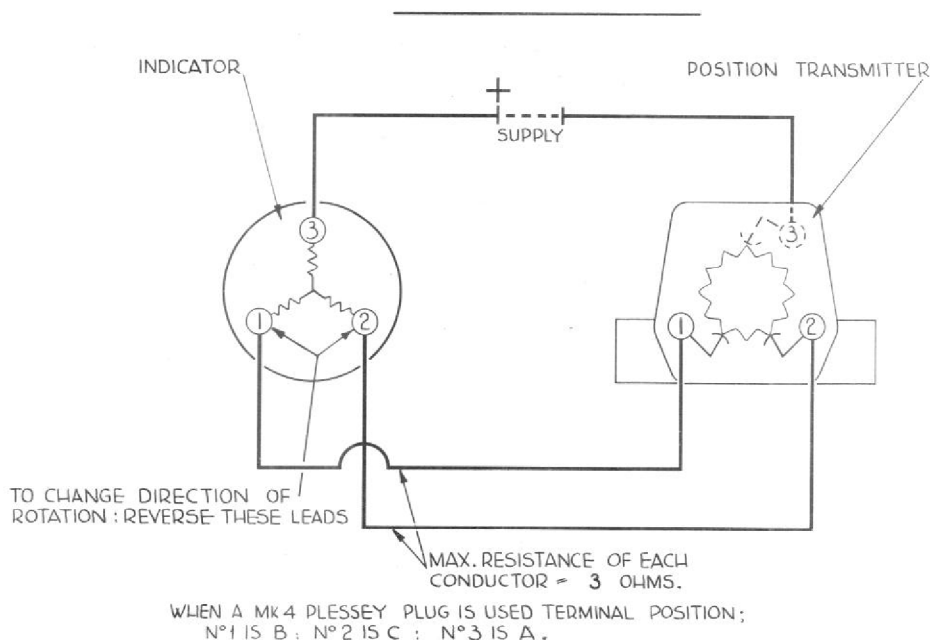
## METHOD OF TESTING

Daily checks of control apparatus automatically check the serviceability of the transmitter.

To carry out the calibration check, connect the transmitter according to the wiring diagram, to any indicator of known accuracy. Adjust "B" and "C" for the desired total angle of movement then check intermediate angles for accuracy according to the scale of indicator. A protractor and pointer may be used to measure the angle of rotation of the transmitter. For the purpose of the test it is convenient to have an indicator with a scale calibration of 0°-100°.

## PERMISSIBLE ERRORS

As the transmitter is ranged after installation, complete accuracy of indication is obtained and the question of permissible errors does not arise.



Wiring Diagram for Model S 62, or S 63 Form 5 or 6  
with Model S 132 Position transmitter

## MAINTENANCE AND INSPECTION

No routine maintenance is necessary. Daily checks of control movements will show if the transmitter is incorrectly set. If the indicator does not show the correct limits of travel, adjust the transmitter as detailed under the heading "INSTALLATION".

## OVERHAUL

The transmitter should be overhauled on the completion of 6,000 flying hours. Overhaul may, if required, be carried out by the manufacturer.

## RECOMMENDED SPARES

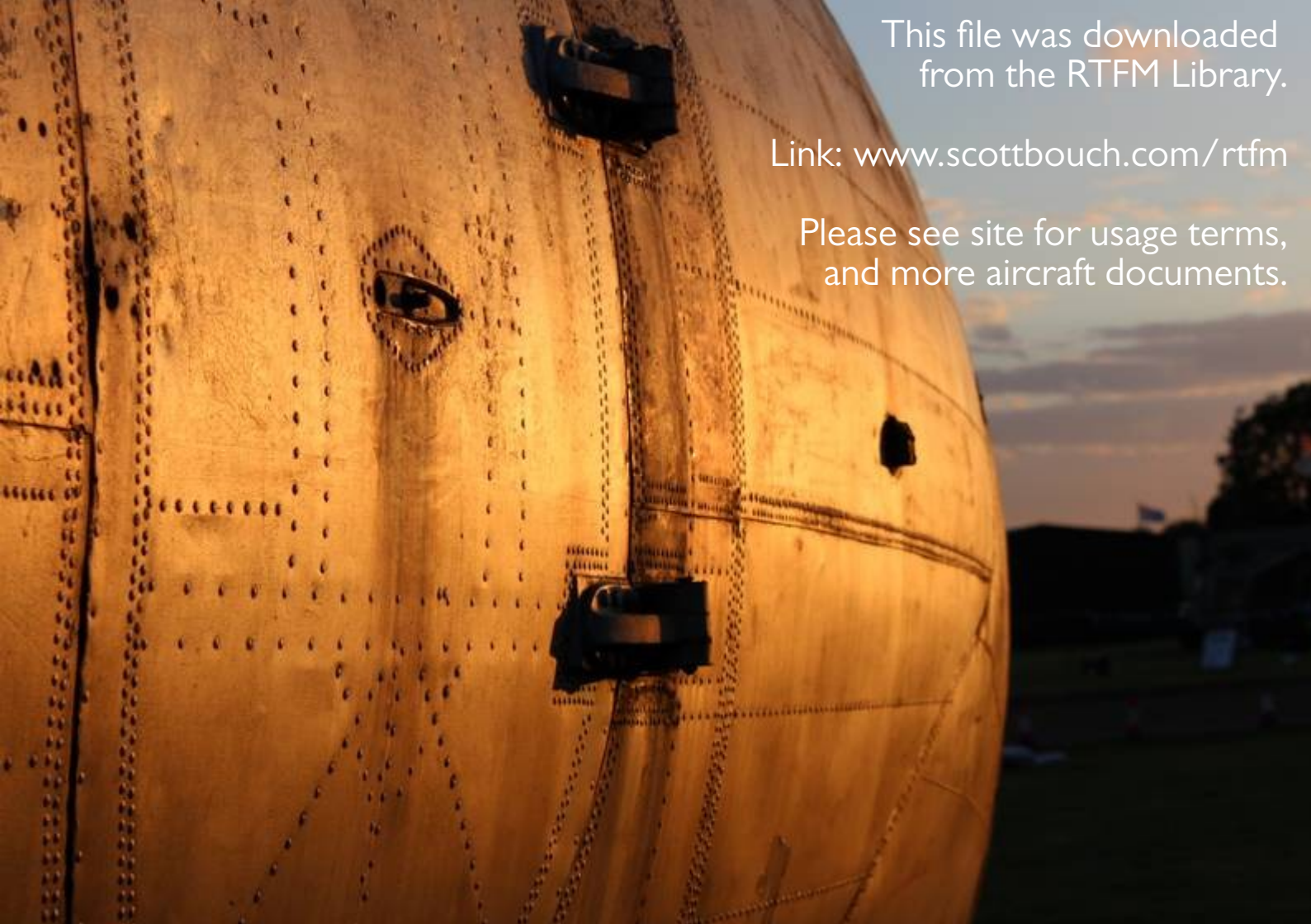
Description	No. off
Terminal screw	3

## DECLARATION

### INFORMATION REQUIRED BY BRITISH STANDARD G.100

#### Model S132

Weight	Max. Storage Period Without Preservation Packing	Acceleration Grade	Climatic Grade and Altitude Rating	Vibration Grade	Fire Resistance Grade	Compass Safe Distance	C.G. Position
8 ozs.	1 year	3A	1-60,000 ft.	3	Fire Resistant	8 inches	Not applicable



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