

EO 20-1-2A

ROYAL CANADIAN AIR FORCE



**DESCRIPTION AND MAINTENANCE
INSTRUCTIONS
METHOD OF MARKING INSTRUMENTS
& INTERPRETATION OF MARKINGS**

(This EO replaces EO 20-1-2A dated 30 Dec 52 Revised 6 Jan 60)

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF

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LIST OF RCAF REVISIONS

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TABLE OF CONTENTS

PART	TITLE	PAGE
1	GENERAL	1
	PURPOSE	1
	ACTUAL MARKINGS AND FUEL GRADE FOR SPECIFIC AIRCRAFT	1
	INTERPRETATION OF THE RANGE MARKINGS	1
	INDEX MARK	1
	IDENTIFICATION MARKING	1
	MIXTURE CONTROL QUADRANT MARKINGS	1
2	METHOD OF MARKING	3
	GENERAL	3
	APPLICATION OF MARKINGS - RANGE MARKINGS	3
	INDEX MARK	4
	IDENTIFICATION MARKING	4
	MIXTURE CONTROL QUADRANT MARKINGS	4

LIST OF ILLUSTRATIONS

FIGURE	TITLE	PAGE
1-1	Sample Markings	2
2-1	Location of Markings	3
2-2	Multitotation Instrument Markings	4
2-3	Mixture Control Quadrant	4

PART 1**GENERAL****PURPOSE**

1 This EO provides the general method of marking aircraft instruments, the interpretation of these markings, and specific instructions for the application of the markings.

**ACTUAL MARKINGS & FUEL GRADE
FOR SPECIFIC AIRCRAFT**

2 The actual markings for specific aircraft and the fuel grade to which any set of markings apply may be determined by reference to the instrument marking page and/or other range limitations of the Pilots Operating Instructions (-1 EO) for the aircraft involved.

**INTERPRETATION OF THE
RANGE MARKINGS**

3 The instrument range markings are designed to indicate to the pilot, at a glance, that flight operation is being accomplished in a safe, desirable, or unsafe region. Generally speaking the instrument marking system consists of four colors and intermediate blank

spaces as illustrated in the fictitious instrument in Figure 1-1.

INDEX MARK

4 This index mark is used to indicate any movement between the glass and the case and thus reveals any errors in the location of the markers caused by such movement.

IDENTIFICATION MARKING

5 These markings are used to identify multipurpose instruments such as the AN5790 thermometer which is used to measure various temperatures such as free air, coolant temperatures, etc.

**MIXTURE CONTROL QUADRANT
MARKINGS**

6 These markings are used to identify the automatic lean and automatic rich positions on the control quadrant.

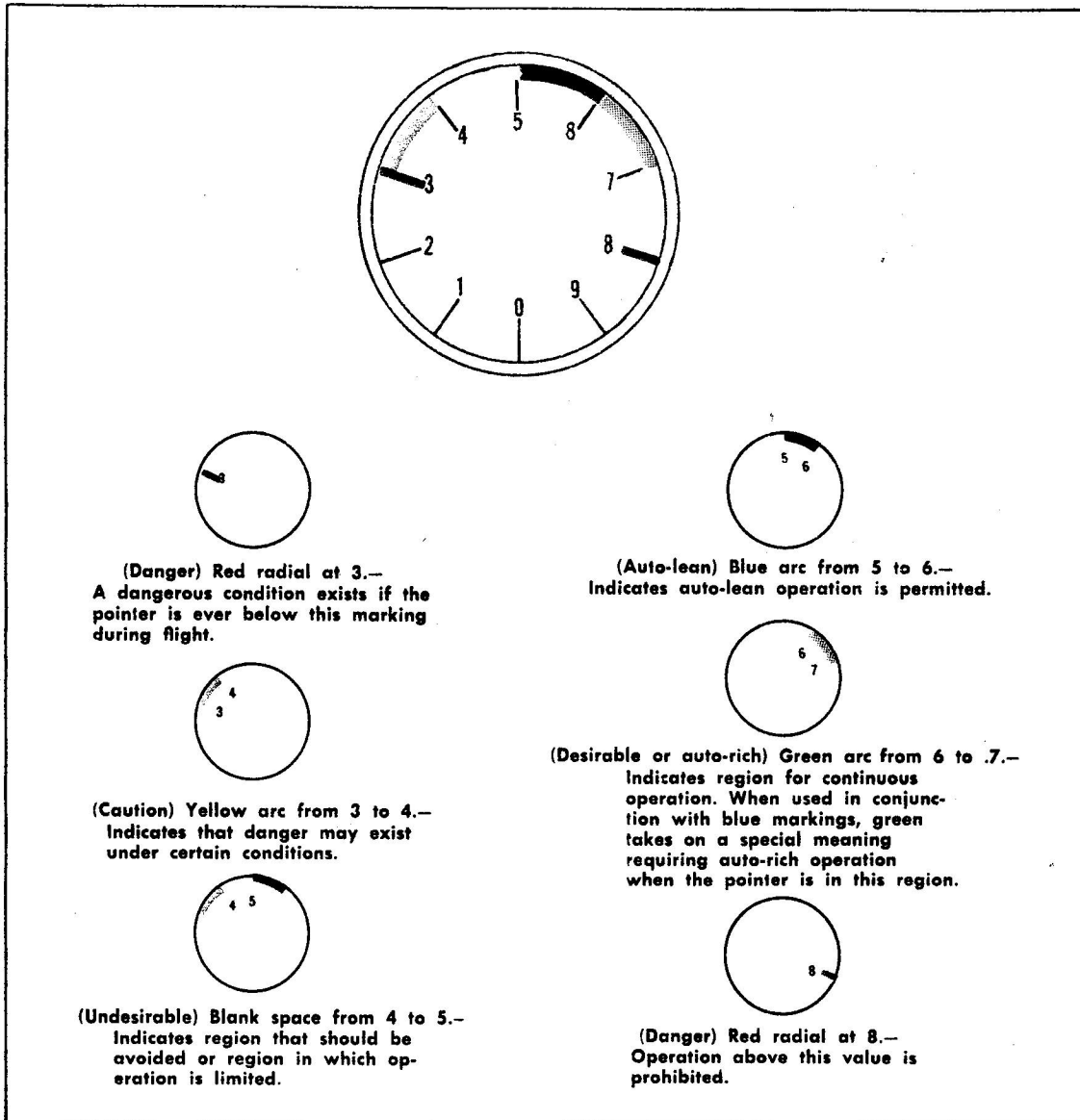


Figure 1-1 Sample Markings

PART 2

METHOD OF MARKING

GENERAL

1 Normally the markings will be placed directly over the instrument graduations as in the sample instruments. However, if in this position the markings should interfere with instrument readings from the normal crew position, it is permissible to move the marker above or below the graduations or on the bezel as required. Care must be taken to assure that the markings cover the correct range when they are moved towards the center. It will be noted that the length of the marking required to cover a given instrument range becomes smaller as it is moved closer to the center of the dial, see Figure 2-1. To avoid possible error, it is suggested that lines be drawn from the extremities of the graduations to be encompassed, to the center of the dial. The marking can then be placed anywhere within these two lines. Every effort should be made, however, to keep the markings as far from the center of the dial as possible.

(a) Instruments with multirotation pointers will have the number of rotations indicated by short dashes at right angles to the marking as illustrated in Figure 2-2. It will be noted that the green arc extends from 1700 to 2300 and that the red radial is at 2500.

APPLICATION OF MARKINGS
RANGE MARKINGS

2 In all cases, range markings, types 2 and 3, Specification MIL-D-25177, will be used. If the range is sufficiently short in places where a red arc is indicated, a type 2 (red line) marker may be used. Install the markers in accordance with the following instructions.

(a) Clean the surface on which the marker is to be applied. Be sure that there is no oil

or grease film on this area since the marker will not adhere under such conditions.

(b) Cut the marker to approximate length.

(c) Coat the area to be covered by the marker with a thin coat of clear lacquer, Ref. 33A/8010-21-800-0232. It is recommended that the width of the application of the varnish be slightly wider than the decalcomania.

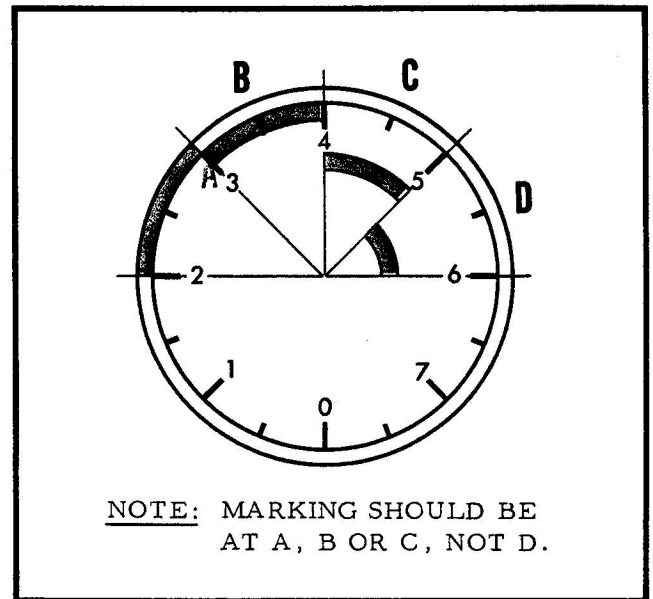


Figure 2-1 Location of Markings

(d) Immerse the marker in water in order to loosen the paper backing. Slide the transfer film, face up, from the paper backing onto the exact position on the coat of lacquer previously applied to the instrument cover-glass or bezel.

(e) Work out all air bubbles and excess water.

(f) After allowing applied marker to air-dry for 30 minutes, trim to exact size and

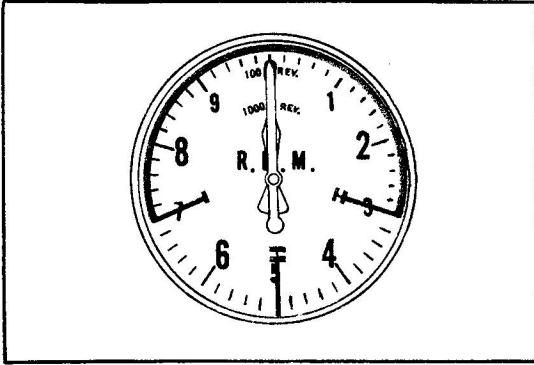


Figure 2-2 Multirotation Instrument Markings

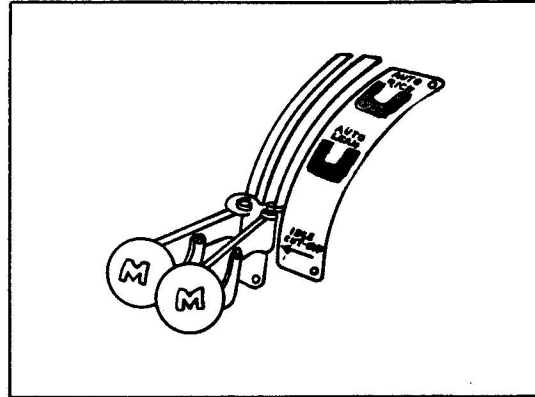


Figure 2-3 Mixture Control Quadrant

paint over the marker with another coat of clear lacquer.

(g) Allow to dry for 1/2 hour before touching.

INDEX MARK

3 A white index mark not over 1/16" wide by 3/16" long will be painted across the joint between the glass and the case at the bottom of the center of all instruments having range markings on the glass.

IDENTIFICATION MARKING

4 Identification markers, type 1, Specification MIL-D-25177 should be used in all cases. Install the markers in accordance with the instructions outlined in Part 2, para. 2.

MIXTURE CONTROL QUADRANT MARKINGS

5 Mark the automatic lean position with cellulose nitrate lacquer, light blue, Ref. 33A/428. Mark the automatic rich position with cellulose nitrate lacquer, light green, Ref. 33A/436, see Figure 2-3.

NOTE

It is not intended in this EO to set forth the exact ranges to be covered by these instrument markings for all aircraft, but to illustrate the correct method of marking the various types of instruments. The exact ranges to be covered on each instrument for a given aircraft can be determined only through reference to the instrument marking page of the appropriate Pilots' Operating Instructions (-1 series), except in the case of the suction gauge when EO 20-20-2A is to be consulted.