WESTON
Schlumberger

WESTON INSTRUMENTS
GREAT CAMBRIDGE ROAD, ENFIELD,
MIDDLESEX, EN1 3RX, ENGLAND

LM FORM 5 - CONNECTING LEADS

VARIANTS:

LM.5-11 to LM.5-50
LM.5-221 to LM.5-240

COMPONENT MAINTENANCE MANUAL

WITH

ILLUSTRATED PARTS LIST

STATEMENT OF INITIAL CERTIFICATION

This manual complies with British Civil Airworthiness Requirements, Section A, Chapter A6-2.

Signed: Research & Engineering Manager

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Date: 29th August, 1980

CAA Approval No: DAI/1198/39

NOTE: The above certification does not apply to revisions or amendments made after the date of initial certification by other Approved Organisations. Revisions or amendments made by other Approved Organisations must each be separately certified, and recorded on separate record sheets.

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LM.5 - CONNECTING LEADS

REVISION RECORD SHEET

The introduction of any amendment or revision not certified in accordance with British Civil Airworthiness Requirements Chapter A6-2 will invalidate the statement of certification on the Title Page.

Amendments or revisions embodied in this manual, which have been certified under an approval authorisation other than that applicable to the initial certification must be recorded on separate record sheets.

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10			32		
11			33		
12			34		
13			35		
14			36		
15			37		
16			38		
17			39		
18			40		
19			41		
20			42		
21			43		
22			44		

MODIFICATION STANDARDS

Modification standards listed on this page applicable to all variants of the Model LM Form 5 Connecting Lead.

A modification standard relevant only to a particular variant of the model, will be listed in the related variant information.

A designated modification letter (or letters) which is marked on the nameplate indicates that the modification has been embodied, this embodiment also applies to a following letter (or letters) of the modification standard.

Modification letter(s)	Service Bulletin No.

WESTON INSTRUMENTS

COMPONENT MAINTENANCE MANUAL

LM.5 - CONNECTING LEADS

LIST OF EFFECTIVE PAGES

WESTON INSTRUMENTS

COMPONENT MAINTENANCE MANUAL

LM.5 - CONNECTING LEADS

TABLE OF CONTENTS

WESTON INSTRUMENTS

COMPONENT MAINTENANCE MANUAL

LM.5 - CONNECTING LEADS

INTRODUCTION

1. General

This manual contains shop verified instructions for the Weston Instruments LM Form 5 connecting leads.

The servicing procedures given are consistent with those accomplished by the manufacturer..

Differences between leads such as cable length and insulation material are defined by variant numbers and are detailed separately in the Variant Data section of the manual (refer to Table of Contents).

To accommodate additions of variants to the manual which could require addition to other sections of the manual, the block system outlined in ATA 100 has been used.

LM.5 connecting leads are not repairable and so must be renewed if unserviceable.

DESCRIPTION AND OPERATION

1. Description

Connecting leads LM.5 are stranded copper conductors of assorted metric lengths and types, the cable and connection ends varying according to the application and associated equipment. Each type of lead is allocated a drawing number (e.g., F.D.1119) as an indication of the group in which it belongs. Each individual lead is marked with the model, form and specification number (e.g., LM.5-13) for more positive identification.

To find data specific to a particular variant, refer to Variant Data, para.4.

2. Operation

LM.5 leads are interconnecting leads for use in conjunction with resistance thermometer elements, pressure transducers, ice warning systems, tachometers, etc.

3. Data

A. Working Temperatures

Type of Cable (according to variant)	Maximum	Minimum (Cable Static)	Minimum (Cable subject to flexing)
Duprensheath	90°C	-75°C	-30°C
Triprensheath	90°C	-75°C	-30°C
Dunyprensheath	90°C	-75°C	-30°C
Trinyprensheath	90°C	-75°C	-30°C
Black neoprene	90°C	-75°C	-30°C
Nyvin	90°C	-75°C	-30°C
Unitersil 20	190°C	-75°C	-30°C
Efglass	240°C	-75°C	-75°C

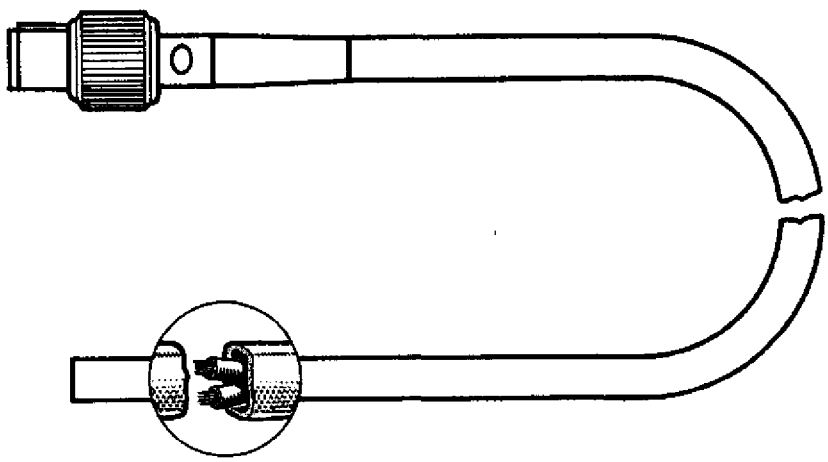
NOTE: The maximum working temperature of cables at the socket end is limited to the maximum working temperature of the type of socket fitted, i.e., 90°C for those fitted with moulded Polychloroprene or E.E.L.3 resistant rubber sockets, and 200°C for those fitted with Silicone sockets. The minimum working temperature of the socket end of all the above cables, when subjected to flexing, is -30°C.

B. Maximum Current Rating

The maximum current rating of all LM.5 leads is 3 amperes.

CONNECTING LEADS LM.5-11 TO LM.5-50 (F.D.1119)

4. Variant Data



Connecting Leads LM.5 - Variants 11 to 50
Figure 1

Description

Connecting leads LM5-11 to 50 are designed for use with Weston Instruments Model S110 Resistance Thermometer Elements. All the variants are identical except for length. Each consists of a 2-core Duprensheath insulated cable of round section fitted with a 2-pin socket moulded in Polychloroprene.

The length of each variant is as follows:-

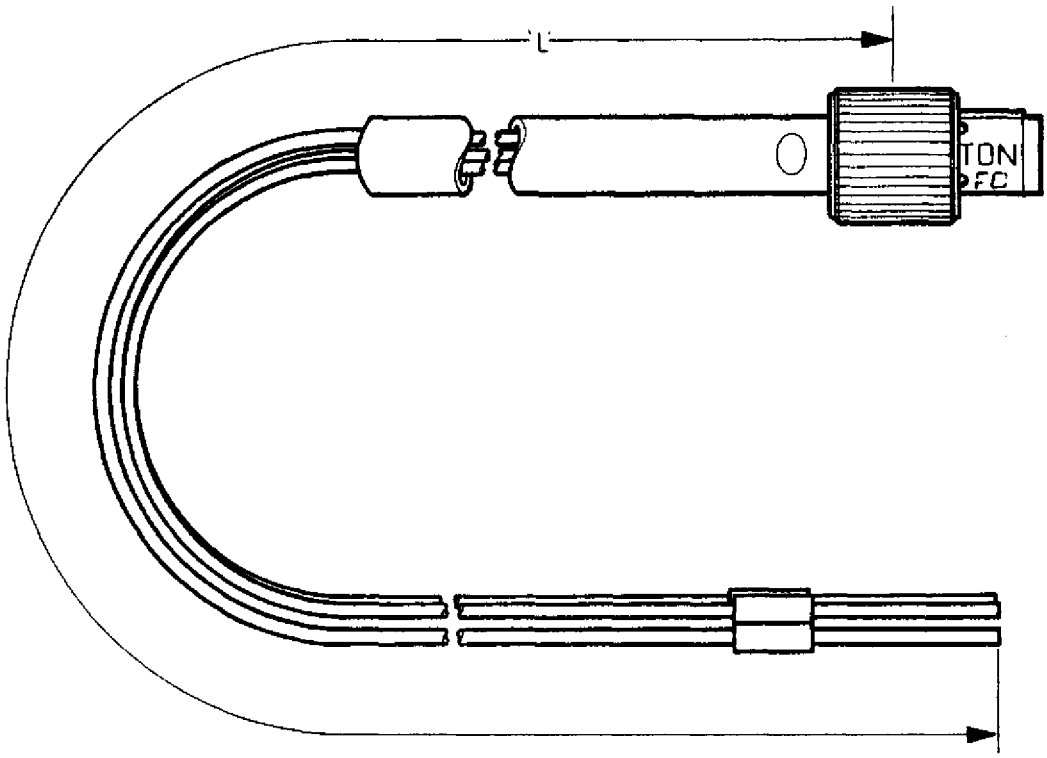
Variant No.	Length of Cable (metres)
LM.5-11	1
LM.5-12	2
LM.5-13	3
LM.5-14	4
LM.5-15	5
LM.5-16	6
LM.5-17	7
LM.5-18	8
LM.5-19	9
LM.5-20	10
LM.5-21	11
LM.5-22	12

CONNECTING LEADS LM.5-11 TO LM.5-50 (F.D.1119)

Variant No.	Length of Cable (metres)
LM.5-23	13
LM.5-24	14
LM.5-25	15
LM.5-26	16
LM.5-27	17
LM.5-28	18
LM.5-29	19
LM.5-30	20
LM.5-31	21
LM.5-32	22
LM.5-33	23
LM.5-34	24
LM.5-35	25
LM.5-36	26
LM.5-37	27
LM.5-38	28
LM.5-39	29
LM.5-40	30
LM.5-41	31
LM.5-42	32
LM.5-43	33
LM.5-44	34
LM.5-45	35
LM.5-46	36
LM.5-47	37
LM.5-48	38
LM.5-49	39
LM.5-50	40

CONNECTING LEADS LM.5-221 TO LM.5-240 (F.D.1211)

4. Variant Data



Connecting Leads LM.5 - Variants 221 to 240
Figure 1

Description

Connecting leads LM5-221 to 240 are designed for use with Weston Instruments Model S122 Pressure Transmitters. All the variants are identical except for length. Each consists of 3 Unitersil 20 leads fitted with a 2-pin socket moulded in Polychloroprene.

The length of each variant is as follows:-

Variant No.	Length of Cable (metres)
LM.5-221	1
LM.5-222	2
LM.5-223	3
LM.5-224	4
LM.5-225	5
LM.5-226	6

CONNECTING LEADS LM.5-221 TO LM.5-240 (F.D.1211)

Variant No.	Length of Cable (metres)
LM.5-227	7
LM.5-228	8
LM.5-229	9
LM.5-230	10
LM.5-231	11
LM.5-232	12
LM.5-233	13
LM.5-234	14
LM.5-235	15
LM.5-236	16
LM.5-237	17
LM.5-238	18
LM.5-239	19
LM.5-240	20

CLEANING

1. Preparation

TABLE 401

MATERIALS

Material/Specification	Supplier
Genklene or Arklone P or Inhibisol	I.C.I. I.C.I. Penetone Paripan Ltd.

NOTE: Equivalent substitutes may be used for listed items.

2. Procedure

A. Moisten a cloth with cleaning fluid and remove all grease and dirt adhering to the lead.

B. Remove foreign matter from the connection end by means of a suitable brush.

CHECK

1. Preparation

TABLE 501

EQUIPMENT

Item	Code	Supplier
Insulation & Continuity Tester, 250/500V d.c.	1905L	Comark Electronics, Rustington, Sussex

NOTE: Equivalent substitutes may be used for listed items.

2. General Checks

The following procedure should be adopted whenever the equipment associated with the lead is inspected.

A. Examine the outer covering of the lead for signs of cracks and general deterioration.

B. Ensure that the connection end is free of foreign matter.

3. Detail Checks

A. Each core has a resistance value of approximately 0.033 ohms per metre, at 20°C. A simple continuity test must be made on each core.

B. Where a twin core cable is used, check the insulation resistance between each core, and each core to the metal sleeve; this must be better than 20 megohms at 250 volts d.c.

Where a three-core cable is used, and the third core is connected to the metal sleeve, check the resistance between two cores only and between these cores and the metal sleeve. The continuity test in A must also be made between the third core and the metal sleeve.

STORAGE

1. Conditions

(1) The lead should be stored under conditions where the humidity does not exceed 50% and the temperature is within the limits -20°C to +50°C.

NOTE: If the humidity rises above 50%, the insulation may be affected and the lead must be oven dried for three hours at 90°C before use.

2. Storage Limiting Period

Provided that the storage conditions have been fulfilled, the shelf life of the lead is 5 years. After this period it must be checked as described in the Check section of this manual. If satisfactory, the lead may then be returned to storage.

SPECIAL TOOLS, FIXTURES AND EQUIPMENT

1. General

The equipment required to carry out tests in other sections of the manual is listed in Table 901

TABLE 901

EQUIPMENT

Equipment	Code	Supplier
Insulation test meter & continuity tester	1905L	Comark Electronics, Rustington, Sussex

NOTE: Equivalent substitutes may be used for listed items.