

ENGLISH IN FOCUS

English in Workshop Practice

ALAN MOUNTFORD

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OXFORD UNIVERSITY PRESS

Oxford University Press, Walton Street, Oxford OX2 6DP

OXFORD LONDON GLASGOW

NEW YORK TORONTO MELBOURNE WELLINGTON

KUALA LUMPUR SINGAPORE JAKARTA HONG KONG TOKYO

DELHI BOMBAY CALCUTTA MADRAS KARACHI

IBADAN NAIROBI DAR ES SALAAM CAPE TOWN

ISBN 0 19 437511 0 (Students)

ISBN 0 19 437502 1 (Teachers)

First published 1975

Reprinted 1978

© Oxford University Press 1975

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PRINTED AND BOUND IN ENGLAND BY
HAZELL WATSON AND VINEY LTD
AYLESBURY, BUCKS

English in Focus: Workshop Practice

ENGLISH IN FOCUS

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Acknowledgements

I would like to thank John Southwell and J. S. Robertson for checking the manuscript from a technical point of view. I should also like to express my deep thanks to my wife for the hard work she has put into typing and preparing the final manuscript, and for her continual encouragement.

Several drawings are based on illustrations in *Part A of First Year Training for Engineering Craftsmen and Technicians*, by permission of the publishers, Engineering Industry Training Board, 54 Clarendon Road, Watford, Herts, from whom copies can be purchased at 80p each.

A. M.

Introduction

The aim of this book is to develop a basic knowledge of how English is used for communication in workshop practice. It is intended for students who already know how to handle the common English sentence patterns but who need to learn how these patterns are used in technical writing to convey information about workshop materials and processes.

The exercises direct the student's attention to certain features of English which are specific to technical writing. The aim is to provide the student with a strategy for reading more difficult technical texts and to prepare him for making effective use of English in his own writing.

Although the emphasis is on English as a medium of expression in the workshop the basic elements of the language have not been neglected. Pattern practice is provided, particularly in the grammar section of each unit, but this kind of work is always presented in relation to a technical context and not simply as an exercise in making sentences for their own sake.

This book does not aim at teaching technical subject matter, nor does it aim at teaching grammatical structures and vocabulary as such. Its purpose is to show how language is used to convey technical information and so to give students a grounding in one particular set of communication skills in English.

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1 Calipers

I READING AND COMPREHENSION

¹Calipers are instruments which are used for measuring the dimensions of small objects. ²They can be used to measure diameters of metal bars or tubes. ³There are two kinds of calipers. ⁴One kind is called outside calipers. ⁵They are used to measure outside, or external, diameters. ⁶The other kind is used to measure inside, or internal, diameters. ⁷They are known as inside calipers.

Study the following statements carefully and write down whether they are true or not true, according to the information expressed in sentences 1-7 above. Then check your answers by referring to the solutions at the end of the passage.*

- (a) Outside calipers are used to measure external diameters.
- (b) External calipers can be used to measure the external dimensions of any metal object.
- (c) Calipers can be used to measure the diameters of metal tubes.

⁸Both kinds consist of two pieces of metal which are joined together at the top. ⁹They are called legs and are pointed at the ends. ¹⁰The legs of outside calipers are curved and turn inwards at the points. ¹¹Those of inside calipers are straight and turn outwards at the points. ¹²Measurements are taken between the points and are read off on a rule.

- (d) Caliper legs are pointed at the ends.
- (e) Inside calipers have straight legs.
- (f) The legs of outside calipers point inwards at the ends.

* The following symbols are used in the solutions:

i.e. that is to say

e.g. for example

= equals/means the same as

≠ does not equal/does not mean the same as

∴ therefore

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¹³The joint at the top of the legs acts as a hinge. ¹⁴In some cases this joint is stiff. ¹⁵The legs are kept open by means of friction. ¹⁶Not all calipers are of this stiff-jointed kind. ¹⁷Some calipers have a spring which joins the legs together. ¹⁸They are known as spring calipers. ¹⁹The legs are opened and closed by turning a nut on a screw. ²⁰Calipers of this kind are more easily adjusted than the stiff-jointed kind.

- (g) Spring calipers are opened by turning a nut on a screw.
- (h) All calipers have a stiff joint at the top of the legs.
- (i) The legs of spring calipers are kept open by means of friction.
- (j) Spring calipers are easier to adjust than stiff-jointed calipers.

Solutions

- (a) One kind is called outside calipers. (4)
They are used to measure [X outside], or [Y external], diameters. (5)
X, or Y, ... i.e. Y is another word for X.
∴ outside diameters = external diameters
∴ *Outside calipers are used to measure external diameters.*
- (b) Calipers are instruments which are used for measuring the dimensions of small objects. (1)
small objects ≠ any objects
∴ It is NOT TRUE to say that external calipers can be used to measure the external dimensions of any metal object.
- (c) They (i.e. calipers) can be used to measure diameters of metal bars or tubes. (2)
metal bars or tubes = both metal bars and metal tubes (cf. (a))
∴ *Calipers can be used to measure diameters (=the diameters) of metal tubes.*
- (d) ... two strips of metal are joined together at the top. (8)
They are called legs ... (9)
i.e. Caliper legs are joined together at the top.
... and are pointed at the ends. (9)
i.e. *Caliper legs are pointed at the ends.*
- (e) Those (i.e. the legs) of inside calipers are straight. (11)
= *Inside calipers have straight legs.*
- (f) The legs of outside calipers are curved and turn inwards at the points. (10)
i.e. The legs of outside calipers turn inwards at the points.
turn inwards at the points = point inwards at the ends (see (d))
i.e. *The legs of outside calipers point inwards at the ends.*

- (g) They are known as spring calipers. (18)
 The legs are opened and closed by turning a nut on a screw. (19)
i.e. The legs of spring calipers are opened . . . by turning a nut on a screw.
 = *Spring calipers are opened by turning a nut on a screw.*
- (h) The joint at the top of the legs acts as a hinge. (13)
 In some cases this joint is stiff. (14)
 some \neq all
 \therefore Not all calipers are of this stiff-jointed kind. (16)
i.e. Not all calipers have stiff joints.
e.g. Some calipers have a spring which joins the legs together. (17)
 \therefore It is NOT TRUE to say that all calipers have a stiff joint at the top of the legs.
- (i) The legs are kept open by means of friction. (15)
i.e. The legs of stiff-jointed calipers (16) are kept open by means of friction.
 The legs of spring calipers (18) are opened or closed by turning a nut on a screw. (19)
 \therefore The legs of spring calipers are NOT kept open by means of friction.
- (j) Calipers of this kind (*i.e.* spring calipers (18)) are more easily adjusted than the stiff-jointed kind. (20)
 are more easily adjusted = are easier to adjust
i.e. *Spring calipers are easier to adjust than stiff-jointed calipers.*

EXERCISE A Contextual reference

- In sentence 2, *they* refers to:
 - objects
 - calipers
 - dimensions
- In sentence 5, *they* refers to:
 - two kinds
 - outside calipers
 - calipers
- In sentence 7, *they* refers to:
 - calipers which measure internal diameters
 - calipers which measure external diameters
- In sentence 9, *they* refers to:
 - both kinds
 - the ends
 - two pieces of metal

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5. In sentence 11, *those* refers to:

- (a) the points
- (b) calipers
- (c) the legs

6. In sentence 18, *they* refers to:

- (a) calipers which have a spring
- (b) the legs
- (c) all calipers

EXERCISE B Rephrasing

Compare these sentences:

- (i) Outside calipers can be used to measure the *distance between the outsides* of a metal bar.
- (ii) Outside calipers can be used to measure the external diameter of a metal bar.

These two sentences mean the same thing. The second sentence contains an alternative form used in the text. Now re-write the following, using words and constructions from the text to replace those printed in *italics*.

- 1. *The length and width* of a small metal object can be measured by using calipers.
- 2. The legs of inside calipers curve *away from each other* at the points.
- 3. Some calipers have a spring which joins the legs together, but others *have a joint at the top of the legs which is stiff*.
- 4. Spring calipers are *opened and closed* more easily than stiff-jointed calipers.

EXERCISE C Relationships between statements

In this book you will meet many words and phrases which can be used to connect statements. Two of the most common are:

- (i) for example
- (ii) because

Look at the following:

- (i) [a] Calipers are instruments which are used for measuring the dimensions of small objects. (1)
[b] They can be used to measure diameters. (2)
[a + b] Calipers are instruments which are used for measuring the dimensions of small objects. *For example*, they can be used to measure diameters.
- (ii) [a] One kind is called outside calipers. (4)
[b] They are used to measure outside, or external, diameters. (5)
[a + b] One kind is called outside calipers *because* they are used to measure outside, or external, diameters.

In (i), statement [b] gives an example of statement [a].

In (ii), statement [b] gives the reason why statement [a] is true.

Now place the following words or phrases in the sentences indicated:

(a) for this reason (7)

(e) for example (17)

(b) but (10+11)

(f) therefore (18)

(c) as a result (15)

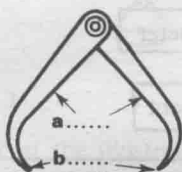
(g) consequently (20)

(d) however (16)

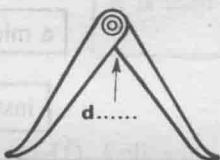
EXERCISE D Labelling of diagrams

Write down the names of the calipers illustrated below and of the parts indicated.

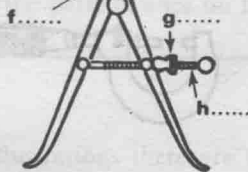
1



2



3



c.....calipers e.....calipers i.....calipers

EXERCISE E The definition of objects in terms of class and use

Part 1

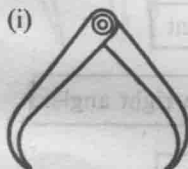
We can define an object by saying

(a) what *class* of objects it belongs to, and

(b) what we *use* it for.

EXAMPLES

(i)



OBJECT

CLASS

USE

calipers

instrument

They are used to measure the dimensions of small metal objects.

DEFINITION

Calipers *are* instruments *which* are used to measure the dimensions of small metal objects.

(ii)



OBJECT

CLASS

USE

a centre punch

tool

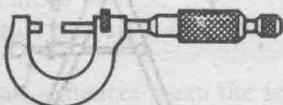
It is used to mark points where holes are to be drilled.

DEFINITION

A centre punch is a tool which is used to mark points where holes are to be drilled.

Below are illustrations of common objects. Using the information in the boxes, write out complete definitions of each object as in the examples above.

(a)

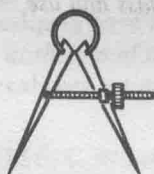


a micrometer

instrument

It is used to measure small distances with precision.

(b)

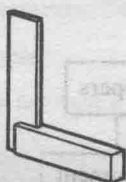


a pair of dividers

tool

It is used to scribe circles and radii.

(c)

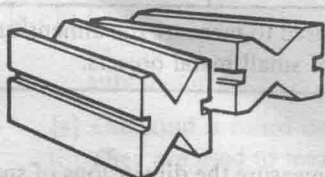


an engineer's square

instrument

It is used to check a right angle.

(d)



vee-blocks

tools

They are used to support round bars during marking out or drilling.