

INTERNATIONAL STANDARD

ISO 606

Second edition
1994-02-15

Short-pitch transmission precision roller chains and chain wheels

iTeh STANDARD PREVIEW
*Chaînes de transmission de précision à rouleaux à pas courts et roues
dentées correspondantes*
(standards.iteh.ai)

ISO 606:1994

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Reference number
ISO 606:1994(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 606 was prepared by Technical Committee ISO/TC 100, *Chains and chain wheels for power transmission and conveyors*.

This second edition cancels and replaces the first edition (ISO 606:1982), of which it constitutes a technical revision.

The requirements for 082 chains have been transferred to ISO 9633.

Annex A forms an integral part of this International Standard. Annexes B and C are for information only.

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Introduction

The provisions of this revised International Standard have been established by including sizes of chains used by the majority of countries in the world, and by unifying dimensions, strengths and other data which differed in current national standards. At the same time, certain size ranges listed in some national standards, for which it was considered a universal usage had not been established, have been eliminated.

The whole field of application open to this medium of transmission has been covered by the ranges of chains already established. To achieve this, the sizes of 12,7 mm pitch to 76,2 mm pitch inclusive have been duplicated by the inclusion of chains derived from standards originating and centred around ANSI (denoted by suffix A) and, on the other hand, by chains representing the unification of the principal standards originating in Europe (suffix B), the two being complementary for the coverage of the widest possible field of application.

Both series of chains have been derived from earlier inch versions whose original values are recorded in annex B.

<https://standards.iteh.ai/catalog/standards/sist/10000000/iso-606-1994> Clause 5 covering chain wheels, represents the unification of all the relevant national standards in the world and includes, in particular, complete tolerances relating to tooth form.

The dimensions of chain specified ensure complete interchangeability of any given size and provide interchangeability of individual links of chains for repair purposes.

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Short-pitch transmission precision roller chains and chain wheels

1 Scope

This International Standard specifies requirements for short-pitch precision roller chains of simple and multi-plex construction suitable for the mechanical transmission of power and allied applications, together with those for their associated chain wheels. It covers dimensions, tolerances, length measurement, proof testing and minimum tensile strengths.

Although it applies to chain wheels for cycles and motor cycles, it does not apply to chains for cycles or for motor cycles, which are covered by ISO 9633 and ISO 10190 respectively.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 286-2:1988, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts.*

3 Chains

3.1 Nomenclature of assemblies and components

The nomenclature of chain assemblies and their component parts is illustrated in figures 1 and 2; the figures do not define the actual form of the chain plates.

3.2 Designation

Transmission precision roller chains shall be designated by the standard ISO chain number given in tables 1 and 2. The ISO chain numbers in table 1 are supplemented by a hyphenated suffix 1 for simple chain, 2 for duplex chain, 3 for triplex chain: for example 16B-1, 16B-2, 16B-3, etc. Chains 081, 083, 084 and 085 do not follow this procedure since they are available in simple form only.

3.3 Dimensions

Chains shall conform to the dimensions shown in figure 3 and given in tables 1 and 2. Maximum and minimum dimensions are specified to ensure interchangeability of links produced by different makers of chain. They represent limits for interchangeability, but are not the manufacturing tolerances.

3.4 Tensile testing

3.4.1 The minimum tensile strength is that value which shall be exceeded when a tensile force is applied to a sample which is tested to destruction as defined in 3.4.2. This minimum tensile strength is not a working force. It is intended primarily as a comparative figure between chains of various constructions. For application information, the manufacturers or their published data should be consulted.

3.4.2 A tensile force, not less than the minimum tensile strength specified in table 1, shall be applied slowly to the ends of a chain length, containing at least five free pitches, by means of shackles permitting free movement on both sides of the chain centreline, in the normal plane of articulation.

Failure shall be considered to have occurred at the first point where increasing extension is no longer

accompanied by increasing load; i.e. the summit of the force/extension diagram.

Tests in which failures occur adjacent to the shackles shall be disregarded.

3.4.3 The tensile test shall be considered a destructive test. Even though a chain may not visibly fail when subjected to a force equivalent to the minimum tensile strength, it will have been stressed beyond the yield point and will be unfit for service.

3.5 Proof testing

All chains shall be proof tested by applying a tensile force equivalent to one-third of the minimum tensile strength given in table 1.

3.6 Length accuracy

Finished chains shall be measured after proof testing but before lubrication.

The standard length for measurement shall be a minimum of

- a) 610 mm for ISO chain numbers 05B to 12B and 081 to 085 inclusive,
- b) 1 220 mm for ISO chain numbers 16A to 72B inclusive,

and the chain shall terminate with an inner link at each end.

The chain shall be supported throughout its entire length and the measuring force specified in table 1 shall be applied.

The measured length shall be the nominal length $+0,15$ $_0$ %.

The length accuracy of chains which have to work in parallel shall be within the above limits but matched by agreement with the manufacturer.

3.7 Marking

The chain shall be marked with the following:

- a) manufacturer's name or trademark;
- b) ISO chain number quoted in table 1 or 2.

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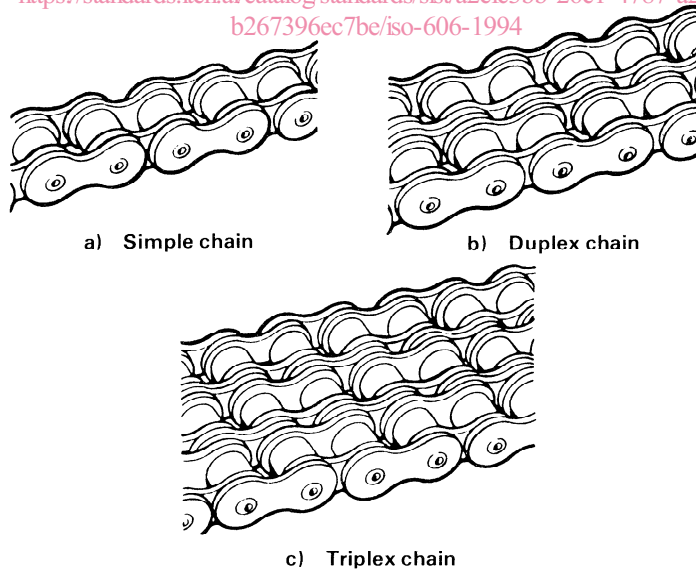
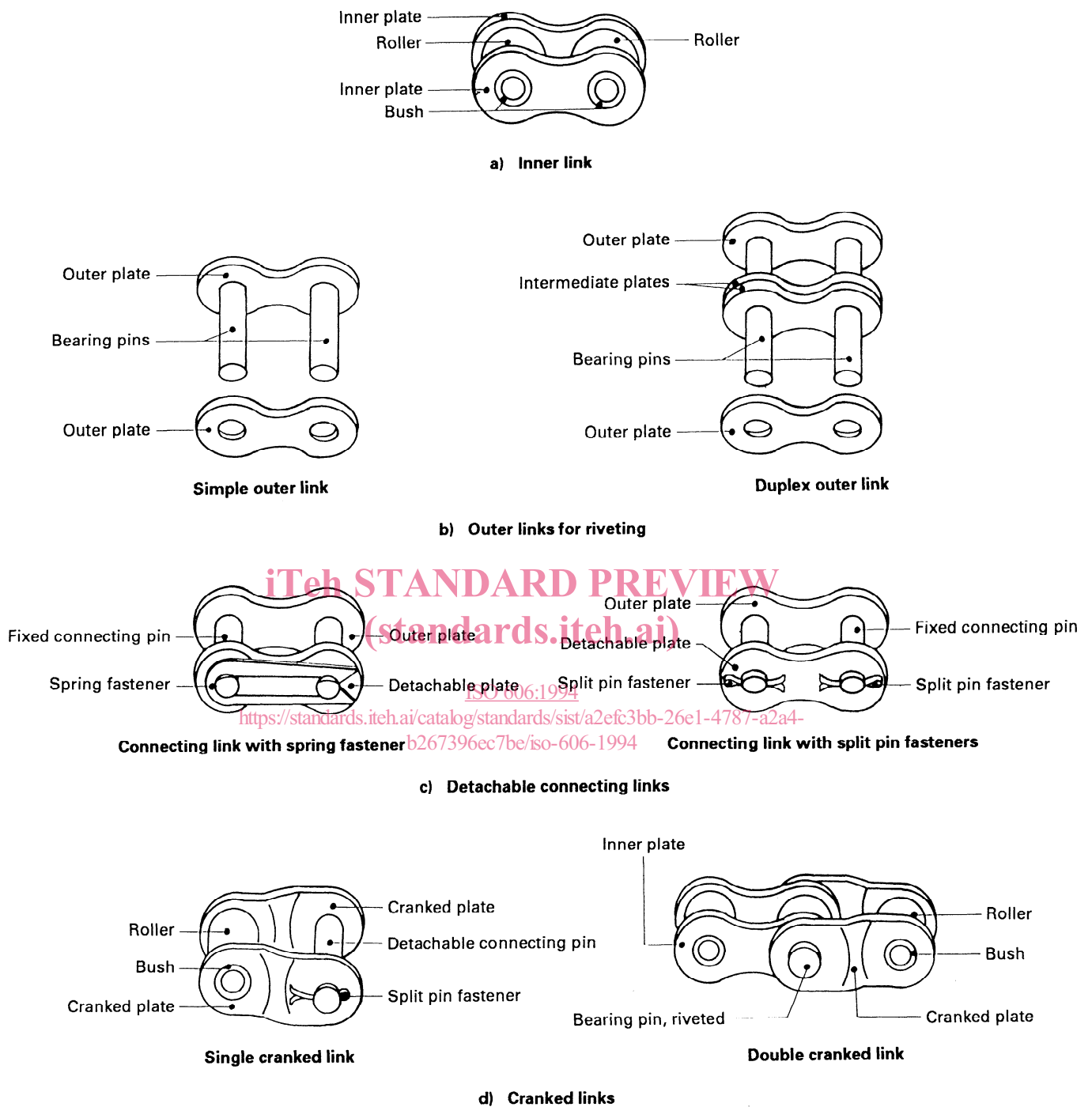


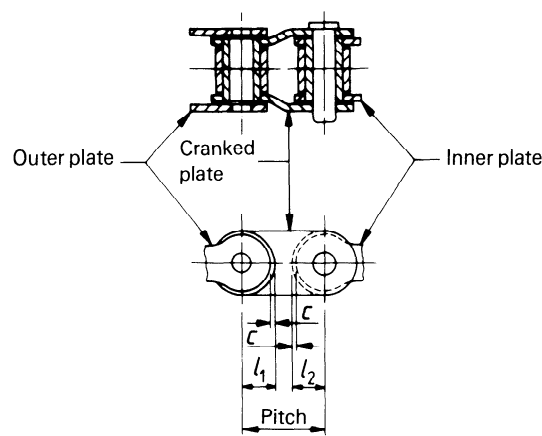
Figure 1 — Types of roller chain assembly



NOTES

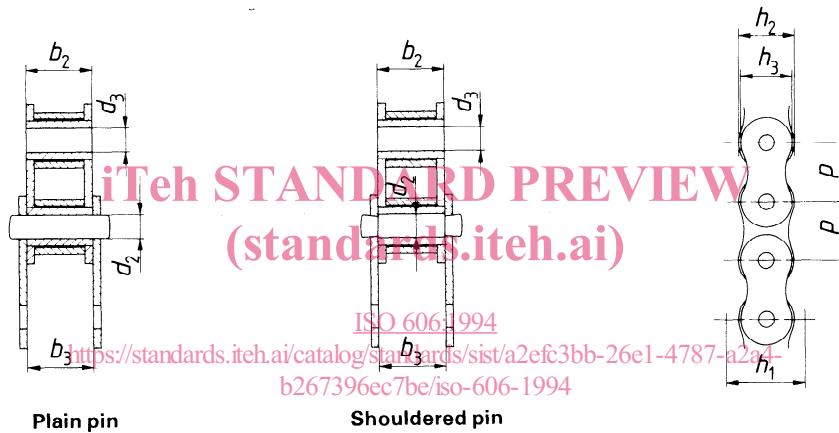
- 1 The dimensions of the plates are specified in table 1.
- 2 Fasteners may be of various designs. Drawings indicate examples.

Figure 2 — Types of link



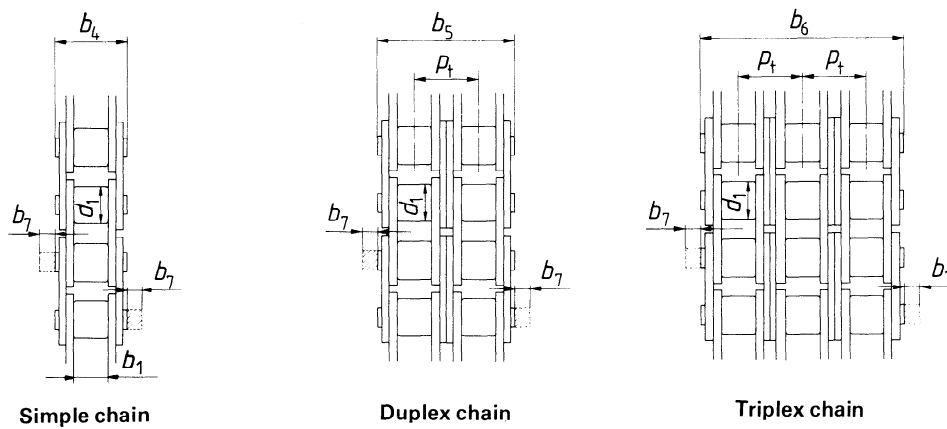
c represents the clearance between the cranked link plates and the straight plates available during articulation.

a) Cranked link



Chain path depth h_1 is the minimum depth of channel through which the assembled chain will pass.

b) Sections through chain



The overall width of a chain with a joint fastener is equal to the width over the bearing pins b_4 , b_5 or b_6 plus b_7 for riveted pin end (or $+ 1,6 b_7$ for headed pin end) if the fastener is on one side only, or $+ 2 b_7$ if the fastener is on both sides.

The width over bearing pins for chains wider than triplex is equal to $b_4 + p_t$ (number of strands in chain $- 1$).

c) Types of chain

Figure 3 — Chains

4 Attachments

4.1 General

Except when otherwise stated, the characteristics, dimensions and tests for the chain with attachments shall conform to the requirements of clause 3.

4.2 Designation

Two types of attachment are given, with the common dimensional basis as given in table 2; their designation and distinguishing features are as follows:

K1: with one attachment hole centrally located in each platform,

K2: with two attachment holes longitudinally located,

as shown in figure 4.

4.3 Dimensions

Attachments shall conform to the dimensions given in table 2.

4.4 Manufacture

The actual form of the attachment plates is left to the discretion of the manufacturer, but the attachments are normally of integral construction, whereby the chain plates are extended and bent over to make the platform, as shown in figure 4.

The length of the attachment plate is also left to the discretion of the manufacturer, but it should be sufficient to accommodate the two attachment holes longitudinally in the case of type K2, and not interfere with the working of the adjoining links. A common length is normally adopted for both type K1 and K2.

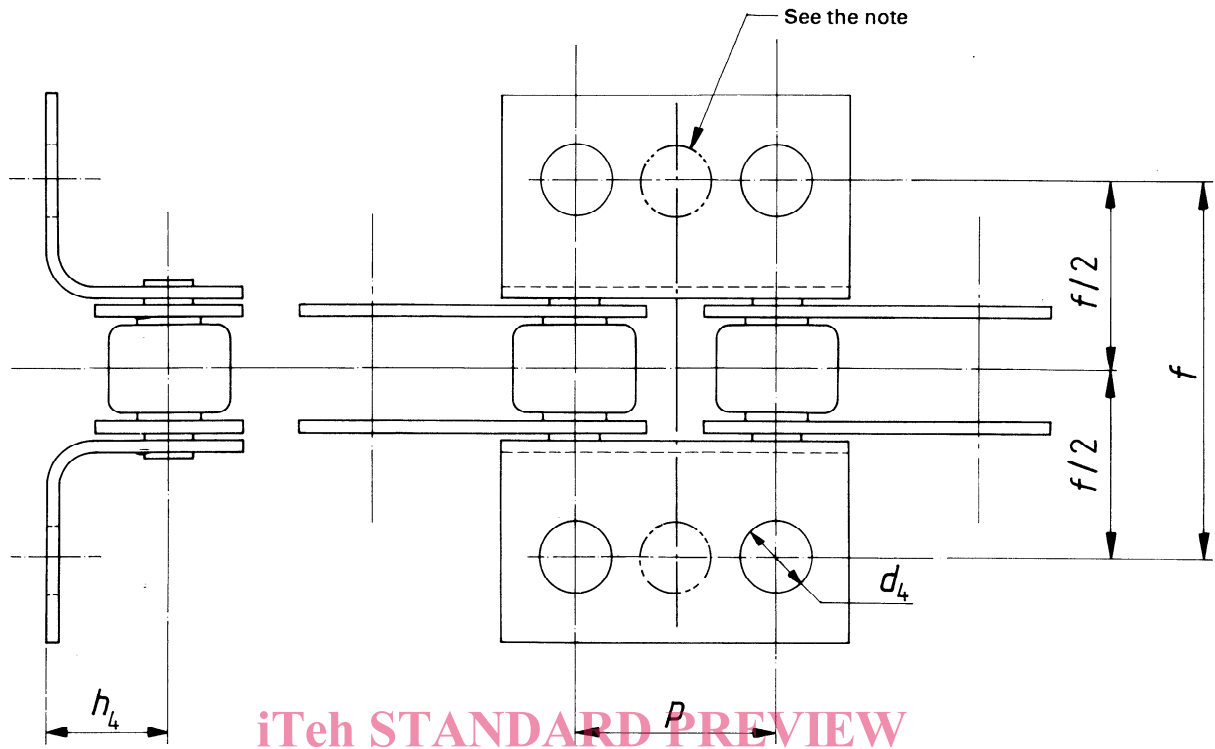
4.5 Marking

The marking shall be the same as would be shown on the chain plates replaced by an integral construction attachment (see 3.7).

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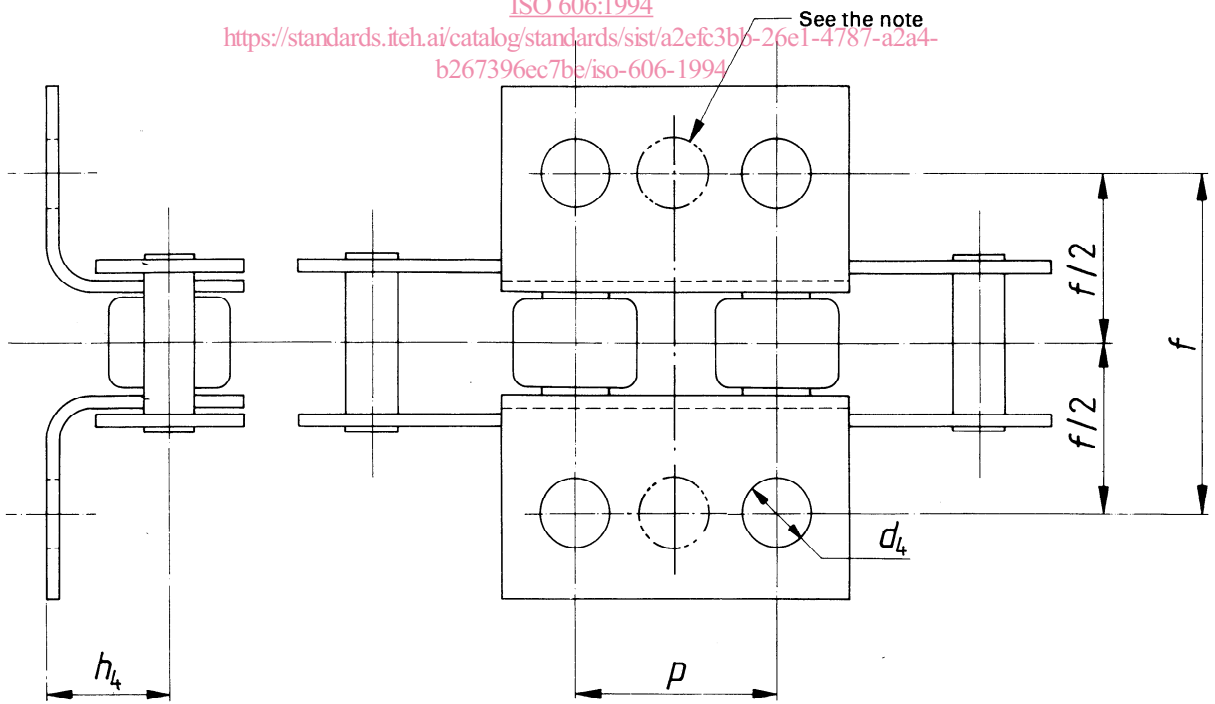
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a) On outer link

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b) On inner link

NOTE — K2 attachment plates each have two attachment holes. K1 plates are similar except that they have one hole, located centrally (see 4.2).

Figure 4 — K attachment plates