TC 70

International Standard ISO 3046/6

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Reciprocating internal combustion engines — Performance — Part 6 : Overspeed protection

Moteurs alternatifs à combustion interne — Performances — Partie 6 : Protection contre la survitesse

First edition — 1980-08-01

UDC 621.43.018.6 **Ref. No. ISO 3046/6-1980 (E)**

Descriptors : internal combustion engines, reciprocating engines, speed limitation, specifications.

Price based on 2 pages

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3046/6 was developed by Technical Committee ISO/TC 70, *Internal combustion engines*, and was circulated to the member bodies in November 1978.

It has been approved by the member bodies of the following countries :

Australia	Italy	Switzerland
Austria	Korea, Dem. P. Rep. of	Turkey
Belgium	Korea, Rep. of	United Kingdom
Chile	Mexico	USA
Czechoslovakia	Netherlands	USSR
Denmark	Romania	Yugoslavia
Germany, F. R.	South Africa, Rep. of	
India	Spain	

The member body of the following country expressed disapproval of the document on technical grounds :

France

Printed in Switzerland

Reciprocating internal combustion engines — Performance — Part 6 : Overspeed protection

1 Scope

This International Standard establishes general requirements and definitions for overspeed limiting devices used for the protection of reciprocating internal combustion engines. Where necessary, individual requirements can be given for particular engine applications.

2 Field of application

This International Standard applies to reciprocating internal combustion engines for land, rail-traction and marine use, excluding engines used to propel road construction and earth-moving machines, agricultural and industrial types of tractors, road vehicles and aircraft.

3 Definitions

3.1 overspeed limiting device : A combination of speed sensing and actuating elements which control the fuel supply and/or the intake of air and/or the ignition system to the engine when a predetermined speed is exceeded.

3.2 set point : The speed at which the overspeed limiting device is activated.

3.3 adjustment range : The range of speeds over which the set point can be adjusted.

3.4 response time : The time interval between the sensing of the overspeed condition and activation of the overspeed limiting device.

4 General requirements

4.1 Engines and their driven machinery have a limiting speed which cannot be exceeded without the risk of damage.

4.2 The use of an overspeed limiting device, and any special requirements for it, shall be determined by the application and/or by agreement between the manufacturer and the purchaser, and/or by inspecting and/or legislative authorities, and/or by classification societies specified by the purchaser.

4.3 The supplier of the set shall be responsible for ensuring that the set point of the device is satisfactory with respect to the limiting speed described in 4.1.

4.4 The set point, the adjustment range and the response time of the overspeed limiting device (see figure) shall be chosen so that all parts of the engine and its driven machinery are protected from damage due to overspeed.

4.5 The overspeed limiting device shall function at all levels of power of the engine.

4.6 The engine manufacturer shall specify the method and frequency of checking the function of the overspeed limiting device.

5 Overspeed protection features

5.1 The overspeed limiting device shall not affect in any way the normal operation of the engine control systems. However, upon reaching an overspeed condition, the overspeed limiting device shall override the relevant engine control systems to correct the overspeed condition or to stop the engine.

5.2 An overspeed shutdown condition shall cause the overspeed limiting device to latch in the shutdown position. Generally, restarting the engine shall require manual reset of the latching mechanism. However, automatic reset may be permitted in special applications.

5.3 The overspeed limiting device shall give an indication of its activation.

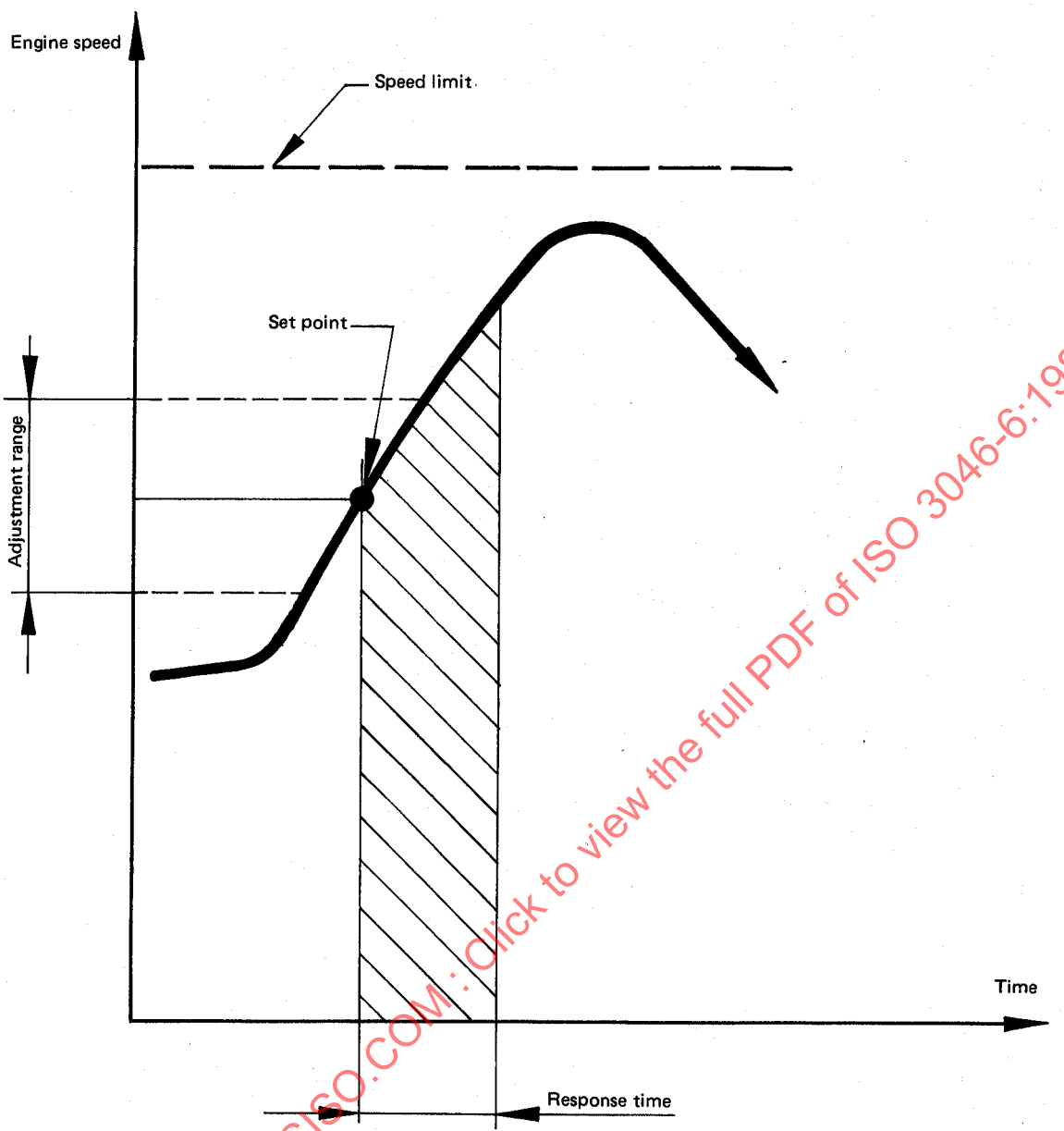

Figure — Set point, adjustment range and response time of an overspeed limiting device