UDC 629.7.052-514

Ref. No. : ISO/R 440-1969 (E)

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

tc 20

ISO RECOMMENDATION

R 440

SHAPE, SIZE AND DIRECTION OF OPERATION OF LEVER CONTROLS ON AIRCRAFT

1st EDITION

April 1969

Withdrawn in 1982

For each individual country the only valid standard is the national standard of that country.

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 440, *Shape, size and direction of operation of lever controls on aircraft,* was drawn up by Technical Committee ISO/TC 20, *Aircraft and space vehicles,* the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question led to the adoption of a Draft ISO Recommendation.

In May 1960, this Draft ISO Recommendation (No. 369) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Belgium	Israel	Spain
Canada	Italy	Sweden
Chile	Japan	United Kingdom
Colombia	Netherlands	Yugoslavia
Czechoslovakia	New Zealand	
Greece	Romania	

One Member Body opposed the approval of the Draft :

Germany

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in April 1969, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 440 April 1969

SHAPE, SIZE AND DIRECTION OF OPERATION OF LEVER CONTROLS ON AIRCRAFT

1. In general, the direction of operation of aircraft lever controls should be in accordance with the principle that forward or upward movement of controls tends to increase the performance of the component or aircraft.

2. For the following aircraft controls, where actuated by a lever, the shape and general proportions of the control knob or handle of the lever should approximate closely to those indicated in Table 1. The direction of the operation of the lever should also comply with that indicated in Table 1.

Throttle control Mixture control Engine supercharger control	See page 4
Air intake control R.P.M. control Ignition Fuel shut-off	See page 5
Emergency shut-off and fire extinguisher control Air brake Landing flaps control	See page 6
Parachute brake Spoiler Landing gear control	See page 7

3. For aircraft controls other than those included in Table 1, the control knobs or handles of the lever should be of a shape different from those shown in Table 1.

4. Where braking propellers are fitted, operation should be by pulling the throttle back past normal "throttle closed" position to give progressively greater reverse thrust.

5. Operation of a trimming device by levers should result in movement of the aircraft in the same direction. Operation by rotary control should be in accordance with Table 2.

6. Only emergency controls should be coloured red.

TABLE 1 – Shape, size and direction of operation of lever controls on aircraft

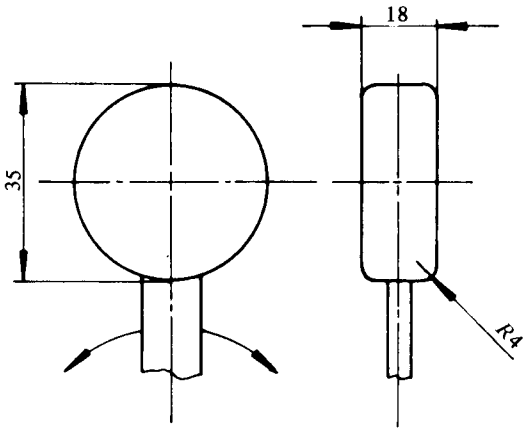
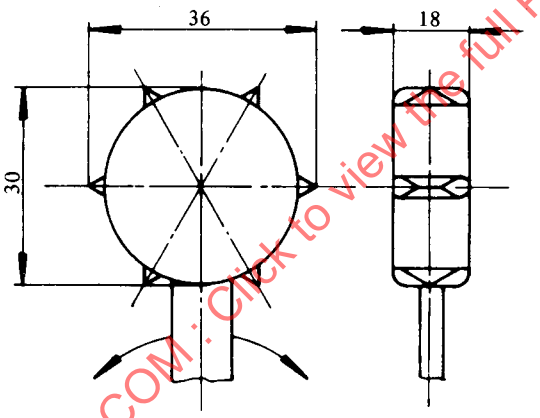
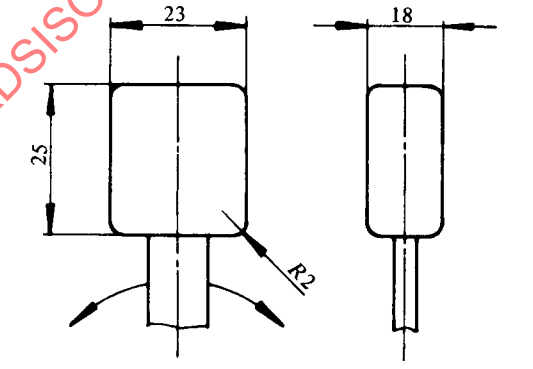
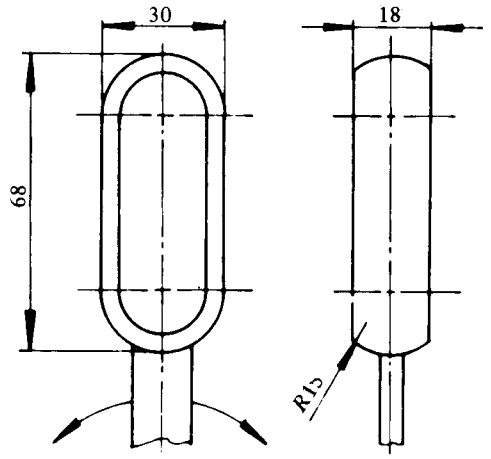
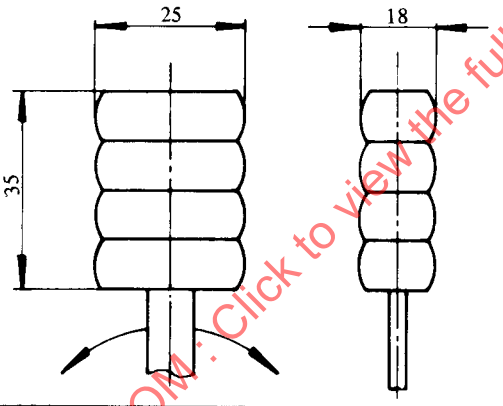
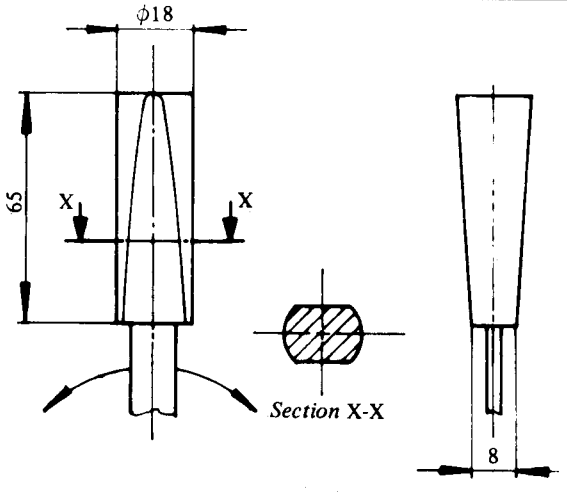
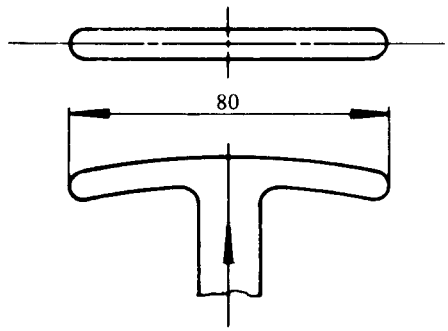
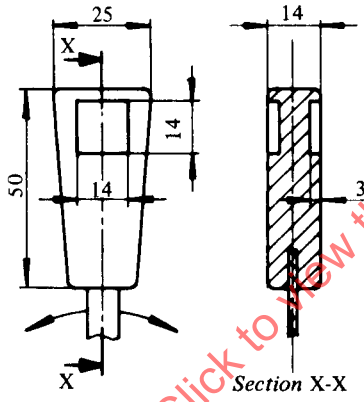
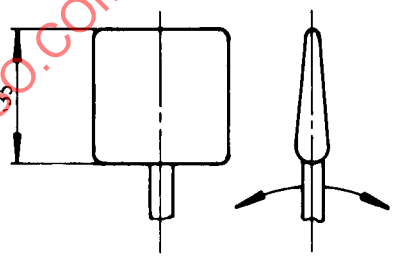
Type of control	Shape and approximate size (Dimensions in millimetres)	Operation of control	
		Movement	Result of movement
Throttle control		Forward	Increased forward thrust
Mixture control		Forward or upward	Rich mixture
Engine supercharger control		Forward or upward	Engage high gear

TABLE 1 – **Shape, size and direction of operation of lever controls on aircraft** (*continued*)

Type of control	Shape and approximate size (Dimensions in millimetres)	Operation of control	
		Movement	Result of movement
Air intake control		(*a*) Forward upward (*b*) Centre (*c*) Aft down	(*a*) Ram (normal) (*b*) Filter (*c*) Hot
R.P.M.* control		Forward	High r.p.m.*
Ignition	Tumbler switch or rotary switch	Upward or clockwise	Ignition on
Fuel shut-off		Forward or upward	Valve open

* R.P.M. : revolutions per minute.

TABLE 1 – **Shape, size and direction of operation of lever controls on aircraft** (*continued*)

Type of control	Shape and approximate size (Dimensions in millimetres)	Operation of control	
		Movement	Result of movement
Emergency shut-off		Pull	Shut off (closed)
Fire extinguisher control			Fire extinguisher in operation
Air brake (i.e. any device primarily used to increase the drag of an aircraft at will)		Forward or upward	Flap retracted
Landing flaps control		Forward or upward	Flap retracted