
International Standard



3174

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Aircraft — Connections for checking hydraulic systems by ground appliances

Aéronefs — Raccords pour la vérification des circuits hydrauliques par des appareils au sol

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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 3174 was developed by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, and was circulated to the member bodies in March 1979.

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

Austria	Germany, F. R.	Romania
Belgium	Italy	South Africa, Rep. of
Canada	Japan	Spain
Chile	Korea, Rep. of	United Kingdom
Czechoslovakia	Libyan Arab Jamahiriya	USA
France	Poland	USSR

No member body expressed disapproval of the document.

Aircraft — Connections for checking hydraulic systems by ground appliances

1 Scope and field of application

This International Standard specifies the connections installed, in aircraft, in hydraulic system pressure and suction lines, intended for checking the systems by means of ground appliances.

It also specifies the basic overall and connecting dimensions.

2 References

ISO 2901, *ISO metric trapezoidal screw threads — Basic profile and maximum material profiles.*

ISO 2904, *ISO metric trapezoidal screw threads — Basic dimensions.*

3 Basic connection elements

The basic elements and dimensions are as follows :

- the centring surface : Diameter D and length L (see figure 1);
- the connecting thread (see figure 2);
- the distance from the face of the aircraft connection to the valve in the closed position L_1 ;

- the travel of the valve X .

The dimensions of the aircraft connection shall correspond to those shown in figure 1 and table 1.

4 Designated applications and minimum through cross-sections of connections

The dimensions of the minimum through cross-sections of the connections, depending on their designated applications and connecting threads, shall comply with those given in table 2.

5 Connecting thread

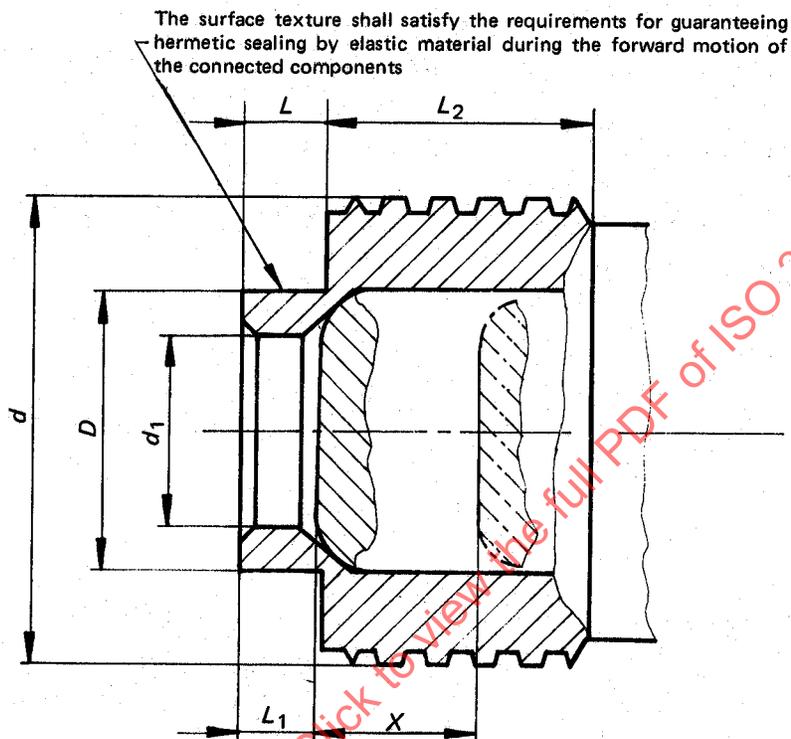
5.1 The profile, basic elements and dimensions of the 3-start thread shall conform to ISO 2901 and ISO 2904.

5.2 The end of the thread shall be relieved in order to ensure ease of engagement.

5.3 The thread shall be easily screwed up or unscrewed from any position of engagement.

6 Installation of the connection

The clearance envelope for the connection on the aircraft is given in figure 2.



- d : External diameter of the trapezoidal connecting thread
- D : Diameter of centring surface
- d_1 : Diameter of orifice under pusher for opening the valve
- L : Length of centring surface
- L_1 : Distance from face to valve in the closed position
- L_2 : Length of connecting thread
- X : Travel of valve

Figure 1 — Basic dimensions of the aircraft connection

Table 1 — Basic coupling dimensions of aircraft connections

Dimensions in millimetres (inch dimensions in parentheses)

Thread	d_1		D		L		L_1		L_2		X	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
T _r 26 × 3(P3)	10,62 (0.418)	10,5 (0.413)	14,0 (0.551)	13,93 (0.548)	4,6 (0.181)	4,5 (0.177)	5,25 (0.206)	4,75 (0.187)	12,5 (0.492)	11,0 (0.433)	5,21 (0.205)	4,91 (0.193)
T _r 30 × 3(P3)	14,62 (0.575)	14,5 (0.571)	20,0 (0.784)	19,915 (0.744)	6,1 (0.240)	6,0 (0.236)	5,75 (0.226)	5,25 (0.206)	16,0 (0.630)	14,5 (0.570)	9,37 (0.368)	8,97 (0.353)
T _r 32 × 3(P3)	14,62 (0.575)	14,5 (0.571)	20,0 (0.784)	19,915 (0.744)	6,1 (0.240)	6,0 (0.236)	5,75 (0.226)	5,25 (0.206)	16,0 (0.630)	14,5 (0.570)	9,37 (0.368)	8,97 (0.353)
T _r 40 × 3(P3)	19,14 (0.753)	19,0 (0.748)	26,0 (1.023)	25,915 (1.020)	6,6 (0.259)	6,5 (0.255)	5,75 (0.226)	5,25 (0.206)	18,5 (0.728)	17,0 (0.669)	11,69 (0.460)	10,69 (0.420)
T _r 46 × 3(P3)	23,64 (0.930)	23,5 (0.925)	30,0 (1.181)	29,915 (1.177)	6,6 (0.259)	6,5 (0.255)	6,25 (0.246)	5,75 (0.226)	21,0 (0.826)	19,5 (0.767)	12,94 (0.509)	12,54 (0.493)
T _r 52 × 3(P3)	27,64 (1.088)	27,5 (1.082)	36,0 (1.417)	35,9 (1.413)	7,6 (0.299)	7,5 (0.295)	6,75 (0.265)	6,25 (0.246)	26,0 (0.033)	24,5 (0.964)	14,55 (0.572)	14,15 (0.557)
T _r 55 × 3(P3)	27,64 (1.088)	27,5 (1.082)	36,0 (1.417)	35,9 (1.413)	7,6 (0.299)	7,5 (0.295)	6,75 (0.265)	6,25 (0.246)	26,0 (1.023)	24,5 (0.964)	14,55 (0.572)	14,15 (0.557)
T _r 75 × 4(P3)	42,14 (1.659)	42,0 (1.653)	52,0 (2.047)	51,88 (2.042)	10,1 (0.397)	10,0 (0.393)	8,25 (0.324)	7,75 (0.305)	38,0 (1.496)	36,5 (1.437)	16,7 (0.657)	16,3 (0.641)

Table 2 — Dimensions of minimum through cross-sections of connections depending on their designated application and connecting threads

Thread	Minimum through cross-section				Designation
	Specific diameter		Surface area		
	mm	in	mm ²	in ²	
T _r 26 × 3(P3)	6	0.236 2	28	0.043 9	Pressure
T _r 32 × 3(P3)	10	0.393 7	78	0.124 6	
T _r 40 × 3(P3)	14	0.551 1	153	0.244 4	
T _r 55 × 3(P3)	22	0.866 5	380	0.608 0	
T _r 30 × 3(P3)	8	0.314 9	50	0.080 0	Suction
T _r 46 × 3(P3)	16	0.629 9	201	0.321 0	
T _r 52 × 3(P3)	22	0.866 5	380	0.608 0	
T _r 75 × 4(P3)	32	1.259 8	804	1.245 1	

NOTE — The profile, basic elements and dimensions of the 3-start thread shall conform to ISO 2901 and ISO 2904.

Section A-A

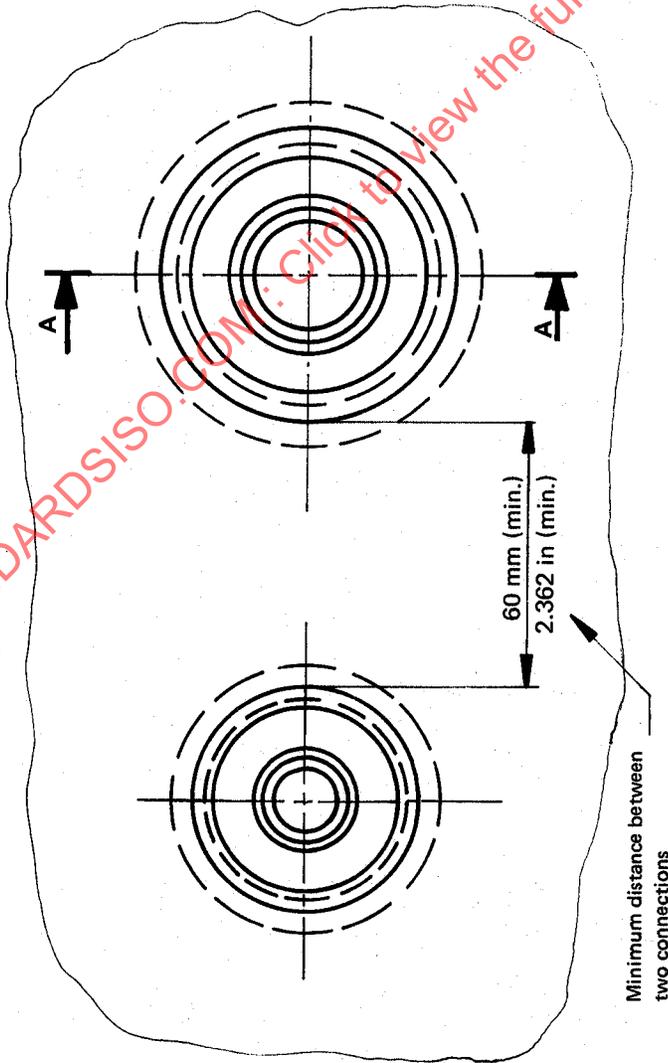
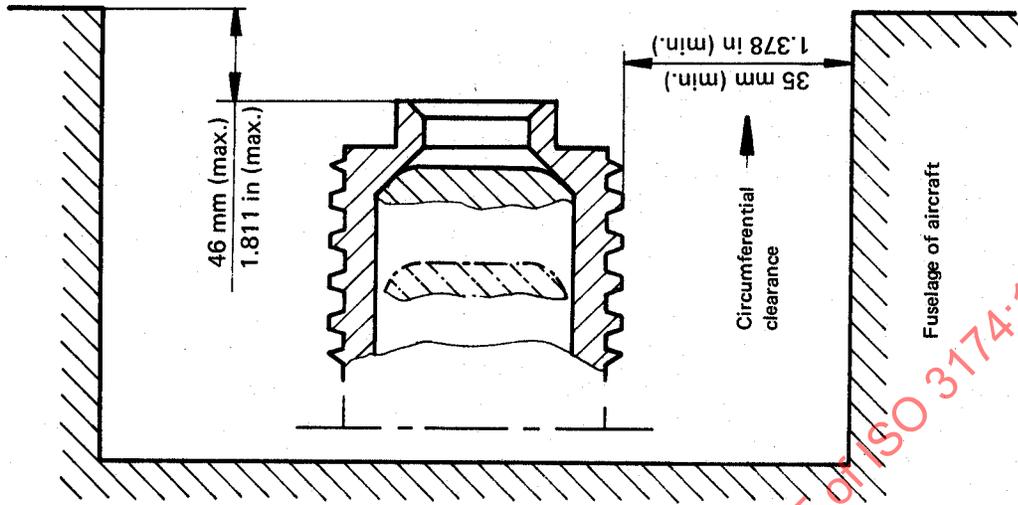


Figure 2 — Clearance envelope

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