

BRITISH STANDARDS INSTITUTION

BRITISH STANDARD SPECIFICATIONS FOR GRUB SCREWS FOR AERONAUTICAL PURPOSES

ICS: 49.030.20

SCOPE

1. These British Standards specify the material, dimensions and finish of grub screws for aeronautical purposes.

A3 CAUTION. BS A 55 grub screws have cadmium as a plating material which has been restricted and/or banned for use in many countries owing to environmental and health concerns; they should not be used in new product designs. Local officials should be consulted about any concerns on using cadmium-plated parts. **A3**

MATERIAL

2. The grub screws shall be machined from the appropriate material specified in Table 1.

FREEDOM FROM DEFECTS

2A. *a.* The grub screws shall be free from harmful defects

b. Grub screws may be rejected at any time for faults in, or revealed by, manufacture although they have been made from material passed previously for chemical composition and mechanical tests.

****A3** PROTECTIVE FINISH **A3****

3. Finished grub screws in En. 1A material shall be uniformly coated with cadmium in accordance with the latest issue of **A3** Def Stan 03-19 or BS EN 2133 **A3**.

DIMENSIONS

4. The grub screws, after coating, where an anti-corrosion coating is applied, shall conform to the dimensions specified in Table 2.

SCREW THREADS

5. The grub screws shall, for their full screwed length, have their screw threads in accordance with the sizes and tolerances laid down in the appropriate British Standard specification as follows:—

a. B.S.F. grub screws. The screw threads on all B.S.F. grub screws shall be in accordance with **A3** BS 84:2007 **A3**, and shall conform to the “medium class” limits and tolerances specified in Table 10 of that standard.

b. B.A. grub screws. (i) The screw threads on all B.A. grub screws shall conform (after coating, if required) to the limits and tolerances specified for close class bolts in **A3** BS 93:2008 **A3**, ‘British Association (B.A.) screw threads’.

(ii) The minimum major, effective, and minor diameters of threads of grub screws required to be coated may, before coating, be 0.001 in smaller than the minimum dimensions specified in **A3** BS 93:2008, Table 2 **A3**, in order to avoid any undue restriction of the tolerance allowed for screwing.

(iii) In view of the tendency for closely fitting threads in stainless steel to seize when tightened together, the maximum major, effective, and minor diameters of stainless steel grub screws shall be 0.001 in below the maximum specified in **A3** BS 93:2008, Table 2 **A3**. The full close class tolerance specified in **A3** Table 2 **A3** that standard shall, however, be allowed.

IDENTIFICATION

6. The grub screws shall be identified for ordering purposes by the number of the relevant British Standard as shown in Table 1, together with the appropriate part number shown in Table 2, e.g. a cadmium plated freecutting steel 2 B.A. grub screw of length $\frac{3}{8}$ in., is A. 55 C. 10.

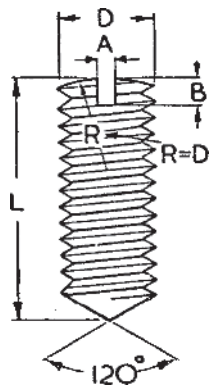
TABLE 1
BRITISH STANDARD NUMBERS AND MATERIALS

British Standard Number	Material	
	Description	A3 Specification A3
A. 55	Free-cutting steel	A3 BS EN 10087-2 † 11SMn30 (1.0715) A3
A. 56	Stainless steel	A3 BS EN 10088-3 † X5CrNi18-10(1.4301) or X5CrNiMo17-12-2(1.4401) or X8CrNiS18-9(1.4305) or X2CrNi18-9(1.4307) or X3CrNiMo17-13-3(1.4436) or X2CrNiMo17-12-2(1.4404) or X6CrNiMoTi17-12-2(1.4571) or X17CrNi16-2(1.4057) or X6CrNiTi18-10(1.4541) A3

† Latest issue.

A3 Footnote deleted. **A3**

TABLE 2. DIMENSIONS AND PART NUMBERS



Nominal size	Diameter D	Width of slot A		Depth of slot B		Standard Length L in inches ^{-0.000} _{+0.030} and part numbers							
		min.	max.	min.	max.	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8
6 B.A.	in 0.110	in 0.025	in 0.031	in 0.030	in 0.050	A3	A4	A5	A6	A8	—	—	—
4 B.A.	0.142	0.029	0.035	0.040	0.065	—	B4	B5	B6	B8	B10	—	—
2 B.A.	0.185	0.037	0.043	0.050	0.080	—	—	C5	C6	C8	C10	C12	—
1/4 in B.S.F.	0.250	0.054	0.060	0.070	0.100	—	—	—	E6	E8	E10	E12	E14

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BS A 55 and 56:1951+A3:2012 supersedes BS A 55 and 56:1951 (incorporating Amendment No. 2:1958), which is withdrawn.

The start and finish of text introduced or altered by Amendment No.3:2012 is indicated in the text by tags **A3** and **A3**. Minor editorial changes are not tagged. Changes from Amendments No.1 and No.2 are not shown.

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