

इंटरनेट

मानक

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Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

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“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 8535 (1987): Bolts, screws, nuts and accessories - Terminology and nomenclature [PGD 31: Bolts, Nuts and Fasteners Accessories]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

**BOLTS, SCREWS, NUTS AND ACCESSORIES—
TERMINOLOGY AND NOMENCLATURE**

(First Revision)

UDC 621·882 : 001·4

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

*Indian Standard***BOLTS, SCREWS, NUTS AND ACCESSORIES —
TERMINOLOGY AND NOMENCLATURE***(First Revision)***National Foreword**

This Indian Standard (First Revision), which is identical with ISO 1891-1979 ' Bolts, screws, nuts and accessories — Terminology and nomenclature ' issued by the International Organization for Standardization (ISO), was adopted by the Bureau of Indian Standards on the recommendation of the Bolts, Nuts and Fasteners Accessories Sectional Committee and approval of the Engineering Division Council.

The original version of this standard, IS : 8535-1977 ' Terminology for features of fasteners ' was based on ISO/DIS 1891.2 ' Fasteners — Bolts, screws, nuts and accessories — Terminology and nomenclature ' issued by the ISO. The nomenclature and terminology of fasteners was also covered in another standard IS : 8537-1977 ' Nomenclature and terminology of fasteners ' which was also based on ISO/DIS 1891.2. This revision now covers the nomenclature and terminology which was so far covered in the two separate Indian Standards IS : 8535-1977 and IS : 8537-1977. IS : 8537-1977 shall be withdrawn consequent to publication of this standard. In this revision, reference to published Indian Standards on fasteners has been deleted. By adoption of ISO 1891-1979, this Indian Standard has been harmonized with the International Standard.

Wherever the words ' International Standard ' appear, referring to this standard, they should be read as ' Indian Standard '.

Additional Information

This Indian Standard is the national implementation of ISO 1891-1979; as such only the English text has been reproduced. If the French, Russian, German, Italian or Spanish text is required, reference should be made to original ISO publication.

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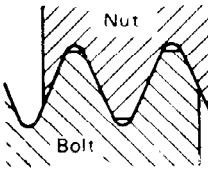
1. Scope and Field of Application

This International Standard lays down the terminology and nomenclature of bolts, screws, nuts and accessories in English, French, Russian, German, Italian and Spanish, recommended for use unless otherwise specified in the appropriate product standard.

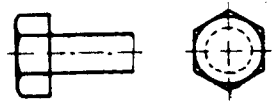
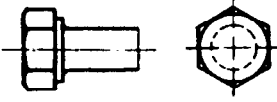
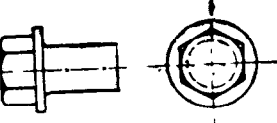
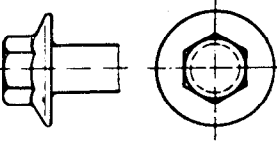
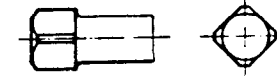
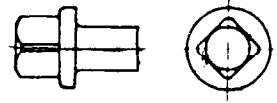
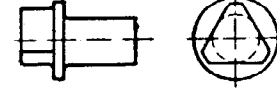
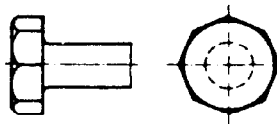
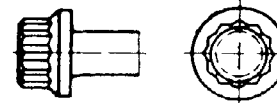
At present, not all of the fasteners and accessories listed are covered by ISO publications. For the main part, the items have been selected from existing national standards. Also included are obsolescent types (those being used up from stock) in order that their terminology may be standardized at the same time.


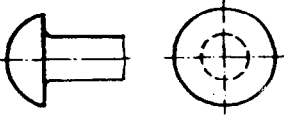
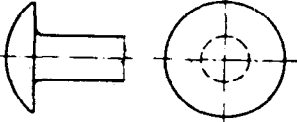
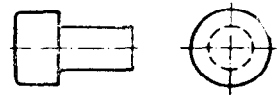
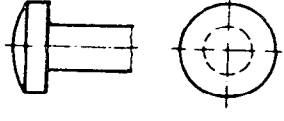
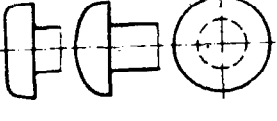
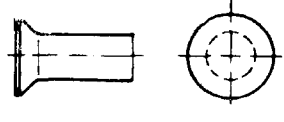
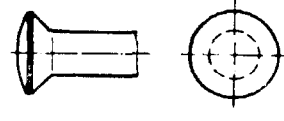
The drawings are essentially diagrammatic, in particular those showing bolts and screws having special characteristics dealt with, for example, in clauses 18 and 19. However, it is recommended that these drawings be used as a base whenever possible.

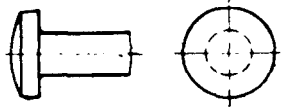
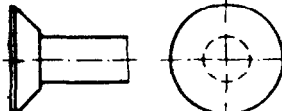
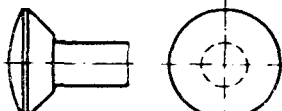
2. Screw Threads

No.	Figure	Designation
2.1		Screw thread
2.2		Taper screw thread
2.3		Tapping screw thread (spaced thread)
2.4		Wood screw thread
2.5		Metric thread (SI) ISO metric thread Metric fine pitch thread ISO metric fine pitch thread Inch thread Unified screw thread (ISO inch) Whitworth thread Pipe thread Whitworth pipe thread

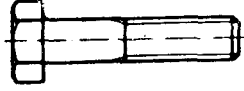
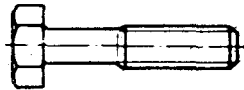
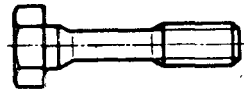
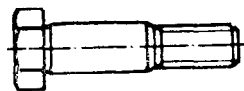
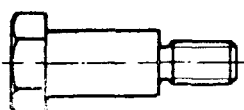
3. Shapes of Heads

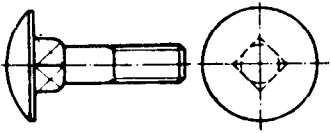
No.	Figure	Designation
3.1		Hexagon head
3.2		Hexagon head with washer face
3.3		Hexagon head with collar
3.4		Hexagon head with flange
3.5		Square head
3.6		Square head with collar
3.7		Triangle head with collar
3.8		Octagonal head
3.9		12 point flange head (bihexagonal head)

No.	Figure	Designation
3.10		T-head (hammer head)
3.11		Round head
3.12		Mushroom head (truss head)
3.13		Cheese head
3.14		Raised cheese head (fillister head)
3.15		Pan head
3.16		Countersunk head (flat head)
3.17		Raised countersunk head (oval head)

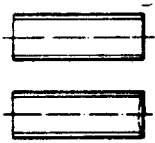
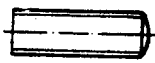
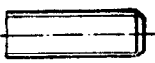
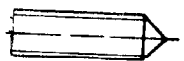
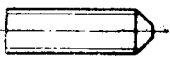
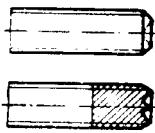
No.	Figure	Designation
3.18		Binding head
3.19		Undercut countersunk head (undercut flat head)
3.20		Undercut raised countersunk head (undercut oval head)

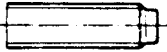
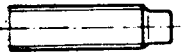
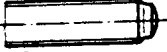
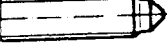
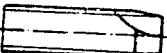
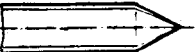
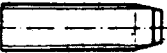
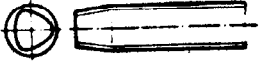
4. Forms of Shank

4.1		Normal shank (nominal shank diameter = nominal thread diameter)
4.2		Reduced shank (Shank diameter \approx effective pitch diameter)
4.3		Waisted shank (shank diameter $<$ minor diameter)
4.4		Increased shank (shank diameter $>$ thread diameter)
4.5		Shoulder

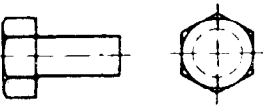
No.	Figure	Designation
4.6		Square neck

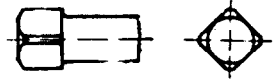
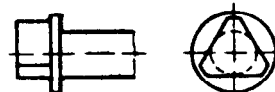
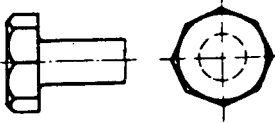
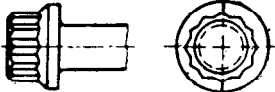
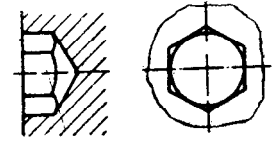
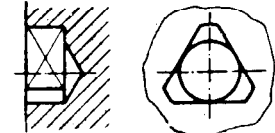
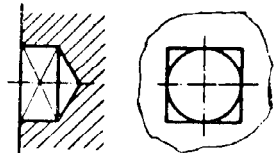
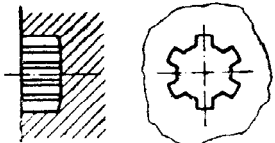
5. Screw and Bolt Ends

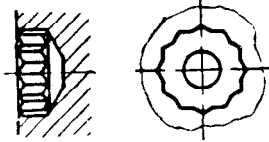
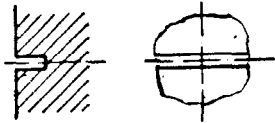
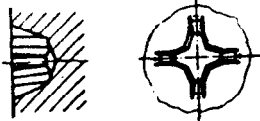
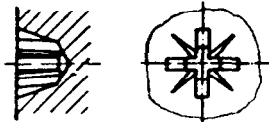
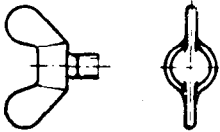
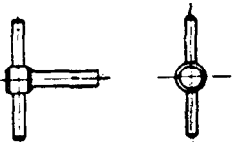
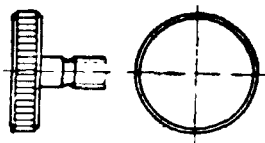
Ends for general use (5.1 to 5.3)		
5.1		As-rolled end
5.2		Rounded end
5.3		Chamfered end
Ends for special purposes (5.4 to 5.10)		
5.4		Cone point
5.5		Truncated cone point
5.6		Cup point

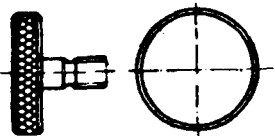
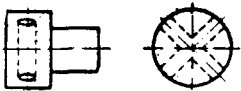
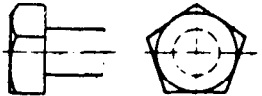
No.	Figure	Designation
5.7		Short dog point
5.8		Long dog point
5.9		Short dog point with rounded end
5.10		Short dog point with truncated cone end
5.11		Scrape point
5.12		End for self-tapping screw (tapping screw type AB point)
5.13		End for self-tapping screw (tapping screw type B point)
5.14		End for thread rolling screw (thread formed by deformation)

6. Driving Features

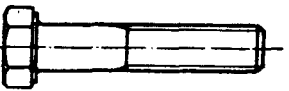
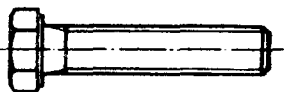
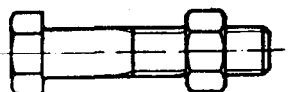
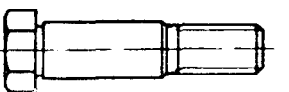

6.1		Hexagon
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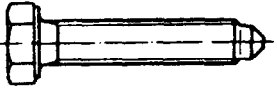

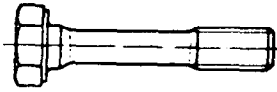
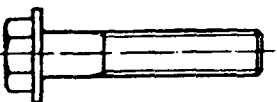
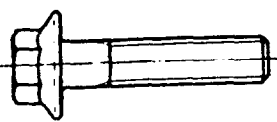
No.	Figure	Designation
6.2		Square
6.3		Triangle
6.4		Octagon
6.5		12 point (bihexagon)
6.6		Hexagon socket
6.7		Triangle
6.8		Square socket
6.9		Six-spline socket

No.	Figure	Designation
6.10		12 point socket (bihexagon socket)
6.11		Slot
6.12		Cross recess (Philips)
6.13		Cross recess (Pozidriv)
6.14		Wing
6.15		Tommy
6.16		Straight knurl

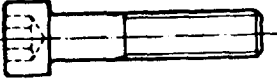
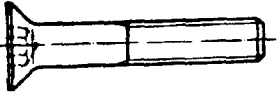
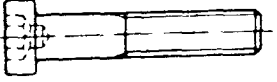
No.	Figure	Designation
6.17		Diamond knurl
6.18		Cross hole (set pin holes in side)
6.19		Pentagon

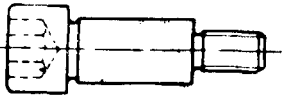
7. Hexagon Bolts and Screws

7.1		Hexagon bolt
7.2		Hexagon screw
7.3		Hexagon bolt with hexagon nut
7.4		Hexagon fit bolt (and undercut adjacent to head)
7.5		Hexagon set screw with full dog point (and undercut adjacent to head)

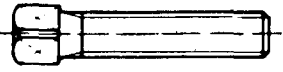

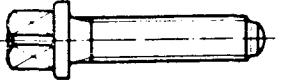
No.	Figure	Designation
7.6		Hexagon set screw with half dog point and flat cone point
7.7		Hexagon bolt with large head (heavy series)
7.8		Hexagon bolt with waisted shank (reduced shank)
7.9		Hexagon bolt with collar
7.10		Hexagon bolt with flange

8. Hexagon Socket Head Cap Screws

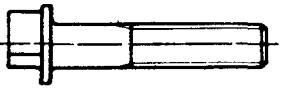
8.1		Hexagon socket head cap screw
8.2		Hexagon socket countersunk (flat) head cap screw
8.3		Hexagon socket head cap screw with centre

No.	Figure	Designation
8.4		Hexagon socket head shoulder screw

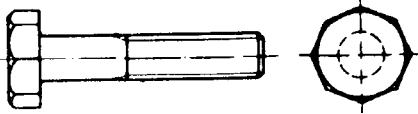
9. Square Head Bolts

9.1		Square head bolt
9.2		Square head bolt with collar
9.3		Square head bolt with collar and half dog point

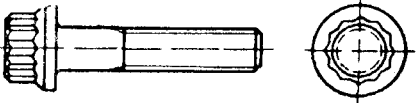
10. Triangle Head Bolts

10.1		Triangle head bolt with collar
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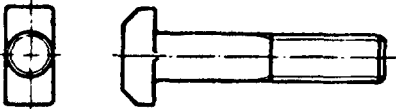
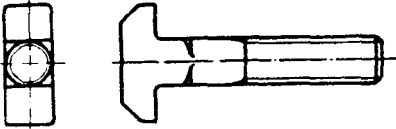
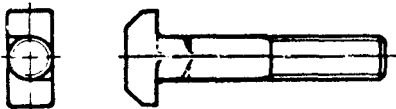
11. Octagonal Head Bolts

11.1		Octagon bolt
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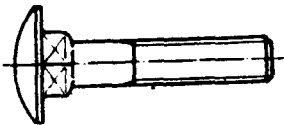
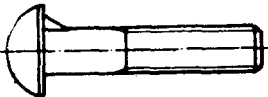
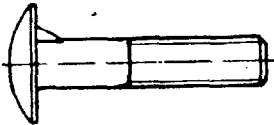
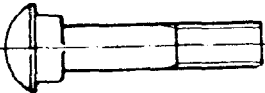
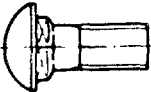
12. 12 Point Screws

12.1		12 Point flange screw (bihexagonal head screw)
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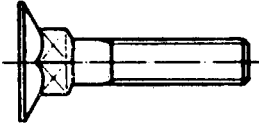
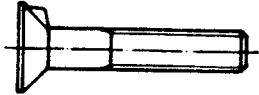
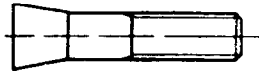
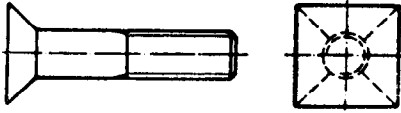
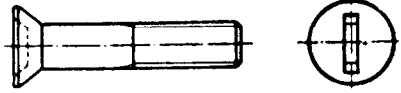
13. T-Head Bolts

No.	Figure	Designation
13.1		T-head bolt (hammer head bolt)
13.2		T-head bolt with square neck
13.3		T-head bolt with double nib

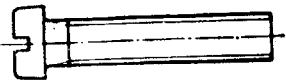
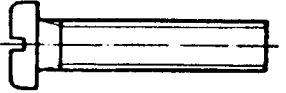
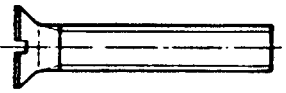
14. Round Head Bolts

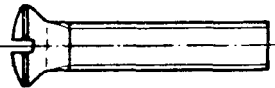


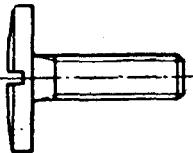
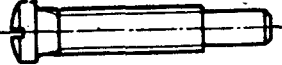
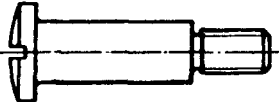


14.1		Mushroom head square neck bolt (cup square neck bolt; cup square bolt; coach bolt)
14.2		Cup head nib bolt (cup nib bolt)
14.3		Mushroom head nib bolt (cup nib bolt; coach bolt)
14.4		Cup oval neck bolt (fish bolt)
14.5		Cup square neck bolt (bolt for railway ties)

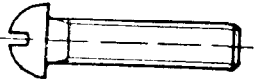

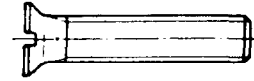
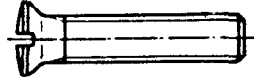
15. Countersunk Flat Bolts

No.	Figure	Designation
15.1		Flat countersunk square neck bolt
15.2		Flat countersunk nib bolt
15.3		Deep flat countersunk bolt
15.4		Flat square countersunk bolt
15.5		Countersunk head screw with forged slot

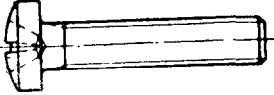
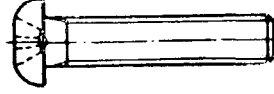
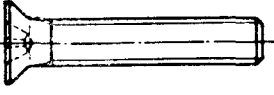
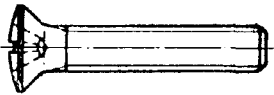
16. Slotted Head Screws

16.1		Slotted cheese head screw
16.2		Slotted pan head screw
16.3		Slotted countersunk (flat) head screw

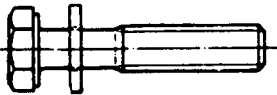
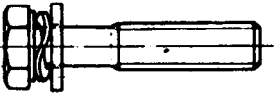
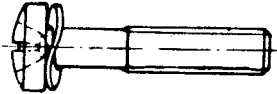
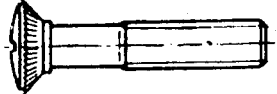
No.	Figure	Designation
16.4		Slotted raised countersunk (oval) head
16.5		Slotted capstan screw
16.6		Slotted small raised cheese head screw
16.7		Slotted large raised cheese head screw
16.8		Slotted small raised cheese head screw with full dog point
16.9		Slotted raised cheese heat fit screw (shoulder screw)
16.10		Slotted raised countersunk head screw with full dog point
16.11		Slotted countersunk head screw with full dog point

No.	Figure	Designation
16.12		Slotted round head screw
16.13		Slotted raised cheese (fillister) head screw
16.14		Slotted shallow countersunk (flat trim) head screw
16.15		Slotted shallow raised countersunk (oval trim) head screw

17. Cross Recessed Head Screws

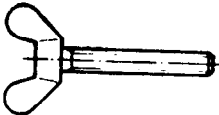
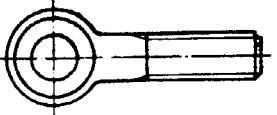
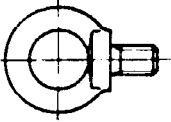
17.1		Cross recessed raised cheese (fillister) head screw
17.2		Cross recessed pan head screw
17.3		Cross recessed countersunk flat head screw
17.4		Cross recessed raised countersunk (oval) head screw

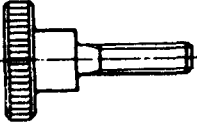
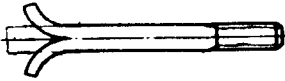

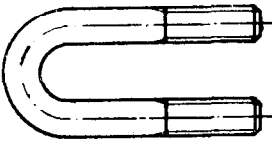


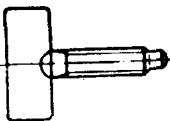
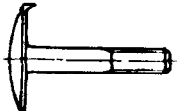
18. Screws with Captive Components

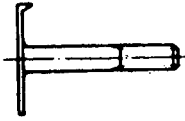
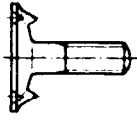
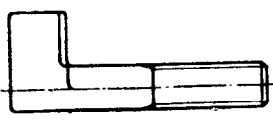
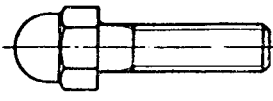
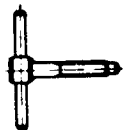
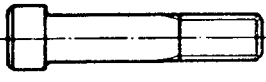
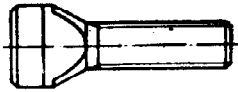
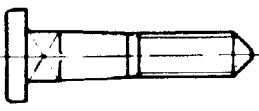
No.	Figure	Designation
18.1		Hexagon screw with captive plain washer
18.2		Hexagon screw with captive spring and plain washer
18.3		Raised cheese head screw with captive spring washer
18.4		Raised countersunk head screw with captive countersunk serrated lock washer

Note — The figures given are examples for captive components only.

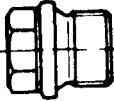




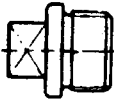
19. Miscellaneous Bolts and Screws

19.1		Wing screw
19.2		Eye bolt
19.3		Lifting eye bolt

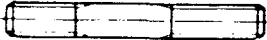
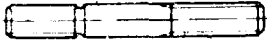
No.	Figure	Designation
19.4		Knurled thumb screw
19.5		Masonry bolt
19.6		Foundation bolt
19.7		Stirrup bolt (U-bolt)
19.8		Eyelet bolt
19.9		Weld stud (single end stud)
19.10		Flat leaf screw
19.11		Mushroom head anchor bolt

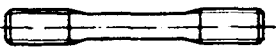
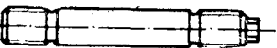
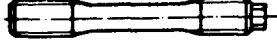
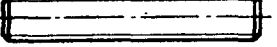
No.:	Figure	Designation
19.12		Flat head anchor bolt
19.13		Belting bolt (elevator bolt)
19.14		Clip bolt
19.15		Acorn hexagon head bolt
19.16		Tommy screw
19.17		Spring bolt
19.18		T-slot screw
19.19		Cover screw

20. Screw Plugs

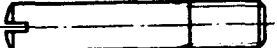
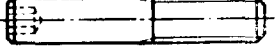
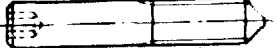
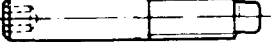
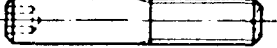
No.	Figure	Designation
20.1		Hexagon head screw plug
20.2		Hexagon socket screw plug
20.3		Hexagon socket pipe plug
20.4		Hexagon head pipe plug
20.5		Square socket screw plug
20.6		Square head screw plug

21. Stud

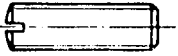
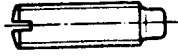
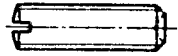
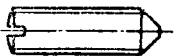
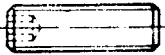
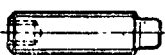
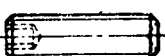
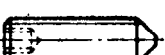
21.1		Stud
21.2		Stud with undercut (groove)

No.	Figure	Designation
21.3		Waisted stud
21.4		Double end stud with full shank
21.5		Double end stud with reduced shank (waisted stud)
21.6		Stud bolt





22. Headless Screw

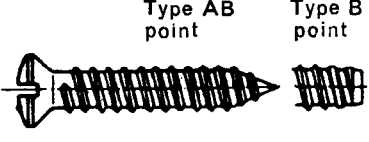


22.1		Slotted headless screw with flat chamfered end
22.2		Hexagon socket headless screw with flat chamfered end
22.3		Hexagon socket headless screw with cone point
22.4		Hexagon socket headless screw with full dog point
22.5		Hexagon socket headless screw with cup point

23. Slotted and Hexagon Socket Set Screw

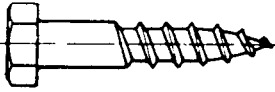

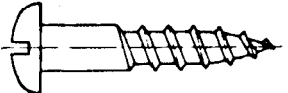
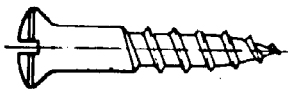
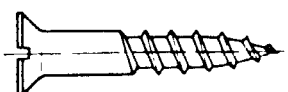

No.	Figure	Designation
23.1		Slotted set screw with flat point
23.2		Slotted set screw with full dog point
23.3		Slotted set screw with cup point
23.4		Slotted set screw with cone point
23.5		Hexagon socket set screw with flat point
23.6		Hexagon socket set screw with full dog point
23.7		Hexagon socket set screw with cup point
23.8		Hexagon socket set screw with cone point


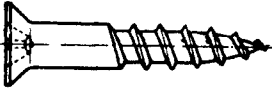
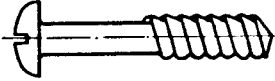
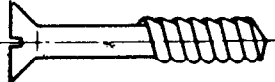
24. Self-Tapping Screws

24.1	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Type AB point</p>  </div> <div style="text-align: center;"> <p>Type B point</p>  </div> </div>	Hexagon head tapping screw
24.2		Slotted pan head tapping screw
24.3		Slotted countersunk (flat) head tapping screw



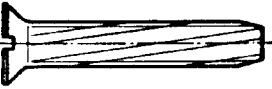
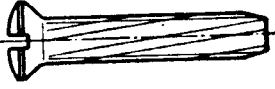



No.	Figure	Designation
24.4		Slotted raised countersunk (oval) head tapping screw
24.5		Cross recessed countersunk (flat) head tapping screw
24.6		Cross recessed raised countersunk (oval) head tapping screw

25. Wood Screws

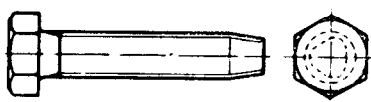
25.1		Hexagon head wood screw
25.2		Square head wood screw
25.3		Slotted round head wood screw
25.4		Slotted raised countersunk (oval) head wood screw
25.5		Slotted countersunk (flat) head wood screw
25.6		Cross recessed pan head wood screw

No.	Figure	Designation
25.7		Cross recessed raised countersunk (oval head) wood screw
25.8		Cross recessed countersunk (flat) head wood screw
25.9		Slotted round head drive screw
25.10		Slotted countersunk (flat) head drive screw

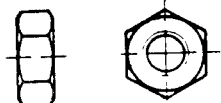



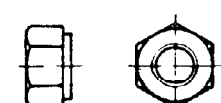
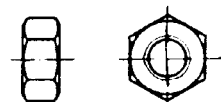
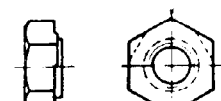
26. Thread Cutting (Metallic Drive) Screws

26.1		Hexagon head thread cutting screw
26.2		Slotted cheese head thread cutting screw
26.3		Slotted countersunk (flat) head thread cutting screw
26.4		Slotted raised countersunk head thread cutting screw
26.5		Cross recessed pan head thread cutting screw
26.6		Cross recessed countersunk (flat) head thread cutting screw
26.7		Cross recessed raised countersunk (oval) head thread cutting screw

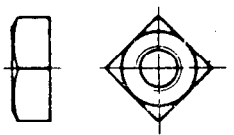
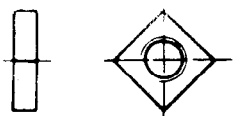
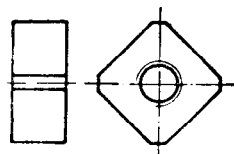
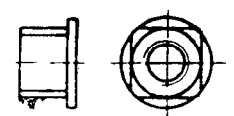
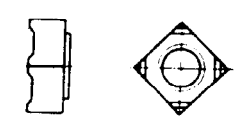
27. Thread Forming Screws (Thread Formed by Deformation)

No.	Figure	Designation
27.1		Hexagon head thread forming screw (thread formed by deformation)

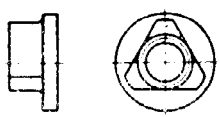
28. Hexagon Nuts

28.1		Hexagon nut
28.2		Hexagon thin nut
28.3		Hexagon nut with collar
28.4		Hexagon nut with flange
28.5		Washer faced hexagon nut
28.6		Heavy series hexagon nut
28.7		Hexagon weld nut

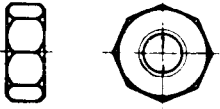

29. Square Nuts

No.	Figure	Designation
29.1		Square nut
29.2		Square nut without chamfer (pressed nut)
29.3		Foundation nut
29.4		Square nut with collar
29.5		Square weld nut


30. Triangle Nuts

30.1		Triangle nut with collar
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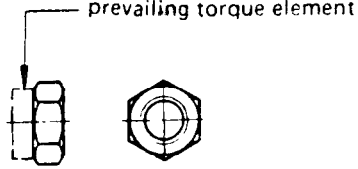
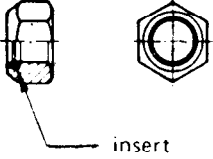
31. Octagon and Pentagon Nuts

No.	Figure	Designation
31.1		Octagon nut
31.2		Pentagon nut




32. 12 Point Nuts (Bihexagonal Nuts)

32.1		12 point flange nut
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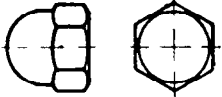
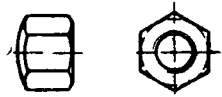
33. Prevailing Torque Nuts

33.1		Prevailing torque type all metal hexagon nut
33.2		Prevailing torque type hexagon nut with nylon insert

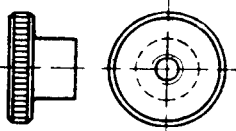
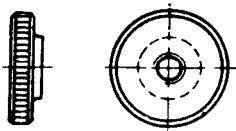
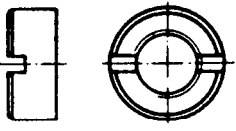
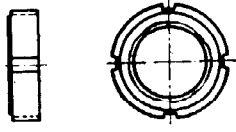
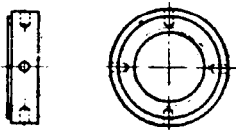
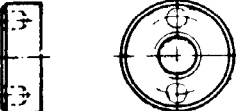
34. Slotted Castle Nuts

34.1		Hexagon slotted nut
34.2		Hexagon castle nut
34.3		Hexagonal thin castle nut

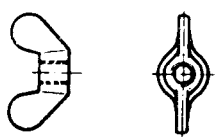
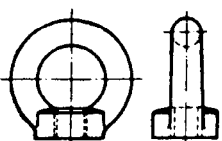
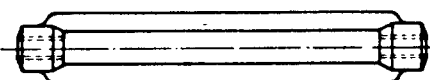
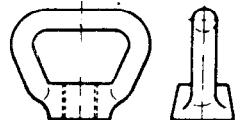
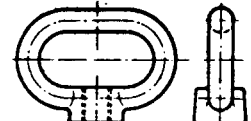
35. Cap Nuts

No.	Figure	Designation
35.1		Acorn nut (domed cap nut)
35.2		Cap nut

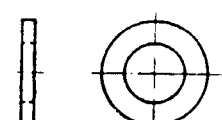
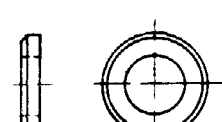
36. Miscellaneous Round Nuts

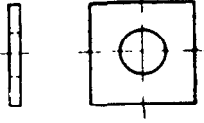
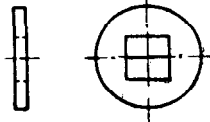
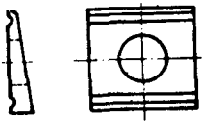
36.1		Knurled nut with collar
36.2		Knurled nut
36.3		Slotted round nut
36.4		Slotted round nut for hook-spanner
36.5		Round nut with set pin holes in side
36.6		Round nut with drilled holes in one face

37. Other Miscellaneous Nuts

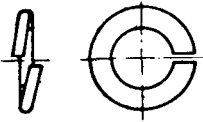
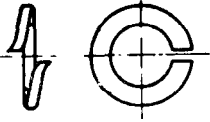
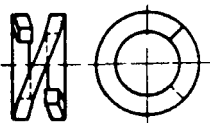
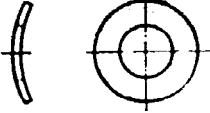
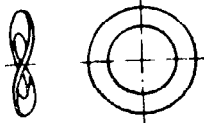
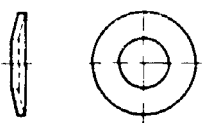
No.	Figure	Designation
37.1		Wing nut
37.2		Lifting eye nut
37.3		Turnbuckle
37.4		Lifting nut
37.5		Lifting nut

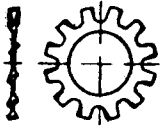
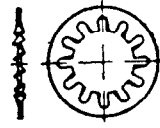
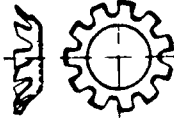
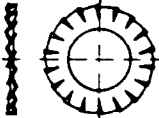
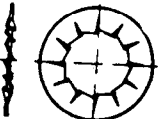
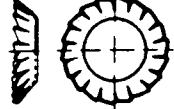
38. Washers

38.1		Plain washer
38.2		Single chamfer plain washer

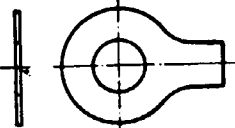
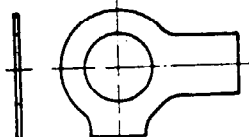
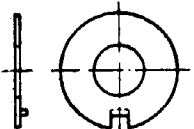
No.	Figure	Designation
38.3		Square washer with round hole
38.4		Round washer with square hole
38.5		Square taper washer (for U and I sections)

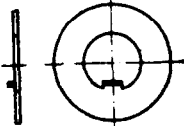
39. Spring Washers

39.1		Single coil spring lock washer with square ends
39.2		Single coil spring lock washer with tang ends
39.3		Double coil spring lock washer
39.4		Curved spring washer
39.5		Wave spring washer
39.6		Conical spring washer

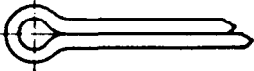
No.	Figure	Designation
39.7		Lock washer external teeth
39.8		Lock washer internal teeth
39.9		Countersunk external toothed lock washer
39.10		Serrated lock washer external teeth
39.11		Serrated lock washer internal teeth
39.12		Countersunk serrated external toothed lock washer

40. Tab Washers

40.1		Tab washer with long tab
40.2		Tab washer with long tab and wing
40.3		External tab washer

No.	Figure	Designation
40.4		Internal tab washer

41. Split Pins

41.1		Split pin
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BHOPAL 462003

66716

Plot No. 82/83, Lewis Road, BHUBANESHWAR 751002

53627

53/5 Ward No. 29, R. G. Barua Road, 5th Byelane, GUWAHATI 781003

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5-8-56C L. N. Gupta Marg (Nampally Station Road),
HYDERABAD 500001

231083

R14 Yudhister Marg, C Scheme, JAIPUR 302005

63471, 69832

117/418 B Sarvodaya Nagar, KANPUR 208005

216876, 218292

Patliputra Industrial Estate, PATNA 800013

62305

T.C. No. 14/1421, University P.O., Palayam, TRIVANDRUM 695035

62104, 62117

Inspection Offices (With Sale Point):

'Pushpanjali', First Floor, 205A West High Court Road, ShankarNagar
Square, NAGPUR 440010

25171

Institution of Engineers (India) Building, 1332 Shivaji Nagar,
Pune 411005

52435

*Sales Office in Calcutta is at 5 Chowringhee Approach, P. O., Princep Street,
Calcutta 700072

276800

†Sales Office in Bombay is at Novelty Chambers, Grant Road, Bombay 400097

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