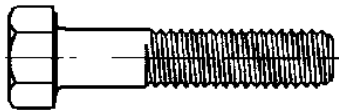


REFERENCE DOCUMENTS

| | |
|-------------|--|
| CNH STPA020 | Fastener Finishes and Material Specifications |
| EN 1665 | Hexagon Bolts With Flange – Heavy series |
| ISO 4014 | Hexagon head bolts – Product grades A and B |
| ISO 4017 | Hexagon head bolts – Product grades A and B Full Thread |
| ISO 888 | Bolts screws and studs – Nominal and thread lengths for general purpose bolts |
| ISO 898-1 | Mechanical properties of fasteners made of carbon steel and alloy steel |
| IFI 524 | Industrial Fasteners Institute – Test Procedure for Prevailing Torque Non-Metallic Lock Screws (Patch) |
| ISO 6157-3 | Fasteners - Surface Discontinuities |

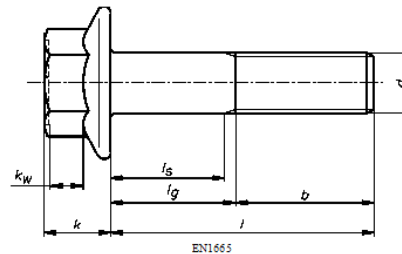
When a standard is referenced in a drawing or specification, it is understood that the reference is to the latest revision of the standard, unless stated otherwise.



ISO 4014 Bolt with shank



ISO 4017 Bolt fully threaded



EN1665

Thread Length: ISO 888
 Specifications: ISO 4014, ISO 4017, EN 1665

Typical part description for BOM's and CAD drawings

BOLT, PREV TORQUE, M8X30 FULL 10.9 PHC

Bolts and screws shall be free from burrs, seams, laps, loose scale, irregular surfaces and any defects affecting their serviceability (ISO 6157-3). Bolts shall conform to ISO 4014 (with Shank), ISO 4017 (Fully Threaded) or EN1665 as appropriate.

For cross-reference listing of company part numbers, go to [CNH Catalogue](#).

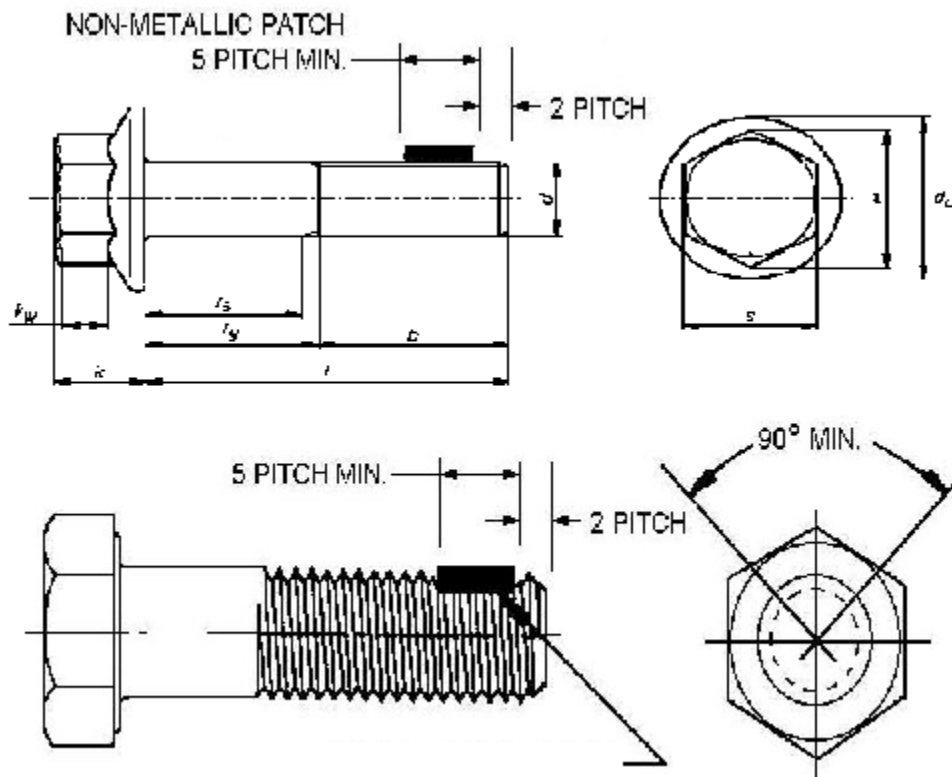
| AUTHOR | APPROVED BY | ECO | PART NUMBER |
|--------|-------------|----------|-----------------|
| A KHAN | 08MAY24 | A KHAN | 08MAY24 |
| | | 35387027 | 87312804 |

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1. Hex and Flange Head Prevailing Torque Bolts With Non-Metallic Patch per IFI 524. Thread Diameters M5 to M36 Inclusive.

Prevailing torque bolts with non-metallic patch shall conform to IFI 524 standard. IFI 524 states non-metallic locking element type prevailing-torque lock screws are metallic screws to which have been added a non-metallic insert or fused non-metallic substance in their threaded length. These bolts are for applications where temperatures will not exceed 120°C (250°F).

Bolts shall assemble one full turn by hand. The prevailing torque of bolts shall not exceed the maximum value specified, or be less than the minimum value specified for any installation or removal. Source approval by Materials Engineering is required for coating.





Standard Part

Hex and Flange Head Prev Torque - Non-Metallic Patch - Metric – Non-Pref

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Table 1a. Prevailing Torque Bolt Performance Requirements per IFI 524

| Nominal Diameter | Clamp Load 10.9 Bolt kN | Prevailing Torque | | |
|------------------|-------------------------------|--------------------|---------------|---------------|
| | | First Installation | First Removal | Fifth Removal |
| | | Nm Max | Nm Min | Nm Min |
| M5 | 8.8 | 2.3 | 0.36 | 0.23 |
| M6 | 12 | 3 | 0.45 | 0.30 |
| M8 | 23 | 10 | 0.9 | 0.58 |
| M10 | 36 | 14 | 1.8 | 1.1 |
| M12 | 52 | 21 | 2.6 | 1.5 |
| M16 | 98 | 40 | 5 | 3.4 |
| M20 | 150 | 60 | 8 | 5.5 |
| M24 | 220 | 90 | 13 | 8.5 |
| M30 | 350 | 120 | 19 | 13 |
| M36 | 510 | 150 | 28 | 18 |

2. Hex Bolt General Information per ISO 4014 (with Shank) and ISO 4017 (Fully Threaded)

| | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 22 | 24 | 30 | 36 |
|------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Bolt Nominal Diameter | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 22 | 24 | 30 | 36 |
| Coarse Thread Pitch | 0.8 | 1 | 1.25 | 1.5 | 1.75 | 2 | 2 | 2.5 | 2.5 | 3 | 3.5 | 4 |
| Length of thread for | | | | | | | | | | | | |
| Bolt length to 125 | 16 | 18 | 22 | 26 | 30 | 34 | 38 | 46 | 50 | 54 | 66 | - |
| Bolt length 126 to 200 | 22 | 24 | 28 | 32 | 36 | 40 | 44 | 52 | 56 | 60 | 72 | 84 |
| Bolt length: >200 | 35 | 37 | 41 | 45 | 49 | 53 | 57 | 65 | 69 | 73 | 85 | 97 |
| Width across flats nom./ max | 8 | 10 | 13 | 16 | 18 | 21 | 24 | 30 | 34 | 36 | 46 | 55 |
| Width across corners min. | 8.79 | 11.05 | 14.38 | 17.77 | 20.03 | 23.36 | 26.75 | 32.95 | 37.72 | 39.55 | 50.85 | 60.79 |
| Head height max. | 3.65 | 4.16 | 5.45 | 6.58 | 7.68 | 8.98 | 10.18 | 12.72 | 14.35 | 15.22 | 19.12 | 22.92 |



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Hex and Flange Head Prev Torque - Non-Metallic Patch - Metric – Non-Pref

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Table 2a. Prevailing Torque Hex Bolts with Non-Metallic Patch

| Dia | Pitch | Length | Thread Length | Material | Finish | Part Number |
|-----|-------|--------|---------------|----------|--------|-------------|
| 5 | 0.8 | 30 | | 8.8 | ZND | 84224890 |
| 5 | 0.8 | 35 | | 8.8 | ZND | 87675521 |
| 6 | 1 | 12 | FULL | 10.9 | ZND | 47736896 |
| 6 | 1 | 14 | FULL | 8.8 | ZND | 84499091 |
| 6 | 1 | 16 | FULL | 8.8 | ZND | 87041331 |
| 6 | 1 | 35 | | 10.9 | ZND | 86639143 |
| 8 | 1.25 | 16 | FULL | 10.9 | PHC | 86625007 |
| 8 | 1.25 | 20 | FULL | 10.9 | PHC | 86639144 |
| 8 | 1 | 25 | FULL | 8.8 | ZND | 9806833 |
| 8 | 1.25 | 25 | FULL | 8.8 | ZND | 87698794 |
| 8 | 1.25 | 25 | FULL | 10.9 | PHC | 86625008 |
| 8 | 1.25 | 30 | FULL | 10.9 | PHC | 87026277 |
| 8 | 1.25 | 40 | | 10.9 | PHC | 86625009 |
| 8 | 1.25 | 50 | | 10.9 | PHC | 86625010 |
| 8 | 1.25 | 50 | | 10.9 | ZND | 47910931 |
| 8 | 1.25 | 55 | | 10.9 | ZND | 51533274 |
| 8 | 1.25 | 60 | | 10.9 | ZND | 51533276 |
| 10 | 1.5 | 25 | | 10.9 | PHC | 87646180 |
| 10 | 1.5 | 25 | | 10.9 | ZND | 47661424 |
| 10 | 1.5 | 30 | FULL | 10.9 | PHC | 86642317 |
| 10 | 1.5 | 40 | FULL | 10.9 | ZND | 47736898 |
| 10 | 1.5 | 80 | | 10.9 | ZND | 47919371 |
| 10 | 1.5 | 110 | | 10.9 | ZND | 47919372 |
| 12 | 1.25* | 70 | FULL | 8.8 | PLN | 850125@ |
| 12 | 1.75 | 30 | FULL | 10.9 | PHC | 84523390 |
| 12 | 1.75 | 30 | FULL | 10.9 | DAC | 90358158 |
| 12 | 1.75 | 35 | FULL | 10.9 | PHC | 87015930 |
| 12 | 1.75 | 35 | FULL | 8.8 | ZND | 86566268& |
| 12 | 1.75 | 40 | | 10.9 | ZND | 87015314 |
| 12 | 1.75 | 40 | FULL | 10.9 | ZND | 84404454 |
| 12 | 1.75 | 40 | FULL | 10.9 | DAC | 90358162 |
| 12 | 1.75 | 60 | | 10.9 | ZND | 87612749 |
| 12 | 1.75 | 65 | | 10.9 | ZND | 47736899 |
| 12 | 1.75 | 90 | | 10.9 | ZND | 87014323 |
| 14 | 2 | 30 | FULL | 8.8 | ZND | 47819650 |
| 14 | 2 | 50 | | 10.9 | ZND | 90397990 |
| 16 | 2 | 40 | FULL | 10.9 | ZND | 90397991 |
| 16 | 2 | 60 | | 10.9 | ZND | 87652887 |
| 16 | 2 | 100 | | 10.9 | ZND | 87652888 |
| 20 | 2.5 | 35 | FULL | 10.9 | ZND | 90397992 |
| 20 | 2.5 | 80 | | 10.9 | PLN | 87015933 |
| 20 | 2.5 | 80 | | 10.9 | ZND | 84388492 |
| 20 | 2.5 | 130 | 95 | 10.9 | ZND | 47736901 |

* Fine Pitch

@ Per DIN 961 across flat 19, head thickness 8

& DIN Head. Across Flats 19mm.



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3. Hex Flange Bolt General Information per EN1665

| Nominal Diameter | | M6 | M8 | M10 | M12 | M16 | M20 |
|--------------------------------|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Pitch | | 1 | 1.25 | 1.5 | 1.75 | 2 | 2.5 |
| d Body diameter | Max | 6 | 8 | 10 | 12 | 16 | 20 |
| | Min | 5.82 | 7.78 | 9.78 | 11.73 | 15.73 | 19.67 |
| s Width across flats | Max | 10 | 13 | 16 | 18 | 24 | 30 |
| | Min | 9.78 | 12.73 | 15.73 | 17.73 | 23.67 | 29.67 |
| e Width across corners | Min | 10.95 | 14.26 | 17.62 | 19.86 | 26.51 | 33.23 |
| d _c Flange diameter | Max | 14.2 | 18.0 | 22.3 | 26.6 | 35 | 43 |
| k _w Wrench height | Min | 3.0 | 3.9 | 5.1 | 5.6 | 7.3 | 8.9 |
| k Head height | Max | 6.6 | 8.1 | 10.4 | 11.8 | 15.4 | 18.9 |
| b Nominal thread length | $l \leq 125$ | 18 | 22 | 26 | 30 | 38 | 46 |
| | $125 < l \leq 200$ | | 28 | 32 | 36 | 44 | 52 |
| | $l > 200$ | | | | | 57 | 65 |
| | Fully threaded $l \leq$ | 25 | 30 | 35 | 40 | 50 | 60 |

Lengths (l): 10, 12, 16, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 180, 200

Table 3a. Prevailing Torque Hex Flange Bolts with Non-Metallic Patch

| Dia | Pitch | Length | Thread Length | Material | Finish | Part Number |
|-----|-------|--------|---------------|----------|---------|-------------|
| 6 | 1 | 12 | FULL | 8.8 | BGM | 92263134 |
| 6 | 1 | 12 | FULL | 8.8 | ZND | 47819060 |
| 6 | 1 | 12 | FULL | 8.8 | ZN-NI-6 | 92267165 |
| 6 | 1 | 20 | FULL | 8.8 | ZND | 47819061 |
| 6 | 1 | 25 | FULL | 8.8 | ZND | 47450061 |
| 8 | 1.25 | 16 | FULL | 8.8 | DAC | 92216844 |
| 8 | 1.25 | 25 | FULL | 8.8 | ZND | 47819063 |
| 8 | 1.25 | 35 | | 8.8 | ZND | 91859813 |
| 8 | 1.25 | 55 | | 10.9 | ZND | 51533277 |
| 8 | 1.25 | 60 | | 10.9 | ZND | 51533279 |
| 10 | 1.5 | 70 | | 8.8 | ZND | 47888273 |
| 10 | 1.5 | 100 | | 8.8 | ZND | 47888274 |
| | | | | | | |