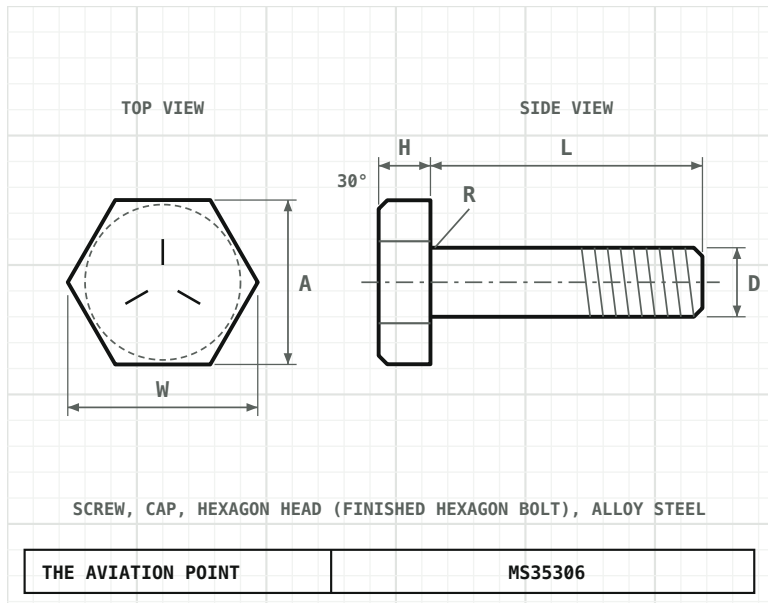
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# MS35306 screw — hexagon

MS35306: hex head cap screw (finished hexagon bolt), alloy steel Grade 8, phosphate finish, UNF-2A, 1/4 to 1-1/2.




Engineering drawing · dimensions in inches

## Specification

| Item | Value |
|---|---|
| Head | hexagon |
| Drive | external hexagon |
| Thread series | fine (UNF-2A) |
| Material | Alloy steel, Grade 8 of the procurement specification. |

| Item | Value |
|---|---|
| Heat treatment | Minimum tensile strength 150,000 psi for diameters through 1-1/2 in; 125,000 psi for diameters over 1-1/2 in. |
| Finish | Phosphate per MIL-C-16232, Type II. |
| Procurement | FF-S-85 |
| Status | Check the current issue before design use. Rev. B (6 May 1963): cancelled after 6 May 1963; use MS90727. MS90727 can replace the cancelled screws of the same size; the cancelled MS35306 cannot always replace MS90727 and is used only until existing stock is depleted. |

## Dimensions by size

| Dimension, in | 1/4-28 UNF-2A | 5/16-24 UNF-2A | 3/8-24 UNF-2A | 7/16-20 UNF-2A | 1/2-20 UNF-2A | 9/16-18 UNF-2A | 5/8-18 UNF-2A | 3/4-16 UNF-2A | 7/8-14 UNF-2A | 1-12 UNF-2A | 1-1/8-12 UNF-2A | 1-1/4-12 UNF-2A | 1-3/8-12 UNF-2A | 1-1/2-12 UNF-2A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D body dia | .2450 - .2500 | .3065 - .3125 | .3690 - .3750 | .4305 - .4375 | .4930 - .5000 | .5545 - .5625 | .6170 - .6250 | .7410 - .7500 | .8660 - .8750 | .9900 - 1.0000 | 1.1140 - 1.1250 | 1.2390 - 1.2500 | 1.3630 - 1.3750 | 1.4880 - 1.5000 |
| A width across flats | .4280 - .4375 | .4890 - .5000 | .5510 - .5625 | .6120 - .6250 | .7360 - .7500 | .7980 - .8125 | .9220 - .9375 | 1.1000 - 1.1250 | 1.2850 - 1.3125 | 1.4690 - 1.5000 | 1.6310 - 1.6875 | 1.8120 - 1.8750 | 1.9940 - 2.0625 | 2.1750 - 2.2500 |
| W width across corners | .4880 - .5050 | .5570 - .5770 | .6280 - .6500 | .6980 - .7220 | .8400 - .8660 | .9100 - .9380 | 1.0510 - 1.0830 | 1.2540 - 1.2990 | 1.4650 - 1.5160 | 1.6750 - 1.7320 | 1.8590 - 1.9490 | 2.0660 - 2.1650 | 2.2730 - 2.3820 | 2.4800 - 2.5980 |
| H head height | .1500 - .1630 | .1950 - .2110 | .2260 - .2430 | .2720 - .2910 | .3020 - .3230 | .3480 - .3710 | .3780 - .4030 | .4550 - .4830 | .5310 - .5630 | .5910 - .6270 | .6580 - .7180 | .7490 - .8130 | .8100 - .8780 | .9020 - .9740 |
| R radius | .009 - .023 | .009 - .023 | .009 - .023 | .009 - .023 | .009 - .023 | .021 - .041 | .021 - .041 | .021 - .041 | .041 - .062 | .062 - .093 | .062 - .093 | .062 - .093 | .062 - .093 | .062 - .093 |

Dimensions in inches, as tabulated in the standard (letters as on its drawing).

## Part numbers and lengths

**1/4-28 UNF-2A** 26 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-1 | 3/8 | +0/-1/32 |
| MS35306-2 | 7/16 | +0/-1/32 |
| MS35306-3 | 1/2 | +0/-1/32 |
| MS35306-4 | 9/16 | +0/-1/32 |
| MS35306-5 | 5/8 | +0/-1/32 |
| MS35306-6 | 3/4 | +0/-1/32 |
| MS35306-7 | 7/8 | +0/-1/32 |
| MS35306-8 | 1 | +0/-1/32 |
| MS35306-9 | 1-1/8 | +0/-1/16 |
| MS35306-10 | 1-1/4 | +0/-1/16 |
| MS35306-11 | 1-3/8 | +0/-1/16 |
| MS35306-12 | 1-1/2 | +0/-1/16 |
| MS35306-13 | 1-3/4 | +0/-1/16 |
| MS35306-14 | 2 | +0/-1/16 |

**3/8-24 UNF-2A** 26 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-53 | 3/8 | +0/-1/32 |
| MS35306-54 | 7/16 | +0/-1/32 |
| MS35306-55 | 1/2 | +0/-1/32 |
| MS35306-56 | 9/16 | +0/-1/32 |
| MS35306-57 | 5/8 | +0/-1/32 |
| MS35306-58 | 3/4 | +0/-1/32 |
| MS35306-59 | 7/8 | +0/-1/32 |
| MS35306-60 | 1 | +0/-1/32 |
| MS35306-61 | 1-1/8 | +0/-1/16 |
| MS35306-62 | 1-1/4 | +0/-1/16 |
| MS35306-63 | 1-3/8 | +0/-1/16 |
| MS35306-64 | 1-1/2 | +0/-1/16 |
| MS35306-65 | 1-3/4 | +0/-1/16 |
| MS35306-66 | 2 | +0/-1/16 |

**1/2-20 UNF-2A** 26 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-104 | 1/2 | +0/-1/32 |
| MS35306-105 | 9/16 | +0/-1/32 |
| MS35306-106 | 5/8 | +0/-1/32 |
| MS35306-107 | 3/4 | +0/-1/32 |
| MS35306-108 | 7/8 | +0/-1/32 |
| MS35306-109 | 1 | +0/-1/32 |
| MS35306-110 | 1-1/8 | +0/-1/16 |
| MS35306-111 | 1-1/4 | +0/-1/16 |
| MS35306-112 | 1-3/8 | +0/-1/16 |
| MS35306-113 | 1-1/2 | +0/-1/16 |
| MS35306-114 | 1-3/4 | +0/-1/16 |
| MS35306-115 | 2 | +0/-1/16 |
| MS35306-116 | 2-1/4 | +0/-3/32 |
| MS35306-117 | 2-1/2 | +0/-3/32 |

**5/16-24 UNF-2A** 26 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-27 | 3/8 | +0/-1/32 |
| MS35306-28 | 7/16 | +0/-1/32 |
| MS35306-29 | 1/2 | +0/-1/32 |
| MS35306-30 | 9/16 | +0/-1/32 |
| MS35306-31 | 5/8 | +0/-1/32 |
| MS35306-32 | 3/4 | +0/-1/32 |
| MS35306-33 | 7/8 | +0/-1/32 |
| MS35306-34 | 1 | +0/-1/32 |
| MS35306-35 | 1-1/8 | +0/-1/16 |
| MS35306-36 | 1-1/4 | +0/-1/16 |
| MS35306-37 | 1-3/8 | +0/-1/16 |
| MS35306-38 | 1-1/2 | +0/-1/16 |
| MS35306-39 | 1-3/4 | +0/-1/16 |
| MS35306-40 | 2 | +0/-1/16 |

**7/16-20 UNF-2A** 25 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-79 | 7/16 | +0/-1/32 |
| MS35306-80 | 1/2 | +0/-1/32 |
| MS35306-81 | 9/16 | +0/-1/32 |
| MS35306-82 | 5/8 | +0/-1/32 |
| MS35306-83 | 3/4 | +0/-1/32 |
| MS35306-84 | 7/8 | +0/-1/32 |
| MS35306-85 | 1 | +0/-1/32 |
| MS35306-86 | 1-1/8 | +0/-1/16 |
| MS35306-87 | 1-1/4 | +0/-1/16 |
| MS35306-88 | 1-3/8 | +0/-1/16 |
| MS35306-89 | 1-1/2 | +0/-1/16 |
| MS35306-90 | 1-3/4 | +0/-1/16 |
| MS35306-91 | 2 | +0/-1/16 |
| MS35306-92 | 2-1/4 | +0/-3/32 |

**9/16-18 UNF-2A** 25 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-130 | 9/16 | +0/-1/32 |
| MS35306-131 | 5/8 | +0/-1/32 |
| MS35306-132 | 3/4 | +0/-1/32 |
| MS35306-133 | 7/8 | +0/-1/32 |
| MS35306-134 | 1 | +0/-1/32 |
| MS35306-135 | 1-1/8 | +0/-1/16 |
| MS35306-136 | 1-1/4 | +0/-1/16 |
| MS35306-137 | 1-3/8 | +0/-1/16 |
| MS35306-138 | 1-1/2 | +0/-1/16 |
| MS35306-139 | 1-3/4 | +0/-1/16 |
| MS35306-140 | 2 | +0/-1/16 |
| MS35306-141 | 2-1/4 | +0/-3/32 |
| MS35306-142 | 2-1/2 | +0/-3/32 |
| MS35306-143 | 2-3/4 | +0/-3/32 |



Reference data. The aircraft manufacturer's documentation (SRM / IPC) takes precedence.

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**5/8-18 UNF-2A** 24 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-155 | 5/8 | +0/-1/32 |
| MS35306-156 | 3/4 | +0/-1/32 |
| MS35306-157 | 7/8 | +0/-1/32 |
| MS35306-158 | 1 | +0/-1/32 |
| MS35306-159 | 1-1/8 | +0/-1/16 |
| MS35306-160 | 1-1/4 | +0/-1/16 |
| MS35306-161 | 1-3/8 | +0/-1/16 |
| MS35306-162 | 1-1/2 | +0/-1/16 |
| MS35306-163 | 1-3/4 | +0/-1/16 |
| MS35306-164 | 2 | +0/-1/16 |
| MS35306-165 | 2-1/4 | +0/-3/32 |
| MS35306-166 | 2-1/2 | +0/-3/32 |
| MS35306-167 | 2-3/4 | +0/-3/32 |
| MS35306-168 | 3 | +0/-3/32 |

**3/4-16 UNF-2A** 23 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-179 | 3/4 | +0/-1/32 |
| MS35306-180 | 7/8 | +0/-1/32 |
| MS35306-181 | 1 | +0/-1/32 |
| MS35306-182 | 1-1/8 | +0/-1/16 |
| MS35306-183 | 1-1/4 | +0/-1/16 |
| MS35306-184 | 1-3/8 | +0/-1/16 |
| MS35306-185 | 1-1/2 | +0/-1/16 |
| MS35306-186 | 1-3/4 | +0/-1/16 |
| MS35306-187 | 2 | +0/-1/16 |
| MS35306-188 | 2-1/4 | +0/-3/32 |
| MS35306-189 | 2-1/2 | +0/-3/32 |
| MS35306-190 | 2-3/4 | +0/-3/32 |
| MS35306-191 | 3 | +0/-3/32 |
| MS35306-192 | 3-1/4 | +0/-3/32 |

**7/8-14 UNF-2A** 22 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-202 | 7/8 | +0/-1/16 |
| MS35306-203 | 1 | +0/-1/16 |
| MS35306-204 | 1-1/8 | +0/-1/8 |
| MS35306-205 | 1-1/4 | +0/-1/8 |
| MS35306-206 | 1-3/8 | +0/-1/8 |
| MS35306-207 | 1-1/2 | +0/-1/8 |
| MS35306-208 | 1-3/4 | +0/-1/8 |
| MS35306-209 | 2 | +0/-1/8 |
| MS35306-210 | 2-1/4 | +0/-3/16 |
| MS35306-211 | 2-1/2 | +0/-3/16 |
| MS35306-212 | 2-3/4 | +0/-3/16 |
| MS35306-213 | 3 | +0/-3/16 |
| MS35306-214 | 3-1/4 | +0/-3/16 |
| MS35306-215 | 3-1/2 | +0/-3/16 |

**1-12 UNF-2A** 21 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-224 | 1 | +0/-1/16 |
| MS35306-225 | 1-1/8 | +0/-1/8 |
| MS35306-226 | 1-1/4 | +0/-1/8 |
| MS35306-227 | 1-3/8 | +0/-1/8 |
| MS35306-228 | 1-1/2 | +0/-1/8 |
| MS35306-229 | 1-3/4 | +0/-1/8 |
| MS35306-230 | 2 | +0/-1/8 |
| MS35306-231 | 2-1/4 | +0/-3/16 |
| MS35306-232 | 2-1/2 | +0/-3/16 |
| MS35306-233 | 2-3/4 | +0/-3/16 |
| MS35306-234 | 3 | +0/-3/16 |
| MS35306-235 | 3-1/4 | +0/-3/16 |
| MS35306-236 | 3-1/2 | +0/-3/16 |
| MS35306-237 | 3-3/4 | +0/-3/16 |

**1-1/8-12 UNF-2A** 20 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-245 | 1-1/8 | +0/-1/8 |
| MS35306-246 | 1-1/4 | +0/-1/8 |
| MS35306-247 | 1-3/8 | +0/-1/8 |
| MS35306-248 | 1-1/2 | +0/-1/8 |
| MS35306-249 | 1-3/4 | +0/-1/8 |
| MS35306-250 | 2 | +0/-1/8 |
| MS35306-251 | 2-1/4 | +0/-3/16 |
| MS35306-252 | 2-1/2 | +0/-3/16 |
| MS35306-253 | 2-3/4 | +0/-3/16 |
| MS35306-254 | 3 | +0/-3/16 |
| MS35306-255 | 3-1/4 | +0/-3/16 |
| MS35306-256 | 3-1/2 | +0/-3/16 |
| MS35306-257 | 3-3/4 | +0/-3/16 |
| MS35306-258 | 4 | +0/-3/16 |

**1-1/4-12 UNF-2A** 19 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-265 | 1-1/4 | +0/-1/8 |
| MS35306-266 | 1-3/8 | +0/-1/8 |
| MS35306-267 | 1-1/2 | +0/-1/8 |
| MS35306-268 | 1-3/4 | +0/-1/8 |
| MS35306-269 | 2 | +0/-1/8 |
| MS35306-270 | 2-1/4 | +0/-3/16 |
| MS35306-271 | 2-1/2 | +0/-3/16 |
| MS35306-272 | 2-3/4 | +0/-3/16 |
| MS35306-273 | 3 | +0/-3/16 |
| MS35306-274 | 3-1/4 | +0/-3/16 |
| MS35306-275 | 3-1/2 | +0/-3/16 |
| MS35306-276 | 3-3/4 | +0/-3/16 |
| MS35306-277 | 4 | +0/-3/16 |
| MS35306-278 | 4-1/4 | +0/-3/16 |

**1-3/8-12 UNF-2A** 18 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-284 | 1-3/8 | +0/-1/8 |
| MS35306-285 | 1-1/2 | +0/-1/8 |
| MS35306-286 | 1-3/4 | +0/-1/8 |
| MS35306-287 | 2 | +0/-1/8 |
| MS35306-288 | 2-1/4 | +0/-3/16 |
| MS35306-289 | 2-1/2 | +0/-3/16 |
| MS35306-290 | 2-3/4 | +0/-3/16 |
| MS35306-291 | 3 | +0/-3/16 |
| MS35306-292 | 3-1/4 | +0/-3/16 |
| MS35306-293 | 3-1/2 | +0/-3/16 |
| MS35306-294 | 3-3/4 | +0/-3/16 |
| MS35306-295 | 4 | +0/-3/16 |
| MS35306-296 | 4-1/4 | +0/-3/16 |
| MS35306-297 | 4-1/2 | +0/-3/16 |

**1-1/2-12 UNF-2A** 17 part numbers

| Part no. | Length, in | Tol. |
|---|---|---|
| MS35306-302 | 1-1/2 | +0/-1/8 |
| MS35306-303 | 1-3/4 | +0/-1/8 |
| MS35306-304 | 2 | +0/-1/8 |
| MS35306-305 | 2-1/4 | +0/-3/16 |
| MS35306-306 | 2-1/2 | +0/-3/16 |
| MS35306-307 | 2-3/4 | +0/-3/16 |
| MS35306-308 | 3 | +0/-3/16 |
| MS35306-309 | 3-1/4 | +0/-3/16 |
| MS35306-310 | 3-1/2 | +0/-3/16 |
| MS35306-311 | 3-3/4 | +0/-3/16 |
| MS35306-312 | 4 | +0/-3/16 |
| MS35306-313 | 4-1/4 | +0/-3/16 |
| MS35306-314 | 4-1/2 | +0/-3/16 |
| MS35306-315 | 4-3/4 | +0/-3/16 |

Showing 196 of 318 rows. Complete table: theaviationpoint.com/parts/screws/ms35306/

## How to read the part number

| Part | Meaning |
|---|---|
| Format | MS35306-<dash number> |
| Example | MS35306-1: 1/4-28 UNF-2A, 3/8 long |
| Length tolerance, size 3/4 and under | +0/-1/32 to 1; +0/-1/16 over 1 to 2; +0/-3/32 over 2 to 6 |
| Length tolerance, size 7/8 and over | +0/-1/16 to 1; +0/-1/8 over 1 to 2; +0/-3/16 over 2 to 6 |
| Dash | Dash number selects thread size and length (1 to 318) |

## Notes

- Cancelled: for design and replacement use MS90727 of the same size.
- Minimum thread length: twice the diameter plus 1/4 in for lengths up to and including 6 in; tolerance plus 3/16 in or 2-1/2 threads, whichever is greater. On products too short for the minimum thread length, the distance from the bearing surface of the head to the first complete thread does not exceed 2-1/2 threads for sizes up to and including 1 in, and 3-1/2 threads for larger sizes.
- Threads per Screw-Thread Standards for Federal Services, Handbook H-28. Raised head markings preferred, stamping acceptable.
- Approved data governs. Use the screw the SRM, drawing or IPC calls for.

SOURCES · MS35306 Rev. B, 6 May 1963 — Screw, Cap, Hexagon Head, Alloy Steel, Phosphate Finish, UNF-2A

SCAN · OPEN THIS DATA SHEET
theaviationpoint.com/parts/screws/ms35306/



Reference data. The aircraft manufacturer's documentation (SRM / IPC) takes precedence.