AIRBUS

# RIVET - MEDIUM HEAD, COUNTERSUNK, LOCKBOLT

Issue : **L**
Date : **Jun 07**
Page : **1/12**

## SUMMARY



## 1 - SCOPE AND FIELD OF APPLICATION

This standard specifies the dimensions, tolerances, required characteristics and the masses of a rivet, medium head, countersunk, lockbolt.

## 2 - REFERENCES

| | | |
|---|---|---|
| AMS4967 | : | Titanium alloy bars, wire forgings and rings 6.0AL-4.0V annealed heat treated. |
| ANSI/ASME-B46-1 | : | Surface texture (surface roughness waviness and lay). |
| ASNA2025 | : | Bush - For use with ASNA2043, ASNA2048, ASNA2391 and ASNA2392. |
| C2010 | : | Procurement specification. |
| EN6117 | : | Aerospace series - Specification for lubrication of pins with Cetyl Alcohol. |
| EN6118 | : | Aerospace series - Process specification - Aluminium base protection for fasteners. |
| EN2424 | : | Aerospace series - Marking of aerospace products. |
| I.C.T. No. 67 | : | Manufacturer's specification. |

## 3 - TERMINOLOGY

Not applicable.

## 4 - REQUIRED CHARACTERISTICS

4.1 - Configuration, dimensions, tolerances, mass

4.1.1 - Configuration shall be in accordance with the figure.

4.1.2 - Dimensions shall be in accordance with the figure and tables 1 and 2.

Definition of the grip length code No.: divide grip length by 1,58.

4.1.3 - General tolerances shall be in accordance with the figure and tables 1 and 2.

Concentricity tolerances of the tapered surface of head with respect to Ø A within the value of 0,127 mm (TIR).
Shank rectitude within the values of S (TIR per shank length of 25,4 mm).

4.1.4 - Mass shall be in accordance with table 4.

4.2 - Material, finish, lubrication

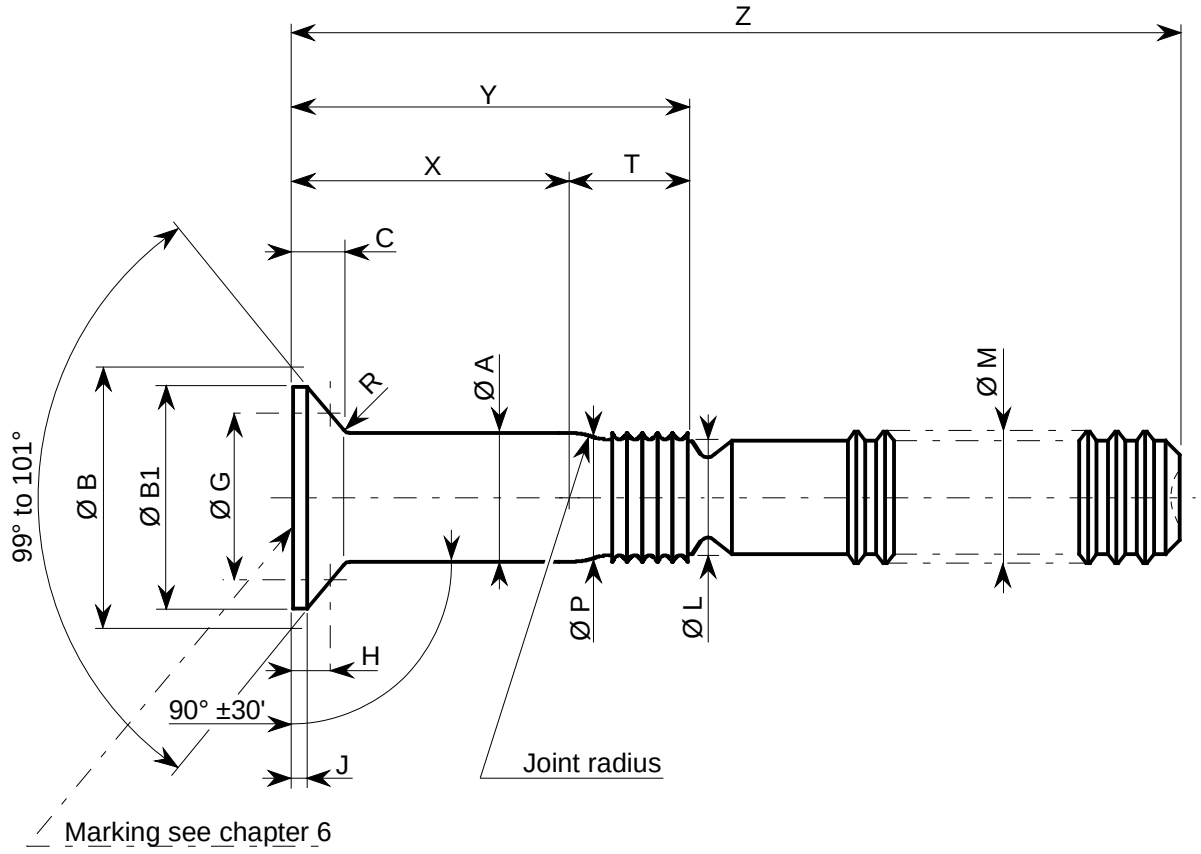
Material, finish and lubrication shall be in accordance with table 5.

4.3 - Mechanical characteristics

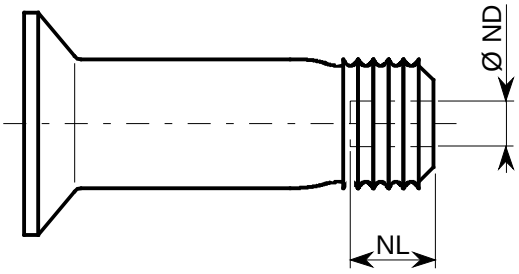
Mechanical characteristics shall be in accordance with table 6.

4.4 - General characteristics

Surface roughness as per ANSI/ASME-B46-1: Ra 0,8 µm for bearing side, shank and coupling radius at both shank ends, Ra 3,2 µm for other surfaces.




**Type S**
(see chapter 5)




Dimensions in mm.

Figure - Configuration, dimensions

Table 1 - Dimensions, tolerances

| DIAMETER CODE No. | NOMINAL Ø | Ø A ±0,0127 | Ø B Ref. | Ø B1 Max. Min. | C Ref. | Ø G ±0,0025 | H Max. Min. | J Max. | Ø L Ref. |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 4,166 | 4,140 | 7,048 | 6,741<br>6,568 | 1,221 | 5,148 | 0,838<br>0,757 | 0,254 | 3,200 |
| 3 | 4,826 | 4,800 | 8,188 | 7,874<br>7,419 | 1,422 | 6,197 | 0,876<br>0,795 | 0,381 | 3,810 |
| 3A | 5,555 | 5,529 | 9,436 | 9,131<br>8,959 | 1,641 | 7,571 | 0,820<br>0,744 | 0,254 | 4,394 |
| 4 | 6,350 | 6,324 | 10,754 | 10,434<br>9,990 | 1,859 | 8,417 | 1,021<br>0,940 | 0,381 | 4,749 |
| 5 | 7,925 | 7,912 | 13,474 | 13,142<br>12,728 | 2,334 | 10,970 | 1,097<br>1,006 | | 6,197 |
| 6 | 9,525 | 9,500 | 16,146 | 15,789<br>15,420 | 2,788 | 12,326 | 1,648<br>1,557 | | 7,569 |
| 7 | 11,113 | 11,087 | 18,694 | 18,357<br>17,526 | 3,193 | 16,715 | 0,881<br>0,780 | 0,559 | 7,925 |
| 8 | 12,700 | 12,674 | 21,217 | 20,861<br>20,061 | 3,584 | 18,285 | 1,280<br>1,179 | | 9,525 |

| DIAMETER CODE No. | NOMINAL Ø | Ø M Max. | Ø P Max. | R ±0,127 | S Shank rectitude | T Ref. | NL Max. | Ø ND Max. |
|---|---|---|---|---|---|---|---|---|
| 2 | 4,166 | 3,962 | 3,962 | 0,508 | 0,114 | 3,810 | 2,79 | 1,65 |
| 3 | 4,826 | 4,673 | 4,673 | 0,635 | | 3,860 | 3,00 | 2,18 |
| 3A | 5,555 | 5,410 | 5,410 | | | 5,334 | 3,00 | 2,18- |
| 4 | 6,350 | 6,197 | 6,197 | | | 5,334 | 4,11 | 2,77 |
| 5 | 7,925 | 7,772 | 7,772 | 0,889 | | 6,832 | 5,49 | 3,58 |
| 6 | 9,525 | 9,347 | 9,398 | | 0,152 | 8,153 | 6,17 | 4,34 |
| 7 | 11,113 | 10,947 | 10,947 | 1,143 | | 9,550 | - | - |
| 8 | 12,700 | 12,497 | 12,497 | | | 10,973 | - | - |

Dimensions in mm.

Table 2 - Dimensions, tolerances

(diameter code Nos continued on page 6)

| GRIP LENGTH CODE No. | ADMISSIBLE TIGHTENING LENGTH | | GRIP LENGTH | | X * | DIAMETER CODE No. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2 | | 3 | | 3A | | 4 | |
| | | | | | | Y | Z | Y | Z | Y | Z | Y | Z |
| | Min. | Max. | Min. | Max. | ±0,127 | ±0,25 | + 1,524 0 | ±0,25 | + 1,524 0 | ±0,25 | + 1,524 0 | ±0,25 | + 1,524 0 |
| 02 | 1,19 | 3,58 | 1,60 | 3,18 | 3,18 | 6,98 | 20,34 | 7,03 | 22,20 | 8,51 | 22,81 | - | - |
| 03 | 2,76 | 5,15 | 3,20 | 4,78 | 4,78 | 8,59 | 21,95 | 8,63 | 23,80 | 10,11 | 24,41 | 10,10 | 26,69 |
| 04 | 4,36 | 6,75 | 4,80 | 6,35 | 6,35 | 10,16 | 23,52 | 10,21 | 25,37 | 11,68 | 25,98 | 11,68 | 28,27 |
| 05 | 5,94 | 8,33 | 6,38 | 7,93 | 7,93 | 11,73 | 25,09 | 11,78 | 26,95 | 13,26 | 27,56 | 13,25 | 29,84 |
| 06 | 7,54 | 9,93 | 7,95 | 9,53 | 9,53 | 13,33 | 26,69 | 13,38 | 28,55 | 14,86 | 29,16 | 14,85 | 31,44 |
| 07 | 9,11 | 11,50 | 9,55 | 11,13 | 11,13 | 14,94 | 28,30 | 14,98 | 30,15 | 16,46 | 30,76 | 16,45 | 33,04 |
| 08 | 10,71 | 13,10 | 11,15 | 12,70 | 12,70 | 16,51 | 29,87 | 16,56 | 31,72 | 18,03 | 32,33 | 18,03 | 34,62 |
| 09 | 12,29 | 14,68 | 12,73 | 14,28 | 14,28 | 18,08 | 31,44 | 18,13 | 33,30 | 19,61 | 33,91 | 19,60 | 36,19 |
| 10 | 13,89 | 16,28 | 14,30 | 15,88 | 15,88 | 19,68 | 33,04 | 19,73 | 34,90 | 21,21 | 35,51 | 21,20 | 37,79 |
| 11 | 15,46 | 17,85 | 15,90 | 17,48 | 17,48 | 21,29 | 34,65 | 21,33 | 36,50 | 22,81 | 37,11 | 22,80 | 39,39 |
| 12 | 17,06 | 19,45 | 17,50 | 19,05 | 19,05 | 22,86 | 36,22 | 22,91 | 38,07 | 24,38 | 38,68 | 24,38 | 40,97 |
| 13 | 18,64 | 21,03 | 19,08 | 20,63 | 20,63 | 24,43 | 37,79 | 24,48 | 39,65 | 25,96 | 40,26 | 25,95 | 42,54 |
| 14 | 20,24 | 22,63 | 20,65 | 22,23 | 22,23 | 26,03 | 39,39 | 26,08 | 41,25 | 27,56 | 41,86 | 27,55 | 44,14 |
| 15 | 21,81 | 24,20 | 22,25 | 23,83 | 23,83 | 27,64 | 41,00 | 27,68 | 42,85 | 29,16 | 43,46 | 29,15 | 45,74 |
| 16 | 23,41 | 25,80 | 23,85 | 25,40 | 25,40 | 29,21 | 42,57 | 29,26 | 44,42 | 30,73 | 45,03 | 30,73 | 47,32 |
| 17 | 24,99 | 27,38 | 25,43 | 26,98 | 26,98 | 30,78 | 44,14 | 30,83 | 46,00 | 32,31 | 46,61 | 32,30 | 48,89 |
| 18 | 26,59 | 28,98 | 27,00 | 28,58 | 28,58 | 32,38 | 45,74 | 32,43 | 47,60 | 33,91 | 48,21 | 33,90 | 50,49 |
| 19 | 28,16 | 30,55 | 28,60 | 30,18 | 30,18 | 33,99 | 47,35 | 34,03 | 49,20 | 35,51 | 49,81 | 35,50 | 52,09 |
| 20 | 29,76 | 32,15 | 30,20 | 31,75 | 31,75 | 35,56 | 48,92 | 35,61 | 50,77 | 37,08 | 51,38 | 37,08 | 53,67 |
| 21 | 31,34 | 33,73 | 31,78 | 33,33 | 33,33 | 37,13 | 50,49 | 37,18 | 52,35 | 38,66 | 52,96 | 38,65 | 55,24 |
| 22 | 32,94 | 35,33 | 33,35 | 34,93 | 34,93 | 38,73 | 52,09 | 38,78 | 53,95 | 40,26 | 54,56 | 40,25 | 56,84 |
| 23 | 34,51 | 36,90 | 34,95 | 36,53 | 36,53 | 40,34 | 53,70 | 40,38 | 55,55 | 41,86 | 56,16 | 41,85 | 58,44 |
| 24 | 36,11 | 38,50 | 36,55 | 38,10 | 38,10 | 41,91 | 55,27 | 41,96 | 57,12 | 43,43 | 57,73 | 43,43 | 60,02 |
| 25 | 37,69 | 40,08 | 38,13 | 39,68 | 39,68 | 43,48 | 56,84 | 43,53 | 58,70 | 45,01 | 59,31 | 45,00 | 61,59 |
| 26 | 39,29 | 41,68 | 39,70 | 41,28 | 41,28 | 45,08 | 58,44 | 45,13 | 60,30 | 46,61 | 60,91 | 46,60 | 63,19 |
| 27 | 40,86 | 43,25 | 41,30 | 42,88 | 42,88 | 46,69 | 60,05 | 46,73 | 61,90 | 48,21 | 62,51 | 48,20 | 64,79 |
| 28 | 42,46 | 44,85 | 42,90 | 44,45 | 44,45 | 48,26 | 61,62 | 48,31 | 63,47 | 49,78 | 64,08 | 49,78 | 66,37 |
| 29 | 44,04 | 46,43 | 44,48 | 46,03 | 46,03 | 49,83 | 63,19 | 49,88 | 65,05 | 51,36 | 65,66 | 51,35 | 67,94 |
| 30 | 45,64 | 48,03 | 46,05 | 47,63 | 47,63 | 51,43 | 64,79 | 51,48 | 66,65 | 52,96 | 67,26 | 52,95 | 69,54 |
| 31 | 47,21 | 49,60 | 47,65 | 49,23 | 49,23 | 53,04 | 66,40 | 53,08 | 68,25 | 54,56 | 68,86 | 54,55 | 71,14 |
| 32 | 48,81 | 51,20 | 49,25 | 50,80 | 50,80 | 54,61 | 67,97 | 54,66 | 69,82 | 56,13 | 70,43 | 56,13 | 72,72 |

***** Grip length is measured from the top of the head to the end of the full cylindrical portion of the shank.

Dimensions in mm.

Table 2 - (diameter code Nos continued from page 5) (end)

| GRIP LENGTH CODE No. | ADMISSIBLE TIGHTENING LENGTH | | GRIP LENGTH | | X * | DIAMETER CODE No. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 5 | | 6 | | 7 | | 8 | |
| | | | | | | Y | Z | Y | Z | Y | Z | Y | Z |
| | Min. | Max. | Min. | Max. | ±0,127 | ±0,25 | + 1,524 0 | ±0,25 | + 1,524 0 | ±0,25 | + 1,524 0 | ±0,25 | + 1,524 0 |
| 02 | 1,19 | 3,58 | 1,60 | 3,18 | 3,18 | - | - | - | - | - | - | - | - |
| 03 | 2,76 | 5,15 | 3,20 | 4,78 | 4,78 | 11,61 | 29,34 | - | 32,38 | - | - | - | - |
| 04 | 4,36 | 6,75 | 4,80 | 6,35 | 6,35 | 13,18 | 30,91 | 14,50 | 33,96 | 15,90 | 38,02 | 17,32 | 43,33 |
| 05 | 5,94 | 8,33 | 6,38 | 7,93 | 7,93 | 14,75 | 32,49 | 16,07 | 35,53 | 17,48 | 39,60 | 18,90 | 44,91 |
| 06 | 7,54 | 9,93 | 7,95 | 9,53 | 9,53 | 16,35 | 34,09 | 17,67 | 37,13 | 19,08 | 41,20 | 20,50 | 46,51 |
| 07 | 9,11 | 11,50 | 9,55 | 11,13 | 11,13 | 17,96 | 35,69 | 19,27 | 38,73 | 20,68 | 42,80 | 22,10 | 48,11 |
| 08 | 10,71 | 13,10 | 11,15 | 12,70 | 12,70 | 19,53 | 37,26 | 20,85 | 40,31 | 22,25 | 44,37 | 23,67 | 49,68 |
| 09 | 12,29 | 14,68 | 12,73 | 14,28 | 14,28 | 21,11 | 38,84 | 22,42 | 41,88 | 23,83 | 45,95 | 25,25 | 51,26 |
| 10 | 13,89 | 16,28 | 14,30 | 15,88 | 15,88 | 22,71 | 40,44 | 24,03 | 43,48 | 25,43 | 47,55 | 26,85 | 52,86 |
| 11 | 15,46 | 17,85 | 15,90 | 17,48 | 17,48 | 24,31 | 42,04 | 25,62 | 45,08 | 27,03 | 49,15 | 28,45 | 54,46 |
| 12 | 17,06 | 19,45 | 17,50 | 19,05 | 19,05 | 25,88 | 43,61 | 27,20 | 46,66 | 28,60 | 50,72 | 30,02 | 56,03 |
| 13 | 18,64 | 21,03 | 19,08 | 20,63 | 20,63 | 27,46 | 45,19 | 28,77 | 48,23 | 30,18 | 52,30 | 31,60 | 57,61 |
| 14 | 20,24 | 22,63 | 20,65 | 22,23 | 22,23 | 29,06 | 46,79 | 30,37 | 49,83 | 31,78 | 53,90 | 33,20 | 59,21 |
| 15 | 21,81 | 24,20 | 22,25 | 23,83 | 23,83 | 30,66 | 48,39 | 31,97 | 51,43 | 33,38 | 55,50 | 34,80 | 60,81 |
| 16 | 23,41 | 25,80 | 23,85 | 25,40 | 25,40 | 32,23 | 49,96 | 33,55 | 53,01 | 34,95 | 57,07 | 36,37 | 62,38 |
| 17 | 24,99 | 27,38 | 25,43 | 26,98 | 26,98 | 33,81 | 51,54 | 35,12 | 54,58 | 36,53 | 58,65 | 37,95 | 63,96 |
| 18 | 26,59 | 28,98 | 27,00 | 28,58 | 28,58 | 35,41 | 53,14 | 36,72 | 56,18 | 38,13 | 60,25 | 39,55 | 65,56 |
| 19 | 28,16 | 30,55 | 28,60 | 30,18 | 30,18 | 37,01 | 54,74 | 38,32 | 57,78 | 39,73 | 61,85 | 41,15 | 67,16 |
| 20 | 29,76 | 32,15 | 30,20 | 31,75 | 31,75 | 38,58 | 56,31 | 39,90 | 59,36 | 41,30 | 63,42 | 42,72 | 68,73 |
| 21 | 31,34 | 33,73 | 31,78 | 33,33 | 33,33 | 40,16 | 57,89 | 41,47 | 60,93 | 42,88 | 65,00 | 44,30 | 70,31 |
| 22 | 32,94 | 35,33 | 33,35 | 34,93 | 34,93 | 41,76 | 59,49 | 43,07 | 62,53 | 44,48 | 66,60 | 45,90 | 71,91 |
| 23 | 34,51 | 36,90 | 34,95 | 36,53 | 36,53 | 43,36 | 61,09 | 44,67 | 64,13 | 46,08 | 68,20 | 47,50 | 73,51 |
| 24 | 36,11 | 38,50 | 36,55 | 38,10 | 38,10 | 44,93 | 62,66 | 46,25 | 65,71 | 47,65 | 69,77 | 49,07 | 75,08 |
| 25 | 37,69 | 40,08 | 38,13 | 39,68 | 39,68 | 46,51 | 64,24 | 47,82 | 67,28 | 49,23 | 71,35 | 50,65 | 76,66 |
| 26 | 39,29 | 41,68 | 39,70 | 41,28 | 41,28 | 48,11 | 65,84 | 49,42 | 68,88 | 50,83 | 72,95 | 52,25 | 78,26 |
| 27 | 40,86 | 43,25 | 41,30 | 42,88 | 42,88 | 49,71 | 67,44 | 51,02 | 70,48 | 52,43 | 74,55 | 53,85 | 79,86 |
| 28 | 42,46 | 44,85 | 42,90 | 44,45 | 44,45 | 51,28 | 69,01 | 52,60 | 72,06 | 54,00 | 76,12 | 55,42 | 81,43 |
| 29 | 44,04 | 46,43 | 44,48 | 46,03 | 46,03 | 52,86 | 70,59 | 54,17 | 73,63 | 55,58 | 77,70 | 57,00 | 83,01 |
| 30 | 45,64 | 48,03 | 46,05 | 47,63 | 47,63 | 54,45 | 72,19 | 55,77 | 75,23 | 57,18 | 79,30 | 58,60 | 84,61 |
| 31 | 47,21 | 49,60 | 47,65 | 49,23 | 49,23 | 56,06 | 73,79 | 57,37 | 76,83 | 58,78 | 80,90 | 60,20 | 86,21 |
| 32 | 48,81 | 51,20 | 49,25 | 50,80 | 50,80 | 57,63 | 75,36 | 58,95 | 78,41 | 60,35 | 82,47 | 61,77 | 87,78 |

***** Grip length is measured from the top of the head to the end of the full cylindrical portion of the shank.

Dimensions in mm.

Table 3 - Dimensions, tolerances of “stump” type (code S)

| GRIP LENGTH CODE No. | ADMISSIBLE TIGHTENING LENGTH | | GRIP LENGTH | | X * | DIAMETER CODE No. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2 | 3 | 3A | 4 | 5 | 6 | 7 | 8 |
| | | | | | | Y | Y | Y | Y | Y | Y | Y | Y |
| | Min. | Max. | Min. | Max. | ±0,127 | ±0,25 | ±0,25 | ±0,25 | ±0,25 | ±0,25 | ±0,25 | ±0,25 | ±0,25 |
| 02 | 1,19 | 3,58 | 1,60 | 3,18 | 3,18 | 7,29 | 7,52 | 9,04 | - | - | - | - | - |
| 03 | 2,76 | 5,15 | 3,20 | 4,78 | 4,78 | 8,89 | 9,12 | 10,64 | 10,64 | 12,29 | - | - | - |
| 04 | 4,36 | 6,75 | 4,80 | 6,35 | 6,35 | 10,46 | 10,69 | 12,22 | 12,22 | 13,87 | 15,11 | 16,31 | 17,63 |
| 05 | 5,94 | 8,33 | 6,38 | 7,93 | 7,93 | 12,04 | 12,27 | 13,79 | 13,79 | 15,44 | 16,69 | 17,88 | 19,20 |
| 06 | 7,54 | 9,93 | 7,95 | 9,53 | 9,53 | 13,64 | 13,87 | 15,39 | 15,39 | 17,04 | 18,29 | 19,48 | 20,80 |
| 07 | 9,11 | 11,50 | 9,55 | 11,13 | 11,13 | 15,24 | 15,47 | 16,99 | 16,99 | 18,64 | 19,89 | 21,08 | 22,40 |
| 08 | 10,71 | 13,10 | 11,15 | 12,70 | 12,70 | 16,81 | 17,04 | 18,57 | 18,57 | 20,22 | 21,46 | 22,66 | 23,98 |
| 09 | 12,29 | 14,68 | 12,73 | 14,28 | 14,28 | 18,39 | 18,62 | 20,14 | 20,14 | 21,79 | 23,04 | 24,23 | 25,55 |
| 10 | 13,89 | 16,28 | 14,30 | 15,88 | 15,88 | 19,99 | 20,22 | 21,74 | 21,74 | 23,39 | 24,64 | 25,83 | 27,15 |
| 11 | 15,46 | 17,85 | 15,90 | 17,48 | 17,48 | 21,59 | 21,82 | 23,34 | 23,34 | 24,99 | 26,24 | 27,43 | 28,75 |
| 12 | 17,06 | 19,45 | 17,50 | 19,05 | 19,05 | 23,16 | 23,39 | 24,92 | 24,92 | 26,57 | 27,81 | 29,01 | 30,33 |
| 13 | 18,64 | 21,03 | 19,08 | 20,63 | 20,63 | 24,74 | 24,97 | 26,49 | 26,49 | 28,14 | 29,39 | 30,58 | 31,90 |
| 14 | 20,24 | 22,63 | 20,65 | 22,23 | 22,23 | 26,34 | 26,57 | 28,09 | 28,09 | 29,74 | 30,99 | 32,18 | 33,50 |
| 15 | 21,81 | 24,20 | 22,25 | 23,83 | 23,83 | 27,94 | 28,17 | 29,69 | 29,69 | 31,34 | 32,59 | 33,78 | 35,10 |
| 16 | 23,41 | 25,80 | 23,85 | 25,40 | 25,40 | 29,51 | 29,74 | 31,27 | 31,27 | 32,92 | 34,16 | 35,36 | 36,68 |
| 17 | 24,99 | 27,38 | 25,43 | 26,98 | 26,98 | 31,09 | 31,32 | 32,84 | 32,84 | 34,49 | 35,74 | 36,93 | 38,25 |
| 18 | 26,59 | 28,98 | 27,00 | 28,58 | 28,58 | 32,69 | 32,92 | 34,44 | 34,44 | 36,09 | 37,34 | 38,53 | 39,85 |
| 19 | 28,16 | 30,55 | 28,60 | 30,18 | 30,18 | 34,29 | 34,52 | 36,04 | 36,04 | 37,69 | 38,94 | 40,13 | 41,45 |
| 20 | 29,76 | 32,15 | 30,20 | 31,75 | 31,75 | 35,86 | 36,09 | 37,62 | 37,62 | 39,27 | 40,51 | 41,71 | 43,03 |
| 21 | 31,34 | 33,73 | 31,78 | 33,33 | 33,33 | 37,44 | 37,67 | 39,19 | 39,19 | 40,84 | 42,09 | 43,28 | 44,60 |
| 22 | 32,94 | 35,33 | 33,35 | 34,93 | 34,93 | 39,04 | 39,27 | 40,79 | 40,79 | 42,44 | 43,69 | 44,88 | 46,20 |
| 23 | 34,51 | 36,90 | 34,95 | 36,53 | 36,53 | 40,64 | 40,87 | 42,39 | 42,39 | 44,04 | 45,29 | 46,48 | 47,80 |
| 24 | 36,11 | 38,50 | 36,55 | 38,10 | 38,10 | 42,21 | 42,44 | 43,97 | 43,97 | 45,62 | 46,86 | 48,06 | 49,38 |
| 25 | 37,69 | 40,08 | 38,13 | 39,68 | 39,68 | 43,79 | 44,02 | 45,54 | 45,54 | 47,19 | 48,44 | 49,63 | 50,95 |
| 26 | 39,29 | 41,68 | 39,70 | 41,28 | 41,28 | 45,39 | 45,62 | 47,14 | 47,14 | 48,79 | 50,04 | 51,23 | 52,55 |
| 27 | 40,86 | 43,25 | 41,30 | 42,88 | 42,88 | 46,99 | 47,22 | 48,74 | 48,74 | 50,39 | 51,64 | 52,83 | 54,15 |
| 28 | 42,46 | 44,85 | 42,90 | 44,45 | 44,45 | 48,56 | 48,79 | 50,32 | 50,32 | 51,97 | 53,21 | 54,41 | 55,73 |
| 29 | 44,04 | 46,43 | 44,48 | 46,03 | 46,03 | 50,14 | 50,37 | 51,89 | 51,89 | 53,54 | 54,79 | 55,98 | 57,30 |
| 30 | 45,64 | 48,03 | 46,05 | 47,63 | 47,63 | 51,74 | 51,97 | 53,49 | 53,49 | 55,14 | 56,39 | 57,58 | 58,90 |
| 31 | 47,21 | 49,60 | 47,65 | 49,23 | 49,23 | 53,34 | 53,57 | 55,09 | 55,09 | 56,74 | 57,99 | 59,18 | 60,50 |
| 32 | 48,81 | 51,20 | 49,25 | 50,80 | 50,80 | 54,91 | 55,14 | 56,67 | 56,67 | 58,32 | 59,56 | 60,76 | 62,08 |

***** Grip length is measured from the top of the head to the end of the full cylindrical portion of the shank.

Dimensions in mm.

Table 4 - Mass

| GRIP LENGTH CODE No. | MASS (g) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | DIAMETER CODE No. | | | | | | | |
| | 2 | 3 | 3A | 4 | 5 | 6 | 7 | 8 |
| 02 | 0,38 | 0,63 | 1,48 | 1,32 | 2,09 | 4,03 | - | - |
| 03 | 0,47 | 0,76 | 1,64 | 1,54 | 2,43 | 4,53 | - | - |
| 04 | 0,57 | 0,88 | 1,81 | 1,76 | 2,78 | 4,99 | 8,76 | 12,94 |
| 05 | 0,67 | 1,01 | 1,98 | 1,98 | 3,12 | 5,44 | 9,46 | 13,86 |
| 06 | 0,77 | 1,14 | 2,15 | 2,20 | 3,47 | 5,89 | 10,16 | 14,77 |
| 07 | 0,86 | 1,27 | 2,32 | 2,42 | 3,81 | 6,53 | 10,87 | 15,70 |
| 08 | 0,96 | 1,40 | 2,49 | 2,64 | 4,15 | 6,92 | 11,58 | 16,63 |
| 09 | 1,06 | 1,52 | 2,66 | 2,86 | 4,50 | 7,52 | 12,28 | 17,55 |
| 10 | 1,16 | 1,64 | 2,83 | 3,08 | 4,84 | 8,02 | 12,98 | 18,47 |
| 11 | 1,25 | 1,77 | 3,00 | 3,30 | 5,19 | 8,52 | 13,69 | 19,40 |
| 12 | 1,35 | 1,90 | 3,16 | 3,52 | 5,53 | 9,01 | 14,40 | 20,33 |
| 13 | 1,45 | 2,03 | 3,33 | 3,74 | 5,88 | 9,48 | 15,10 | 21,25 |
| 14 | 1,55 | 2,15 | 3,50 | 3,96 | 6,22 | 10,02 | 15,80 | 22,17 |
| 15 | 1,65 | 2,28 | 3,67 | 4,18 | 6,57 | 10,52 | 16,51 | 23,10 |
| 16 | 1,74 | 2,41 | 3,84 | 4,40 | 6,91 | 11,01 | 17,22 | 24,03 |
| 17 | 1,84 | 2,54 | 4,01 | 4,62 | 7,26 | 11,50 | 17,92 | 24,95 |
| 18 | 1,94 | 2,67 | 4,18 | 4,84 | 7,60 | 12,01 | 18,62 | 25,87 |
| 19 | 2,04 | 2,80 | 4,35 | 5,06 | 7,95 | 12,51 | 19,33 | 26,80 |
| 20 | 2,13 | 2,93 | 4,52 | 5,28 | 8,29 | 13,01 | 20,04 | 27,73 |
| 21 | 2,23 | 3,05 | 4,68 | 5,50 | 8,64 | 13,50 | 20,74 | 28,65 |
| 22 | 2,33 | 3,18 | 4,85 | 5,72 | 8,98 | 14,00 | 21,44 | 29,56 |
| 23 | 2,43 | 3,31 | 5,02 | 5,94 | 9,33 | 14,50 | 22,15 | 30,50 |
| 24 | 2,52 | 3,44 | 5,19 | 6,16 | 9,67 | 15,00 | 22,86 | 31,43 |
| 25 | 2,62 | 3,57 | 5,36 | 6,38 | 10,02 | 15,50 | 23,56 | 32,35 |
| 26 | 2,72 | 3,70 | 5,53 | 6,60 | 10,36 | 16,00 | 24,25 | 33,26 |
| 27 | 2,82 | 3,83 | 5,70 | 6,82 | 10,71 | 16,50 | 24,96 | 34,19 |
| 28 | 2,92 | 3,95 | 5,87 | 7,04 | 11,05 | 17,00 | 25,67 | 35,13 |
| 29 | 3,01 | 4,08 | 6,04 | 7,26 | 11,40 | 17,50 | 26,38 | 36,05 |
| 30 | 3,11 | 4,21 | 6,20 | 7,48 | 11,74 | 18,00 | 27,07 | 36,96 |
| 31 | 3,21 | 4,34 | 6,37 | 7,70 | 12,09 | 18,48 | 27,78 | 37,89 |
| 32 | 3,31 | 4,47 | 6,54 | 7,92 | 12,43 | 18,98 | 28,49 | 38,82 |

Table 5 - Materials, finishes, lubrications

| MATERIAL | FINISH | LUBRICATION |
|---|---|---|
| Titanium alloy 6AL-4V as per AMS4967<br>Rc = 655 MPa | IVD as per EN6118 | Cetyl alcohol as per EN6117 |

Table 6 - Mechanical characteristics

| DIAMETER CODE No. | NOMINAL Ø | DOUBLE SHEAR STRENGTH Min. (daN) | TENSILE STRENGTH WITH BUSH ASNA2025 Min. (daN) |
|---|---|---|---|
| 2 | 4,166 | 1 783 | 622 |
| 3 | 4,826 | 2 393 | 711 |
| 3A | 5,555 | 3 202 | 1 000 |
| 4 | 6,350 | 4 136 | 1 334 |
| 5 | 7,925 | 6 494 | 2 224 |
| 6 | 9,525 | 9 341 | 3 113 |
| 7 | 11,113 | 12 722 | 4 226 |
| 8 | 12,700 | 16 592 | 5 560 |

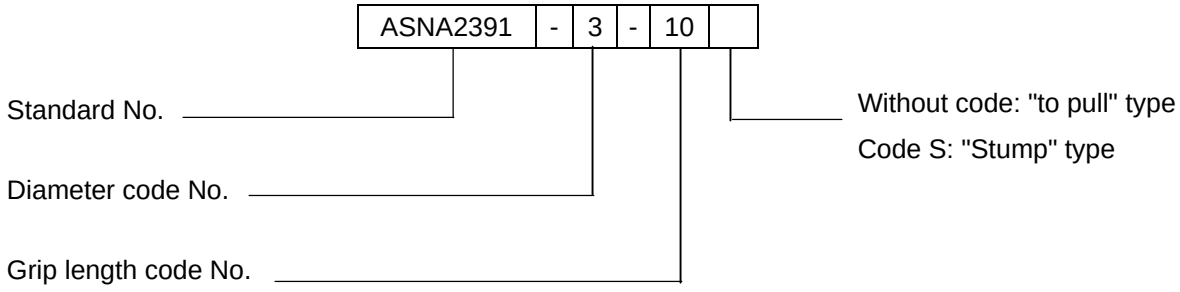
Dimensions in mm.

## 5 - DESIGNATION

Example of part number identification to be used on drawing schedules:

ASNA2391-3-10 , Rivet

Example of part number construction:



## 6 - MARKING

Parts shall be marked as per EN2424, category G.
Manufacturer's reference marking on head (recessed of 0,254 mm max.).

## 7 - TECHNICAL SPECIFICATION

As per manufacturer's specification C2010 and I.C.T. No. 67.

## 8 - MANUFACTURERS

Refer to the list of qualified manufacturers and products.

**AMENDMENT RECORD SHEET**

| Issue | Modified paragraph | Modification summary | Justification |
|---|---|---|---|
| A.06.87 | | New standard. | A 320 |
| B.11.87 | | Masses modified. | Mod. 9999 |
| C.12.87 | | Ø A modified for diameter code No. 5: 7,829 mm changed to 7,899 mm.<br>3Y modified for grip length code No. 29: 50,13 mm changed to 49,88 mm.<br>Masses modified.<br>Manufacturer's specification I.C.T. No. 67 added in technical specification. | In accordance with manufacturer's documentation |
| D.10.88 | | Diameter code No. 6 added. | BAe request - A 340 B36/COM/21335/DM |
| E.01.89 | | Dimensions G and H modified.<br>Type "S" added. | Manufacturer's information<br>A 340 |
| F.03.90 | | Type "S" added on drawing schedules. | A 340 |
| G.03.99 | | Standard fully amended.<br>Diameter code No. 2 (4,166 mm), 7 (11,113 mm) and 8 (12,700 mm) added. | A 340-500/600 |
| H.02.01 | | Dimension modified in table 2 for grip length code No. 10/diameter code No. 6: 22,70 mm changed to 24,03 mm. | In accordance with manufacturer documentation |
| J.11.02 | | Diameter code No. 3A added. | A 380 |
| K.11.04 | | Dimensions modified for diameter code No 3A in table 1 ( Ø A, H, NL and Ø ND). | A 380 |

***NOTE:*** Modification to the last standard issue are indicated by a vertical line in the margin.

**AMENDMENT RECORD SHEET**

| Issue | Modified paragraph | Modification summary | Justification |
|---|---|---|---|
| L.06.07 | | "Grip length" is called "X".<br>In table 1, values of dimensions "Ø A", "Ø B", "C", "Ø G" and "R" modified.<br>In figure angle 90° ±30' added.<br>Unit "µm" added for surface roughness in § 4.4.<br>Dimensions "Ø B1" added.<br>"Admissible tightening torque" changed to "Admissible tightening length" in table 2.<br>In table 2, values of dimensions "Z" modified.<br>In table 4, masses of diameter code 3A added. | In accordance with manufacturer documentation |

***NOTE:*** Modification to the last standard issue are indicated by a vertical line in the margin.