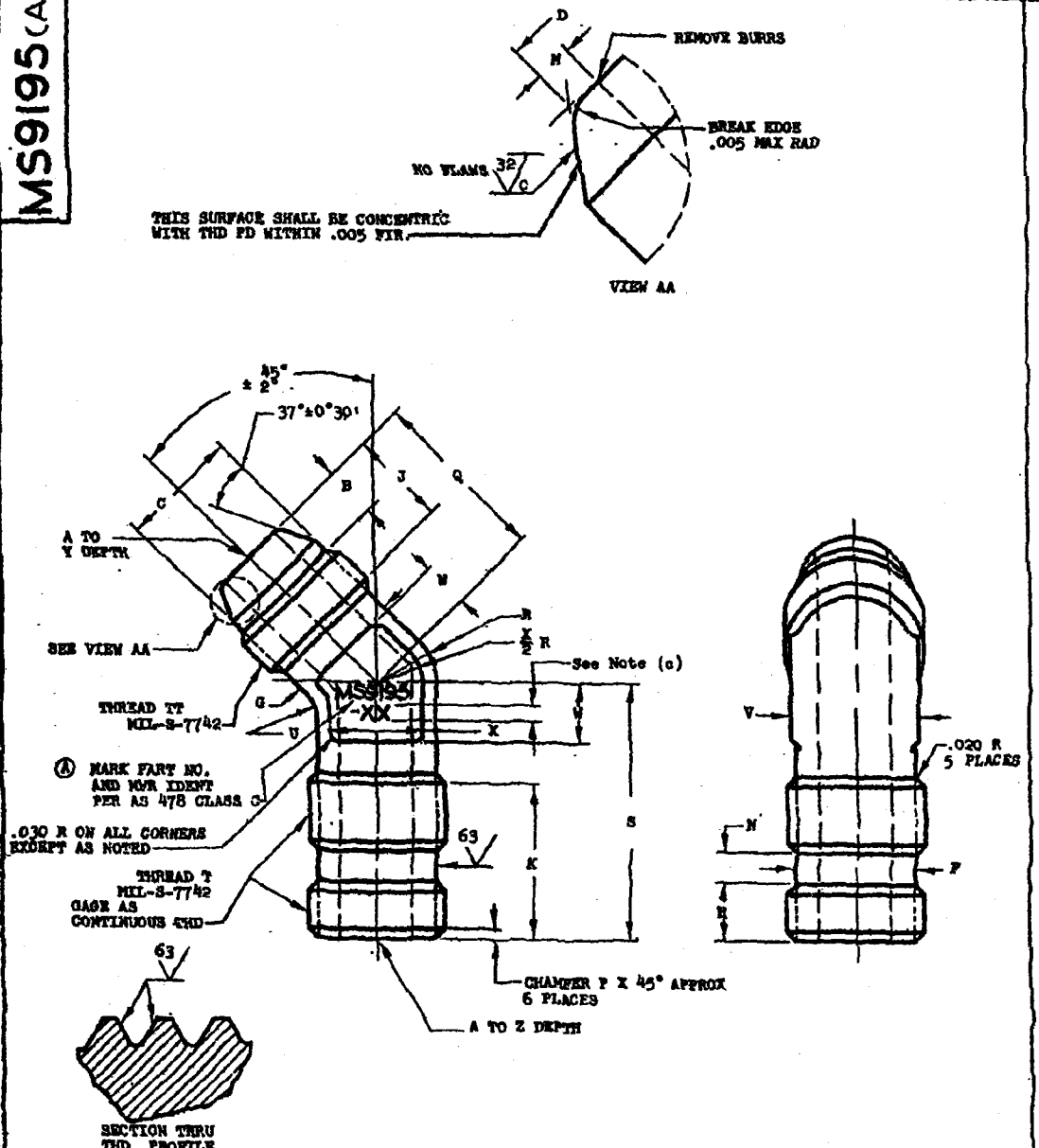
MS9195(ASG)

FED. SUP CLASS 4730




(a) DIAMETER F SHALL BE FREE OF THREAD MARKS.
(b) DIAMETER F SHALL BE CONCENTRIC WITH PD OF THREAD WITHIN .0025 FIR.
(c) .020-.040 FOR -02, -03, AND -04 SIZES; .040-.060 FOR -05 THRU -16 SIZES; .090-.150 FOR -18 & LARGER SIZES.
(d) ALL DIAMETERS SHALL BE CONCENTRIC WITHIN .010 FIR. UNLESS OTHERWISE SPECIFIED.
Ⓐ (e) PARTING LINE MISMATCH .015 MAX.
Ⓐ (f) E MIN WALL THICKNESS BETWEEN FORGED SURFACE AND HOLE A.

THIS STANDARD WAS DEVELOPED COOPERATIVELY WITH THE ENGINE AND PROPELLER UTILITY PARTS COMMITTEE OF THE SAE.

APPROVED 11 Apr 60 REVISED Ⓐ 11 May 62

| CUSTODIAN | MILITARY STANDARD | MS9195(ASG) |
|---|---|---|
| USAF - AFSC<br>Navy - Bu Ndpa | ELBOW, TUBE - AMS 5646, BOSS, 45° | SHEET 1 OF 2 |
| PROCUREMENT SPECIFICATION<br>NONE | | |

NOTICE: When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility, nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data, is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

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# MS9195(ASG)

MATERIAL: CORROSION RESISTANT STEEL AMS 5646, FORGING.
CLEANING: FINISHED PARTS SHALL BE DEGREASED AND IMMERSED FOR NOT LESS THAN 20 MINUTES IN A SOLUTION OF 1 VOLUME OF NITRIC ACID (SP GR 1.42) AND 9 VOLUMES OF WATER AT ROOM TEMPERATURE.
SURFACE ROUGHNESS: AS 291. UNLESS OTHERWISE SPECIFIED MACHINED SURFACES TO BE 125 MICROINCHES.

PARTS SUBJECT TO FLUORESCENT PENETRANT INSPECTION PER AMS 2645.
BREAK SHARP EDGES .003-.015 UNLESS OTHERWISE SPECIFIED.
DIMENSIONS IN INCHES. . UNLESS OTHERWISE SPECIFIED: TOLERANCES: LINEAR DIMENSIONS ±.015. DIMENSIONS ARE TO SHARP CORNERS UNLESS OTHERWISE SPECIFIED.

DO NOT USE UNASSIGNED PART NUMBERS. AS & AMS ARE SAE PUBLICATIONS

| PART NO. | Ⓐ (E) E | NOM TUBE OD | THREAD T | THREAD TT SIZE | THREAD TT MAJOR DIA | THREAD TT PD | THREAD TT MINOR DIA MAX | A DIA | B +.015 -.000 | C DIA +.000 -.010 | D DIA ±.003 | F DIA +.002 -.003 (a)(b) | G DIA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MS9195-02 | .040 | .125 | .3125-24UNF-3A | .3125-24NS | .3023-.3095 | .2797-.2824 | .2584 | .058-.065 | .144 | .245 | .132 | .250 | .240 |
| MS9195-03 | .050 | .188 | .375 -24UNF-3A | .375-24NS | .3648-.3720 | .3420-.3449 | .3209 | .121-.128 | .144 | .307 | .195 | .312 | .300 |
| MS9195-04 | .050 | .250 | .4375-20UNF-3A | .4375-20NS | .4264-.4345 | .3989-.4020 | .3732 | .168-.175 | .160 | .359 | .242 | .364 | .350 |
| MS9195-05 | .050 | .312 | .500 -20UNF-3A | .500-20NS | .4889-.4970 | .4613-.4645 | .4357 | .230-.237 | .160 | .421 | .304 | .426 | .415 |
| MS9195-06 | .050 | .375 | .5625-18UNF-3A | .5625-18NS | .5508-.5595 | .5200-.5234 | .4913 | .293-.301 | .165 | .476 | .368 | .481 | .470 |
| MS9195-07 | .060 | .438 | .625 -18UNF-3A | .625-18NS | .6133-.6220 | .5824-.5859 | .5538 | .355-.363 | .165 | .539 | .430 | .544 | .535 |
| MS9195-08 | .080 | .500 | .750 -16UNF-3A | .750-16NS | .7376-.7470 | .7026-.7064 | .6703 | .387-.395 | .229 | .654 | .462 | .660 | .650 |
| MS9195-09 | .090 | .562 | .8125-16UN-3A | .8125-16NS | .8001-.8095 | .7653-.7689 | .7328 | .434-.442 | .229 | .716 | .509 | .722 | .710 |
| MS9195-10 | .090 | .625 | .875 -14UNF-3A | .875-14NS | .8617-.8720 | .8215-.8256 | .7844 | .480-.488 | .255 | .767 | .555 | .773 | .765 |
| MS9195-11 | .100 | .688 | 1.000 -12UNF-3A | 1.000-12NS | .9886-.9970 | .9385-.9429 | .8948 | .542-.552 | .304 | .875 | .619 | .882 | .870 |
| MS9195-12 | .100 | .750 | 1.0625-12UN-3A | 1.0625-12NS | 1.0481-1.0595 | 1.0012-1.0054 | .9573 | .604-.614 | .304 | .938 | .681 | .945 | .935 |
| MS9195-14 | .100 | .875 | 1.1875-12UN-3A | 1.1875-12NS | 1.1731-1.1845 | 1.1261-1.1304 | 1.0823 | .729-.739 | .304 | 1.062 | .806 | 1.070 | 1.055 |
| MS9195-16 | .120 | 1.000 | 1.3125-12UN-3A | 1.3125-12NS | 1.2981-1.3095 | 1.2511-1.2554 | 1.2073 | .839-.851 | .312 | 1.188 | .918 | 1.195 | 1.185 |
| MS9195-18 | .140 | 1.125 | 1.500 -12UNF-3A | 1.500-12NS | 1.4856-1.4970 | 1.4381-1.4429 | 1.3948 | .948-.960 | .312 | 1.375 | 1.027 | 1.382 | 1.365 |
| MS9195-20 | .150 | 1.250 | 1.625-12UN-3A | 1.625-12NS | 1.6106-1.6220 | 1.5635-1.5679 | 1.5198 | 1.073-1.086 | .363 | 1.500 | 1.153 | 1.507 | 1.495 |
| MS9195-24 | .160 | 1.500 | 1.875 -12UN-3A | 1.875-12NS | 1.8606-1.8720 | 1.8134-1.8179 | 1.7698 | 1.307-1.320 | .374 | 1.750 | 1.387 | 1.756 | 1.745 |
| MS9195-28 | .210 | 1.750 | 2.250 -12UN-3A | 2.250-12NS | 2.2356-2.2470 | 2.1884-2.1929 | 2.1448 | 1.542-1.557 | .447 | 2.125 | 1.652 | 2.131 | 2.120 |
| MS9195-32 | .210 | 2.000 | 2.500 -12UN-3A | 2.500-12NS | 2.4856-2.4970 | 2.4429-2.4383 | 2.3948 | 1.776-1.791 | .457 | 2.375 | 1.886 | 2.381 | 2.370 |

| PART NO. | H ±.010 | J ±.010 | K ±.010 | M MIN | N +.010 -.000 | P | Q ±.010 | R RADIUS | S ±.010 | U RADIUS | V | W | X | Y ±.010 | Z ±.010 | APPROX WEIGHT LBS/EA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MS9195-02 | .208 | .317 | .682 | .030 | .125 | .020-.050 | .608 | .120 | 1.000 | .062 | .250 | .160 | .200 | .639 | 1.032 | .024 |
| MS9195-03 | .208 | .346 | .682 | .030 | .131 | .020-.050 | .608 | .150 | 1.000 | .062 | .312 | .160 | .220 | .639 | 1.032 | .033 |
| MS9195-04 | .250 | .398 | .748 | .030 | .140 | .030-.060 | .717 | .175 | 1.094 | .062 | .375 | .200 | .270 | .748 | 1.122 | .047 |
| MS9195-05 | .250 | .398 | .748 | .030 | .140 | .030-.060 | .717 | .205 | 1.094 | .062 | .438 | .200 | .330 | .748 | 1.122 | .059 |
| MS9195-06 | .278 | .398 | .813 | .030 | .156 | .040-.070 | .779 | .235 | 1.219 | .094 | .500 | .250 | .330 | .826 | 1.250 | .074 |
| MS9195-07 | .278 | .398 | .813 | .030 | .172 | .040-.070 | .779 | .267 | 1.219 | .094 | .562 | .250 | .330 | .826 | 1.250 | .086 |
| MS9195-08 | .312 | .489 | .903 | .030 | .187 | .040-.070 | .945 | .325 | 1.375 | .094 | .688 | .310 | .430 | 1.023 | 1.406 | .163 |
| MS9195-09 | .312 | .489 | .903 | .030 | .203 | .040-.070 | .945 | .355 | 1.375 | .094 | .750 | .310 | .440 | 1.023 | 1.406 | .187 |
| MS9195-10 | .357 | .585 | 1.018 | .030 | .219 | .050-.080 | 1.083 | .382 | 1.531 | .094 | .812 | .350 | .500 | 1.177 | 1.625 | .238 |
| MS9195-11 | .417 | .663 | 1.122 | .030 | .234 | .050-.080 | 1.255 | .435 | 1.734 | .094 | .938 | .420 | .500 | 1.364 | 1.859 | .356 |
| MS9195-12 | .417 | .663 | 1.122 | .030 | .234 | .050-.080 | 1.255 | .467 | 1.734 | .094 | 1.000 | .420 | .500 | 1.364 | 1.859 | .385 |
| MS9195-14 | .417 | .710 | 1.122 | .030 | .234 | .050-.080 | 1.440 | .527 | 1.734 | .125 | 1.125 | .420 | .500 | 1.534 | 1.859 | .467 |
| MS9195-16 | .417 | .720 | 1.122 | .030 | .234 | .050-.080 | 1.450 | .592 | 1.734 | .125 | 1.250 | .420 | .500 | 1.544 | 1.859 | .549 |
| MS9195-18 | .417 | .767 | 1.122 | .030 | .234 | .050-.080 | 1.574 | .682 | 1.750 | .125 | 1.438 | .450 | .600 | 1.699 | 1.921 | .778 |
| MS9195-20 | .417 | .767 | 1.122 | .030 | .234 | .050-.080 | 1.574 | .750 | 1.750 | .125 | 1.625 | .450 | .600 | 1.699 | 1.921 | .871 |
| MS9195-24 | .417 | .889 | 1.122 | .030 | .234 | .050-.080 | 1.762 | .872 | 1.750 | .125 | 1.812 | .450 | .600 | 1.855 | 1.921 | 1.115 |
| MS9195-28 | .417 | 1.017 | 1.205 | .044 | .234 | .050-.080 | 1.949 | 1.062 | 1.969 | .188 | 2.188 | .500 | .660 | 2.199 | 2.188 | 1.912 |
| MS9195-32 | .417 | 1.142 | 1.320 | .044 | .234 | .050-.080 | 2.199 | 1.188 | 2.203 | .250 | 2.438 | .500 | .750 | 2.480 | 2.422 | 2.497 |

APPROVED 11 APR 60 REVISED Ⓐ 11 May 62

TITLE STANDARD WAS DEVELOPED COOPERATIVELY WITH THE ENGINE AND PROPELLER UTILITY PARTS COMMITTEE OF THE SAE.

MILITARY STANDARD

FORM, TUBE - AMS 5646, ROSS, 45°

MS9195(ASG)

PROCUREMENT SPECIFICATION NO. NONE
CONTRACT NO. Navy-Bureau USAF - AFSC
OTHER INF. A - W - AF -

SUPERSEDES

SHEET 2 OF 2

FSCM 96906 H7J0