

|                                                                                                                                                                                                                                                                                                                                         |                                                        |                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------|
| <b>NAVISTAR, INC.</b>                                                                                                                                                                                                                                                                                                                   |                                                        |                                                            |
| <b>Material, Parts, and Process Specifications<br/>(MPAPS)</b>                                                                                                                                                                                                                                                                          |                                                        | <b>NUMBER:</b><br><b>MPAPS S-E-74.101-GS/PL</b>            |
|                                                                                                                                                                                                                                                                                                                                         |                                                        | <b>Former Designation:</b> <b>ESP-E-74.101-GS</b>          |
| <b>TITLE:</b>                                                                                                                                                                                                                                                                                                                           | <b>Wing Nuts – English Series<br/>(Noun Code 5780)</b> | <b>CURRENT REV No.:</b><br><b>1506</b>                     |
|                                                                                                                                                                                                                                                                                                                                         |                                                        | <b>DATE:</b><br><b>June 2015</b>                           |
| <b>WRITTEN/EDITED BY:</b><br><b>Materials Engineering</b>                                                                                                                                                                                                                                                                               | <b>APPROVED BY:</b><br><b>Materials Engineering</b>    | <b>SUPERSEDES:</b><br><b>ESP-E-74.101-GS - August 2006</b> |
| <b>PRINTED COPIES OF THIS DOCUMENT MUST BE VERIFIED FOR CURRENT REVISION</b>                                                                                                                                                                                                                                                            |                                                        |                                                            |
| <i>This specification may involve hazardous materials, equipment, and procedures. This specification does not purport to address all of the safety issues associated with its use. The user is responsible to consult appropriate safety and health practices and to determine the applicability of regulatory limits prior to use.</i> |                                                        |                                                            |
| <b>Change Notice: Changed to New MPAPS format; Combined GS, PP.</b>                                                                                                                                                                                                                                                                     |                                                        |                                                            |

- 1.0 MISCELLANEOUS DIMENSIONS:** Bearing surface will be at angles to the axis of the hole within 2°.
- 2.0 THREADS:** Threads will be Unified Coarse or Fine (UNF), Class 2B.
- 3.0 MATERIAL:** Steel or brass, as specified, that is adaptable to manufacturing process. SAE 1010 or equivalent acceptable for forged type steel Wing Nuts.
- 4.0 FINISH:** As designated by part number, nuts will be furnished plain, plated or coated in accordance with International Engineering Material Specification and class listed below:  
 Zinc Trivalent (ZN6A) on steel – MPAPS G-20, Class 6A.  
 Phosphate Coating (PHC) – MPAPS G-1, Class B-2.  
 Chromium Bright (CRB) on steel – CEMS G-19, Part III, Class 3, 5 or 8 depending on pitch.
- 5.0 RESTRICTED CHEMICAL SUBSTANCES:** Effective January 1, 2007, all product supplied to the requirements of this specification must comply with the requirements of the MPAPS B-50 specification.
- 6.0 POLICY FOR SELECTING PARTS FOR NEW DESIGN:** Approved parts are so designated to reduce variety of parts and assure maximum availability, interchangeability and cost savings in volume buying.

For new design, parts shall be selected from "Approved" part list only.

Nominal Sizes: #8, #10, 1/4, 5/16, 3/8 and 1/2  
 Thread: Unified Series, Coarse  
 Material: Carbon Steel  
 Finish: Zinc Trivalent, Class 6A (ZN6A)

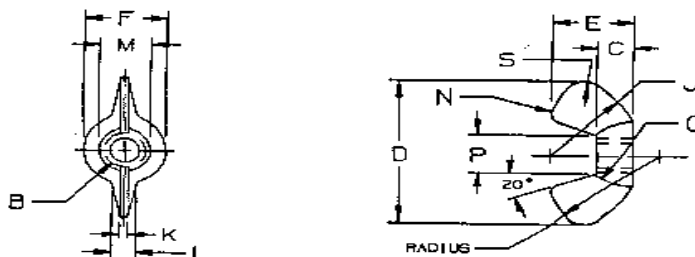
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|-------------------------------------------------|-----------------------------------|---------------------------------|
| <b>NUMBER:</b><br><b>MPAPS S-E-74.101-GS/PL</b> | <b>TITLE:</b><br><b>Wing Nuts</b> | <b>REVISION:</b><br><b>1506</b> |
|-------------------------------------------------|-----------------------------------|---------------------------------|

## 7.0 PART LIST:

### 7.1 Approved:



| Nominal Size                   | 8                           |       | 10    |       | 12*   |       | 1/4   |        | 5/16   |       | 3/8    |       | 7/16 * |       | 1/2   |       |
|--------------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|--------|--------|-------|--------|-------|--------|-------|-------|-------|
| <b>P Between Wings</b>         | 7/32                        |       | 7/32  |       | 9/32  |       | 9/32  |        | 5/16   |       | 3/8    |       | 1/2    |       | 1/2   |       |
| <b>D Wing Spread</b>           | 27/32                       |       | 27/32 |       | 1     |       | 1     |        | 1-3/16 |       | 1- 3/8 |       | 1- 7/8 |       | 1-7/8 |       |
| <b>E Wing eight</b>            | 13/32                       |       | 13/32 |       | 1/2   |       | 1/2   |        | 19/32  |       | 23/32  |       | 15/16  |       | 15/16 |       |
| <b>N Radius</b>                | 1/16                        |       | 1/16  |       | 1/16  |       | 1/16  |        | 3/32   |       | 1/8    |       | 1/8    |       | 1/8   |       |
| <b>S Radius</b>                | 1/8                         |       | 1/8   |       | 5/32  |       | 5/32  |        | 3/16   |       | 1/4    |       | 1/4    |       | 1/4   |       |
| <b>J Radius</b>                | 7/16                        |       | 7/16  |       | 9/16  |       | 9/16  |        | 5/8    |       | 3/4    |       | 1      |       | 1     |       |
| <b>K Wing Thickness</b>        | 1/32                        |       | 1/32  |       | 3/64  |       | 3/64  |        | 1/16   |       | 3/32   |       | 7/64   |       | 7/64  |       |
| <b>L Wing Thickness</b>        | 1/8                         |       | 1/8   |       | 5/32  |       | 5/32  |        | 3/16   |       | 7/32   |       | 1/4    |       | 1/4   |       |
| <b>M Boss Diameter</b>         | 1/4                         |       | 1/4   |       | 5/16  |       | 5/16  |        | 3/8    |       | 7/16   |       | 5/8    |       | 5/8   |       |
| <b>F Boss Diameter</b>         | 7/16                        |       | 7/16  |       | 1/2   |       | 1/2   |        | 9/16   |       | 11/16  |       | 29/32  |       | 29/32 |       |
| <b>O Radius</b>                | 5/16                        |       | 5/16  |       | 3/8   |       | 3/8   |        | 1/2    |       | 11/16  |       | 15/16  |       | 15/16 |       |
| <b>C Boss Height</b>           | 3/16                        |       | 3/16  |       | 7/32  |       | 7/32  |        | 1/4    |       | 5/16   |       | 3/8    |       | 3/8   |       |
| <b>B Threads Per Inch</b>      | 32                          | 36 *  | 24    | 32 *  | 24 *  | 28 *  | 20    | 28 *   | 18     | 24 *  | 16     | 24 *  | 14 *   | 20 *  | 13    | 20*   |
| <b>Pitch Diameter, Maximum</b> | .1475                       | .1496 | .1672 | .1736 | .1933 | .1970 | .2223 | .2311  | .2817  | .2902 | .3401  | .3528 | .3972  | .4104 | .4565 | .4731 |
| <b>Pitch Diameter, Minimum</b> | .1437                       | .1460 | .1629 | .1697 | .1889 | .1928 | .2175 | .2268  | .2764  | .2854 | .3344  | .3479 | .3911  | .4050 | .4500 | .4675 |
| <b>Minor Diameter, Maximum</b> | .1389                       | .1416 | .1555 | .1641 | .1907 | .1857 | .2067 | .2190  | .2630  | .2754 | .3182  | .3372 | .3717  | .3916 | .4284 | .4537 |
| <b>Minor Diameter, Minimum</b> | .1302                       | .1339 | .1449 | .1562 | .1709 | .1773 | .1959 | .2113  | .2524  | .2674 | .3073  | .3299 | .3602  | .3834 | .4167 | .4459 |
| <b>Finish</b>                  | <b>PART NUMBERS - STEEL</b> |       |       |       |       |       |       |        |        |       |        |       |        |       |       |       |
| <b>Plain</b>                   |                             |       |       |       |       |       |       | 219210 | 103128 |       |        |       |        |       |       |       |
| <b>Zinc</b>                    |                             |       |       |       |       |       |       |        | 142745 |       |        |       |        |       |       |       |

\* Non-Preferred

## 8.0 TECHNICAL INFORMATION:

|                                                                                                                                                                                                   |                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>For further information related to the technical content of this specification, contact:</b>                                                                                                   | <b>Suppliers may purchase controlled copies of this specification by contacting:</b>                                                                                                                                                     |
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