NAVISTAR, INC.			
Material, Parts, and Process Specifications (MPAPS)		*NUMBER:* **MPAPS S-L-21.101-GS/PL**	
		Former Designation: **ESP-L-21.101-GS**	
TITLE: **Lubrication Fittings - English Series (Noun Code 3300)**		*CURRENT REV No.:* **1506**	*DATE:* **June 2015**
WRITTEN/EDITED BY: **Materials Engineering**	*APPROVED BY:* **Materials Engineering**	*SUPERSEDES:* **ESP-L-21.101-GS - August 2006**	

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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.

Change Notice: **Changed to New MPAPS format; Combined GS, PP, NPP.**

1.0 GENERAL: This standard covers complete general and dimensional specifications for the various types of lubrication fittings and related threaded components.

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3.0 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.

Configuration: Straight or Elbow (plain or vented)
Threads: 1/8-27 Dry seal
1/4-18 Dry seal
1/4-28 Taper
1/8-27 Thread Forming
1/4-28 Thread Forming
Drive Fittings with shank diameter .194 or larger.

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Check Valve: Located in tip
Source: Multiple

4.0 DESIGNATIONS: Lubrication fittings are designated by the type and size of the threaded ends and the configuration of the fitting.

5.0 DIMENSIONS AND TOLERANCES: Tabulated dimensions will apply to the finished parts, plated or otherwise processed, as specified by the purchaser. Tolerance on all dimensions not otherwise limited will be plus and minus. 01 inch. The maximum and minimum across flats dimensions will be within the commercial tolerance of bar or extruded stock from which the fittings are produced. The minimum across corners dimensions of hexagons will be 1.092 times the nominal width across flats but will not result in a side flat width less than .43 times the nominal width across flats.

6.0 CONTOUR: Details of contour will be optional with manufacturer provided the tabulated dimensions are maintained and serviceability of the fittings is not impaired.

7.0 PIPE THREADS: The pipe threads on fittings, unless there is specific authorization to the contrary, will conform with the specifications given in detail in SAE Standard, Dryseal Pipe Threads, SAE J476, for the designated thread series, except that external thread crests may have greater maximum truncation due to manufacturing practices. Experience has shown that the crest of the threads on lubrication fittings intended for use with grease, does not have to conform to Dryseal American Standard Form to function satisfactorily. The deviations from standard Dryseal practice are peculiar to lubrication fittings and as special considerations are involved, it is not advisable to use these deviations in any other application of pipe thread practice.

External pipe threads will be chamfered from a diameter (rounded to a two-place decimal) obtained by subtracting .016 inch from the minimum minor diameter at small end, with a minus tolerance on the diameter of .02 inch, to produce a length of chamfered or partial thread equivalent to 1 to 1-1/2 times pitch (rounded to a three-place decimal). See Appendix A of SAE Standard, Dryseal Pipe Threads -SAE J476.

Internal pipe threads will be countersunk 90 degrees included angle to a diameter (rounded to a two-place decimal) obtained by adding .016 inch to the maximum major diameter at large end with a plus tolerance on the diameter of .02 inch. See Appendix A of SAE Standard, Dryseal Pipe Threads - SAE J476.

Recommended assembly considerations for the various combinations of Dryseal pipe threads are given under the respective standard thread series and the paragraph headed Limitation of Assembly, Appendix D, in SAE Standard, Dryseal Pipe Threads - SAE J746.

External taper threads designated SAE-LT will be Unified Standard Form 1/4-28 with .75 inch, plus and minus .06 inch, diametral taper per 12 inches of length. The pitch diameter measured at start of thread on small end will be .2257 - .2224 inch.

Threads will be chamfered .036 - .054 inch long from a diameter of .20 inch, with a tolerance of minus .02 inch.

It is recommended that SAE-LT taper threads be assembled into 1/4-28 UNF, Class 3B, straight threaded holes having modified maximum minor diameter of .2152 inch to insure 75% minimum thread height.

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