NAVISTAR, INC.

Material, Parts, and Process Specifications (MPAPS)	NUMBER: MPAPS S-R-4.101-GS	
	Former Designation: ESP-R-4.101-GS	
TITLE: Lamps Bulbs and Sealed Beam Headlamps – General Specifications (Noun Code – 4960)	CURRENT REV No.: 1506	DATE: June 2015
WRITTEN/EDITED BY: Materials Engineering / APPROVED BY: Materials Engineering	SUPERSEDES: ESP-R-4.101-GS - September 2000	

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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.**

1.0 GENERAL: This specification covers electrical specifications and physical dimensions of lamp bulbs, commonly known as miniature lamps and sealed beam headlamps. Wherever possible, specifications in this standard will conform to SAE J573d. The specifications shown are subject to possible change without notice as industry standards and manufacturing techniques are advanced.

2.0 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.

3.0 BULB DESIGNATIONS: Lamps in this standard will be grouped by letter and numerical combination, as is the industry practice. The letter indicating the approximate shape of the bulb, the numeral indicating the greatest diameter in eighths of an inch. (Example: S-8 bulb - a straight side bulb 8 eights or 1 inch in diameter.)

4.0 HEADING SEQUENCE AND EXPLANATION:

Trade number - Trade numbers used in this standard are recorded with the American National Standards Institute and are uniform throughout the industry.

Design Volts - Design volts shows the voltage at which a lamp-is designed for listed average ampere, candlepower and rated laboratory life characteristics.

Design Amps - Design amperes is the current flowing through a lamp when operated at its design voltage. It is subject to manufacturing tolerances.

Mean Candlepower (CP) - The candlepower column is the average initial mean-spherical-candlepower at design voltage. It is subject to manufacturing tolerances. Mean-spherical-candlepower is the generally accepted method of rating the total light output of miniature lamps. To convert mean-spherical-candlepower to lumens, multiply by 12.57 (4 π).

Average Life Hours (Avg Life HRS) - Rated average life is that obtained in closely controlled laboratory testing of lamps at their design voltage. It is not necessarily the same as service life where environmental conditions such as shock, vibration, voltage fluctuations, temperature, etc., may result in shorter average life. The service life of colored lamps may be less than that of clear lamps because of reduced transmission of heat energy through the bulb wall.

Filament Type - Filament designations consists of a prefix letter or letters and an arbitrary number. The prefix letter indicates whether the filament wire is straight, coiled or coiled coil and the number indicates the form or arrangement of the filament on the supports.

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Filament Light Center Length (LCL) - The average measurement for which the lamp is designed and is subject to manufacturing tolerances. The light center length is measured from the center of the light source to a particular point of the base. This point is shown below for the base types in the standard.

Bayonet - Top of base pins.
D. C. Prefocus - Bottom of indentation on prefocusing collar.
D. C. Index - Top of base pin nearer bottom contacts.
Wedge - Center of notch.

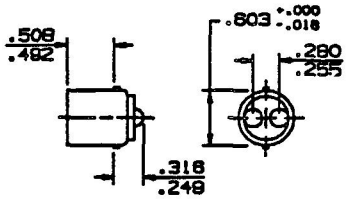
Overall Length (LG) - The dimension which includes the bulb and base is designated as the overall length of the lamp. The dimension listed is the maximum allowable.

Base Description (DESCP) - Base diagrams and dimension are shown on page R-4.102-103. The abbreviations for base description are listed below.

5.0 ABBREVIATIONS: The abbreviations used in the standard are as follows:

CP	- Candlepower	BAY	- Bayonet	A	- Amber
HRS	- Hours	PF	- Prefocus	NA	- Natural Amber
LCL	- Light Center Length	MIN	- Miniature	B	- Blue
LG	- Length	INDEX	- Indexing	R	- Red
DESCP	- Description	AVG	- Average	G	- Green
(L)	- Indefinite Long Life	MAX	- Maximum	IF	- Inside Frosted
D.C.	- Double Contact	PAR	- Parabolic Reflector	Y	- Yellow
S.C.	- Single Contact	SCR	- Screw		

BASE TYPES



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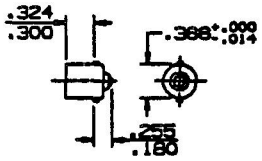
(D.C. BAYONET)



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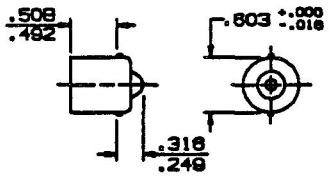
(MIN BAYONET)



TYPE B-1
(S.C. BAYONET)

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