

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS S-KM-4.101-GS/PL
		Former Designation: ESP-KM-4.101-GS
TITLE: Worm Drive Hose Clamps with Band of Modified Profile Specifications and Parts List (Noun Code 1640)		CURRENT REV No.: 1506
		DATE: June 2015
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	SUPERSEDES: ESP-KM-4.101-GS - June 2014
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<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>		
Change Notice: Changed to New MPAPS format; Combined GS, PP.		

- 1.0 GENERAL:** This standard covers worm drive hose clamps, used on hoses, with bands of modified profile, such as beaded profile, instead of flat steel band. The bands should provide increased tension and 360° sealing lines to prevent leakage and secure the hoses. The clamps are available with Belleville washers for spring compensation or without Belleville washers. With proper validation, these clamps can replace T-bolt clamps or other types of hose clamps in certain applications with potential cost reduction and/or performance improvement.
- 2.0 DIMENSIONS AND PART NUMBERS:** The dimensions and part numbers for clamps with washers are given in Fig. 1 and Table 1, respectively. The dimensions and part numbers for clamps without washers are given in Fig. 2 and Table 2, respectively.
- 3.0 MATERIALS:**
 Band, saddle, housing and Belleville washer: 301 or 304 stainless steel per MPAPS A-37
 Screw: Hardened 410 martensitic stainless steel per MPAPS A-37
- 4.0 PERFORMANCE REQUIREMENT :**
 Clamps for coolant applications need to be qualified to meet MPAPS DT-9.
 Clamps for CAC applications need to be qualified to meet MPAPS F-6034, Section 4.5 - Property and Performance Requirements – CAC Pipe and Hose Assembly.
- 5.0 TORQUE PROCEDURE:** Multistage torque procedure shall be used to provide better clamping force and consistency. Torque procedure and torque spec. shall follow MPAPS F-0.
- 6.0 APPROVED SUPPLIER:** Clamps per this ESP specification shall not be procured from non-approved suppliers without prior approval from Engineering. Suppliers shall be approved per proper validation test. Approved suppliers are:
1. Norma Breeze Superseal clamps, Norma group

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7.0 RESTRICTED CHEMICAL SUBSTANCES: Effective January 1, 2007, all products supplied to the requirements of this specification must comply with the requirements of the MPAPS B-50 specification.

8.0 WORKMANSHIP:

Clamps must be free from burrs, loose scale, sharp edges, and all other defects that might affect their performance and assembling.

9.0 PART LIST:

9.1 Approved:

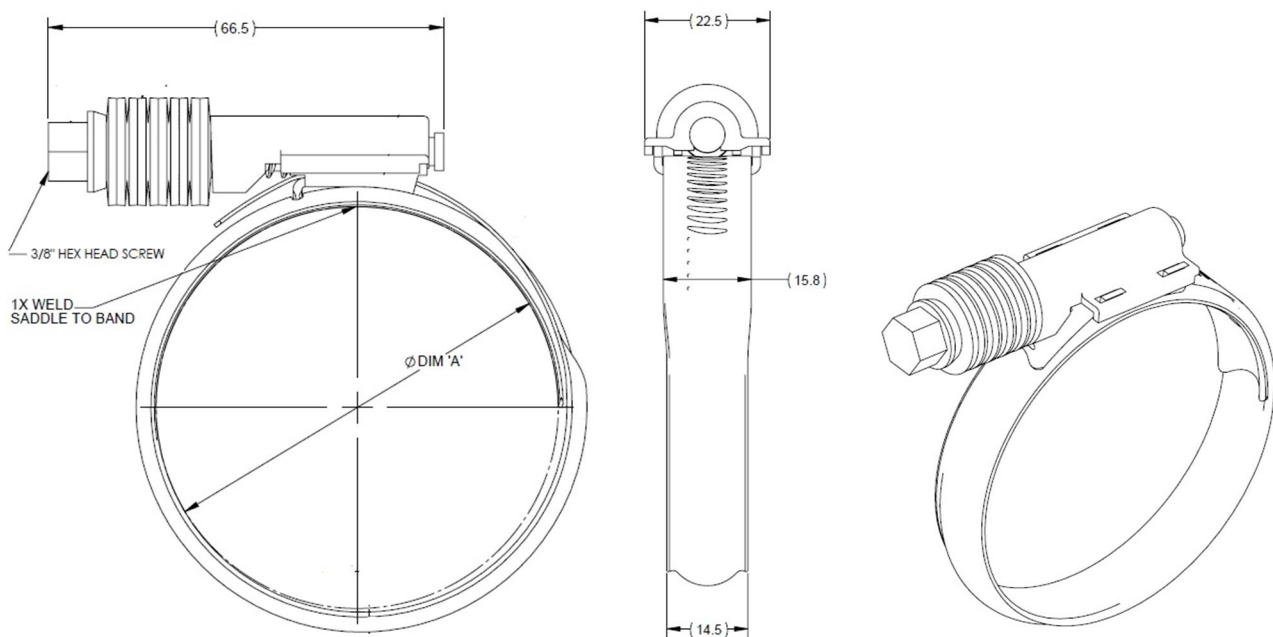


Fig. 1 Clamps with Belleville washers

Table 1 Part Numbers for clamps with Belleville washers

Navistar Part number	Effective Clamping Diameter (ϕ DIM 'A') Min – Max, mm	Approved Supplier
		Norma PN
4050868C1	30.5-43.2	0635 0001 038
4050869C1	40.6-53.3	0635 0001 051
4050870C1	50.8-66.0	0635 0001 064
4050871C1	63.5-78.7	0635 0001 076
4050872C1	73.7-91.4	0635 0001 089
4050873C1	86.4-106.7	0635 0001 102

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