

313 009



Part Submission Warrant

Part Name Fix Gear 5	Customer Part Number 250.1.3782.35
Shown on Drawing No. 250.1.3782.35	Organization Part # _____
Engineering Change Level d C007260_MIP_1	Dated 10-gen-17
Additional Engineering Changes _____	Dated _____
Safety and/or Government Regulation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Purchase Order No. _____ Weight (kg) 0.4740
Checking Aid No. _____	Checking Aid Engineering Change Level _____ Dated _____

ORGANIZATION MANUFACTURING INFORMATION

CUSTOMER SUBMITTAL INFORMATION

GETRAG MODUGNO

Organization Name & Supplier/Vendor Code _____

VIA DEI CICLAMINI N°4

Street Address _____

MODUGNO BARI	70026	ITALY
City	Region	Postal Code
		Country

Customer Name/Division _____

Buyer/Buyer Code _____

DCT250

Application _____

MATERIALS REPORTING

Has customer-required Substances of Concern information been reported? Yes No n/a

Submitted by IMDS or other customer format: _____

Are polymeric parts identified with appropriate ISO marking codes? Yes No n/a

REASON FOR SUBMISSION (Check at least one)

- | | |
|---|--|
| <input type="checkbox"/> Initial Submission | <input type="checkbox"/> Change to Optional Construction or Material |
| <input checked="" type="checkbox"/> Engineering Change(s) | <input type="checkbox"/> Supplier or Material Source Change |
| <input type="checkbox"/> Tooling: Transfer, Replacement, Refurbishment, or additional | <input type="checkbox"/> Change in Part Processing |
| <input type="checkbox"/> Correction of Discrepancy | <input type="checkbox"/> Parts Produced at Additional Location |
| <input type="checkbox"/> Tooling Inactive > than 1 year | <input type="checkbox"/> Other - please specify below |

REQUESTED SUBMISSION LEVEL (Check one)

- Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.
- Level 2 - Warrant with product samples and limited supporting data submitted to customer.
- Level 3 - Warrant with product samples and complete supporting data submitted to customer.
- Level 4 - Warrant and other requirements as defined by customer.
- Level 5 - Warrant with product samples and complete supporting data reviewed at organization's manufacturing location.

SUBMISSION RESULTS

The results for dimensional measurements material and functional tests appearance criteria statistical process package

These results meet all drawing and specification requirements: Yes NO (If "NO" - Explanation Required)

Mold / Cavity / Production Process _____

DECLARATION

I hereby affirm that the samples represented by this warrant are representative of our parts which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at the production rate of 2000 / 24 hours.

I also certify that documented evidence of such compliance is on file and available for review. I have noted any deviations from this declaration below.

EXPLANATION / COMMENTS: **Drawing correction with standard Tip diameter tolerance used for topping machining (increased)**

Is each Customer Tool properly tagged and numbered? Yes No n/a

Organization Authorized Signature *Camarda* Date **24/01/2017**

Print Name **Camarda Ettore** Phone No. **tel 390805858220** Fax No. _____

Title **Area 1 Manager** E-mail **ettore.camarda@magna.com**

FOR CUSTOMER USE ONLY (IF APPLICABLE)

Part Warrant Disposition: Approved Rejected Other

Customer Signature *Donato* Date **24.01.17**

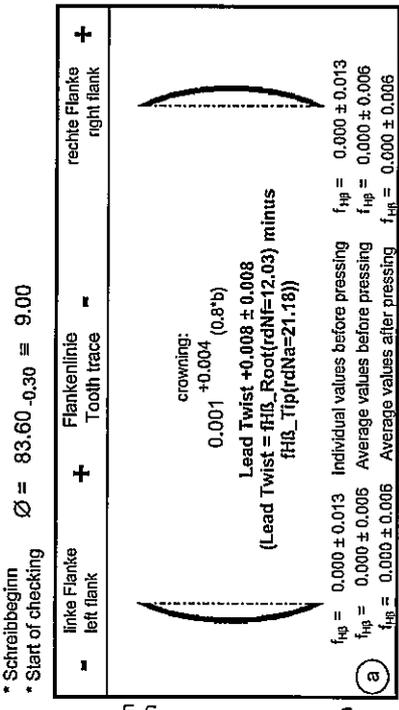
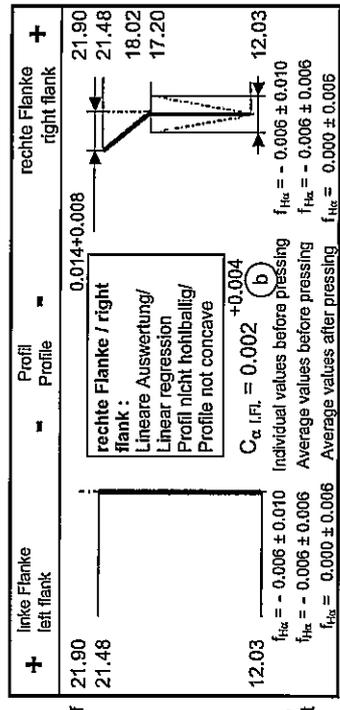
Print Name _____ Customer Tracking Number (optional) _____

STIRNRAD GEAR		Toleranzen der Verzahnung (DIN 3961 vom Aug. 1978) Limits for values of individual tooth		Tolerances of gearing (DIN 3961 of Aug. 1978) valid for values at individual tooth	
außenverzahnung external	z	linke Fl. left flank	rechte Fl. right flank	linke Fl. left flank	rechte Fl. right flank
Zähnezahl Number of teeth	46	# 0.004	# 0.004		
Modul Normal module	1.650000				
Eingriffswinkel Normal pressure angle	17° 30' 0"				
Schrägungswinkel Helix angle	29° 0' 0"				
Steigungsrichtung Hand of helix	RECHTS				
Profilverschiebungsfaktor Addendum modification factor	0.450				
Teilkreisdurchmesser Pitch diameter	86.781				
Kopfkreisdurchmesser Outside diameter	93.10 -0.26				
Kopfnutkreis, theo. max. d_{ka} Tip diam. usable theo.	92.65				
Kopfnutkreis, theo. min. d_{kb} Tip diam. usable theo.	92.25				
Fußkreisdurchmesser Root diameter	82.45 -0.32				
Fußnutkreisdurchmesser d_{kr} Root diameter usable	85.11				
Grundkreisradius Base circle radius	40.819				
Grundkreisdurchmesser Base diameter	81.638				
Normalzahndicke Normal tooth thickness	2.996 (a)				
Normalzahndicke Normal tooth thickness	2.971 (a)				
Melzähnezahl Number of teeth spanned	8				
Zahnweite Base tangent length	38.513 (a)				
Zahnweite Base tangent length	38.489 (a)				
Melzkugeldurchmesser Ball diameter	2.5000				
Diam. Zweikugelmaß max. M_{2k} Measurement o. balls	90.584 (a)				
Diam. Zweikugelmaß min. M_{2k} Measurement o. balls	90.512 (a)				
Verdrehtflankenspiel Circumferential backlash	(a)				

right fl. = drive

Der Verlauf der Profil- und Flankenlinie muss über den Messbereich stetig sein (ein- oder mehrfache Richtungsänderungen sind nicht zulässig)
 # The form of the profile and helix has to be continuous (one or more changes of directions are not allowed)
 Für fp max. zwei Wellen zulässig
 For fp max. two waves allowed

Verzahnungsblatt Gear Data Sheet	Verzahnungsblatt Gear Data Sheet
c 1 b 1 a 11 Buch, Anz. Änd.Nr.	See CR See CR Values before pressing added 20170117 20140008 20110207
S _n = 2.982 ... 2.957 W _k = 38.500 ... 38.476 M _{2k} = 90.544 ... 90.472	See CR See CR Values before pressing added 20170117 20140008 20110207
Datum Name Name	2017-08-05 Cricenti, Fabrizio Cricenti, Fabrizio
Datum Name Name	2017-08-05 Cricenti, Fabrizio Cricenti, Fabrizio
Datum Name Name	2017-08-05 Cricenti, Fabrizio Cricenti, Fabrizio



* Schreibleitbeginn Ø = 83.60 -0.30 ≅ 9.00
 * Start of checking
 * f_{fl} (zwischen dNf and start of checking ds) max f_{fl}/2, jedoch 0.003 zulässig
 * f_{fl} (between dNf and start of checking ds) max f_{fl}/2, 0.003 allowable.
 Profil- und Flankenlinienerprüfung nach VDI/VDE 2612
 Tabellenwerte für F_p und f_{hp} sind auf die gesamte Radbreite im Meßkreis d_m bezogen
 Flankenlinienerprüfung L_p = 0.8°b hochgerechnet auf 1.0°b
 Begriffe für Stirnräder nach DIN 688, 3960, 3998
 Profil- und helix checking according to VDI/VDE 2612
 Listed tolerance data for F_p and f_{hp} refers to the total face width in the meas. dia. d_m
 Tooth trace testing area L_p = 0.8°b calculated to 1.0°b
 Terms of the tooth system according to DIN (German Industrial Standards) No. 688, 3960, 3998

Verzahnungsblatt Gear Data Sheet	Verzahnungsblatt Gear Data Sheet
Datum Name Name	2017-08-05 Cricenti, Fabrizio Cricenti, Fabrizio

Verarbeitungsdaten siehe Verzahnungsblatt Vorbearbeitung gleicher Nr.
 For pre-machining dimensions, see gear data sheet same number
 Wkz-Profil siehe Werkzeugdatenblatt Nr. 250.1.3782.35
 For Tooth profile, see tool data sheet number

Drawing 3782 update from index "c" to "d"

Short description:

d	1x	007260_HIP_3	VIEW MATH: Kopfkreis-Ø/TIP DIAMETER Ø93.1-0.26 WAF/WAS Ø93.1-0.25	20170110
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PPAP Requirements		Required	Note for ind. "d"
1	Design Records	Yes	
2	Authorized Engineering change documents	Yes	see dwg
3	Customer Engineering approval	n.a.	
4	DFMEA	NO	
5	Process flow diagram(s)	NO	
6	PFMEA	NO	only drawing correction with increased tolerance
7	Control plan	Yes	Correlation sheet change
8	Measurement system analysis studies	NO	
9	Dimensional results	Yes	
10	Records of Material / Performance test results	NO	
11	Initial process studies	NO	
12	Qualified laboratory documentation	NO	
13	Appearance Approval Report (A.A.R.)	n.a.	
14	Sample Production Parts	Yes	
15	Master sample	Yes	
16	Checking aids	n.a.	
17	Customer-Specific Requirements	NO	
18	Part Submission Warrant (PSW)	Yes	

PPAP Docs updated
Yes
Yes
Yes
Yes
Yes
Yes

Other requirements			
1	PSW Raw part	NO	
2	PSW E.P. part	NO	
3	PSW Engagement Rings	NO	

