

312330



Part Submission Warrant

Part Name	Speed Gear 3	Customer Part Number	250.1.5169.76
Shown on Drawing No.	250.1.5169.76	Organization Part #	
Engineering Change Level	c C000552_MIP_1 - d C000911_MIP_1	Dated	13-apr-16
Additional Engineering Changes		Dated	
Safety and/or Government Regulation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Purchase Order No.	
Weight (kg)			1.2470
Checking Aid No.		Checking Aid Engineering Change Level	
		Dated	

ORGANIZATION MANUFACTURING INFORMATION	CUSTOMER SUBMITTAL INFORMATION
---	---------------------------------------

GETRAG MODUGNO	
Organization Name & Supplier/Vendor Code	Customer Name/Division
VIA DEI CICLAMINI N°4	
Street Address	Buyer/Buyer Code
MODUGNO BARI 70026 ITALY	DCT250
City Region Postal Code Country	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: **c: Back angle 4.5° meas. method according to G_808006 (already in place), Pointing requirements added: Optional ID groove added (used only in case of EP parts)**

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

Organization Authorized Signature *Camarda* Date **29/04/2016**

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 *J. Snelice* Date 29/04/2016

Print Name _____ Customer Tracking Number (optional) _____

2.11 Spline recess angle HW

Measurand: The measurand spline recess angle in the transverse section, defined in this norm, is measured normal to the profile - tangential to the base cylinder (see the view of C-C).

The spline recess angle HW conforms to the base helix angle β_b

Note:

The dimensions of roof angles are measured in the tangential section to the V-circle. (see the view of E-E)
Axial and radial depths of recesses, radii and chamfers are measured according to the sections specified in the drawing.

Measuring equipment: Gear measuring machines and 3D coordinate measuring machines are permitted.

Measuring strategy:

1. **Measuring direction:** The measuring direction must be in the transverse section normal to the profile (tangential to the base cylinder).

2. **Test diameter:** The test diameter should be on the V-circle d_v which touch the profile reference line of the reference profile. (Deviation see Test-Method 1))

$$d_v = d + 2 * x * m_n$$

If d_v is outside of the addendum circle, a substitute diameter is specified, please refer to the gear data sheet or drawing (view C-C; normal to the profile).

2. **Test-Methods:** The test is permissible with the methods:

- 1) helix angle $\beta = 0^\circ$
- 2) helix angle $\beta \neq 0^\circ$

Method 1) Test with $\beta = 0^\circ$:

In case $\beta = 0^\circ$, the actual spline recess angle HW_{ist} results from the measured $f_{H\beta}$.

$$HW_{ist} = \arctan(f_{H\beta} / b)$$

Note:

Specific software solutions allow it to enter a nominal spline recess angle HW_{nenn} , whereby the measurement, however, is still working with $\beta = 0^\circ$. The spline recess angle is normalized to $f_{H\beta} = 0$. Then only the $f_{H\beta}$ deviation from nominal spline recess angle is given out.

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Owner: Frank Descher (frank.descher@getrag.com) Department: Manufacturing Engineering	Security Classification: CONFIDENTIAL	Page: 19 / 25 Retention: 25.01/S + 12

$$HW_{ist} = HW_{nenn} + \arctan(f_{H\beta} / b)$$

In case testing with $\beta = 0^\circ$, the specified measuring radius r_M is deviate minimal. The influence on the measured angle is low and negligible. The deviation Δr from the specified measuring radius r_M is calculated according to: (The reference point for the measurement is here, as usual, at half facewidth $b/2$)

$$\Delta r = \sqrt{(r_m * \cos \alpha)^2 + (r_m * \sin \alpha + b / 2 * \tan HW)^2} - r_m$$

Method 2) Test with $\beta \neq 0^\circ$:

The determined helix angle β is not the nominal recess angle HM_{nenn} .

Module m , Pressure angle α and helix angle β must be specified in a way, that the required HW_{nenn} is logical given.

The Lead angle deviation $f_{H\beta}$ indicates the deviation from the nominal recess angle HW_{nenn}

3. Measuring distance:

The measuring distance should be shown on the drawing. If not shown it is necessary to distinguish between a measurement with software for cylindrical gears and a 3D measurement software:

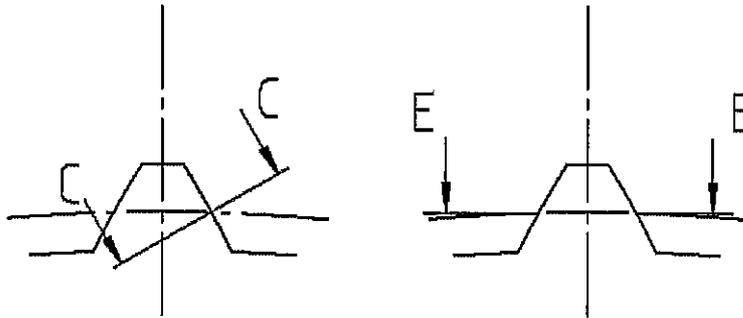
Measurements with gear lead measuring method software for cylindrical gears: the measuring distance is the available flank (b).

Measurement with 3D measurement software: the end areas can not be checked. This is why the measuring distance matches the evaluated distance. 80% of the available flank is to be measured (80% of b). End areas are to be split symmetrically into shares of approx. 10%.

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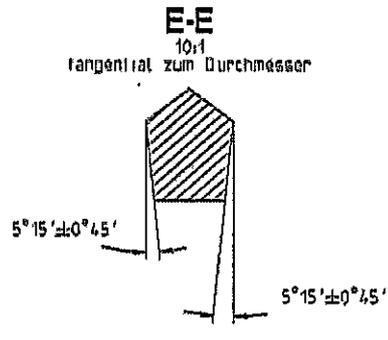
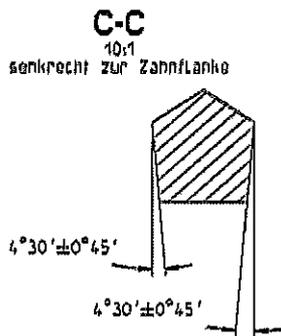
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Graphics:



Vertically to the flank

tangentially to the diameter



In the view C-C shown spline recess angle conforms to the base helix angle β_b .

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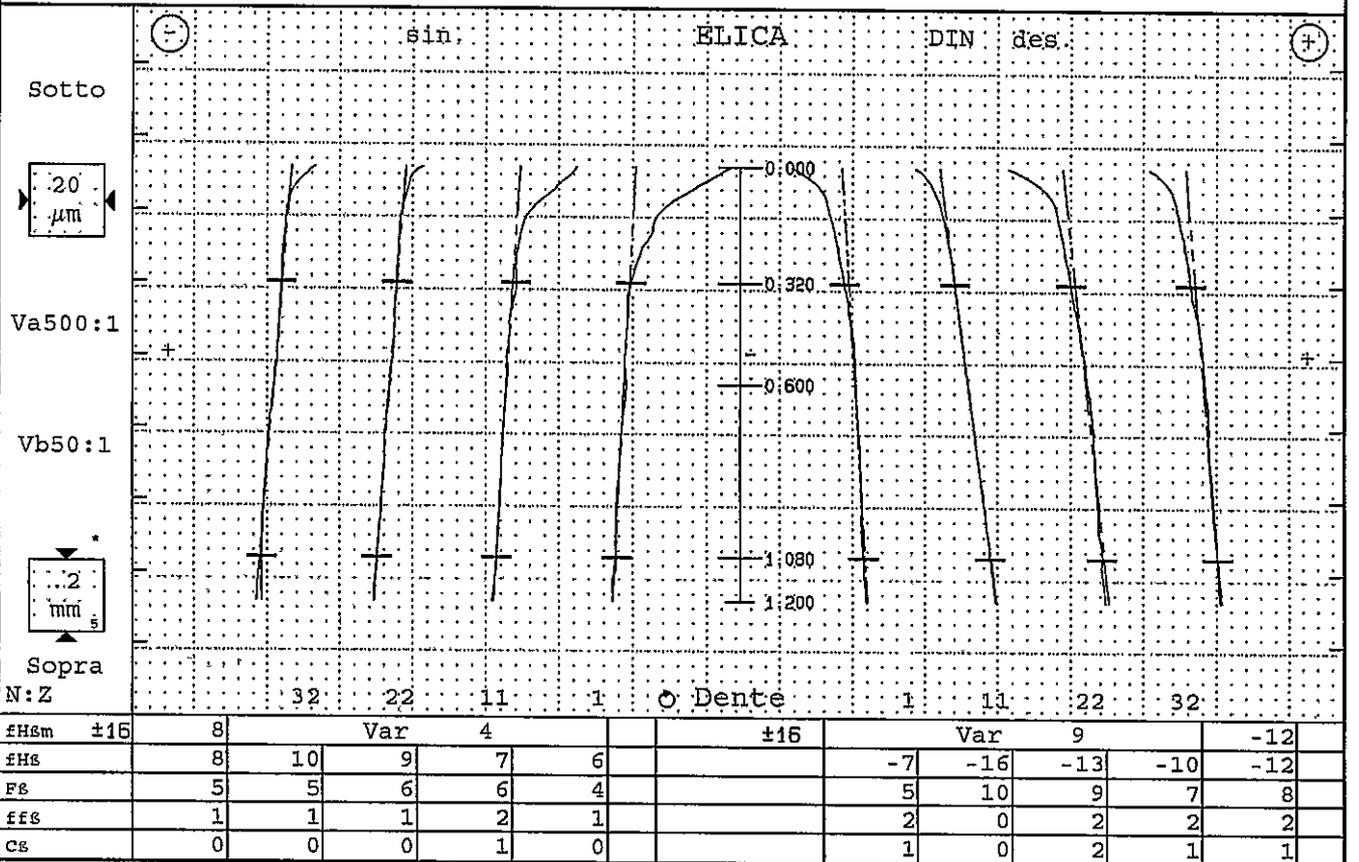
GETRAG B7681

Ruota cilindrica Evolvente/Elica



Nr. prog.:	STI041005 0	P26 B7681	Controllore:	TURNO B	Data:	08.04.2016 02:24
Denominazione:	CA SR3 di pezzo		Numero denti z	42	Largh. fasc. dent. b	1.2mm
Numero disegno:	250.1.5169.76-KK W		Modulo m	2mm	Tratto evolv. La	2.29mm
Comessa/serie nr.:			Angolo pressione	30° 00' 00"	Tratto elica Lf	.76mm
Masch.Nr.:	M001	Spindel: Formu	Ang. elica	04 30 00' / -04 30 00'	Inizio elab. Ml	21.91mm
Untersuchungszweck:	Laufende Messung		Ø Base db	72.7461mm	Palpatore Ø	(#2C) 1mm
Werkzeug:	Charge:		Ang. Base	00° 00' 00"	Fat. geor. pr. x	.45

ALREADY IN PLACE
 SEE PPAP DOC. 250.1.5169.76 IND. 4 - 11



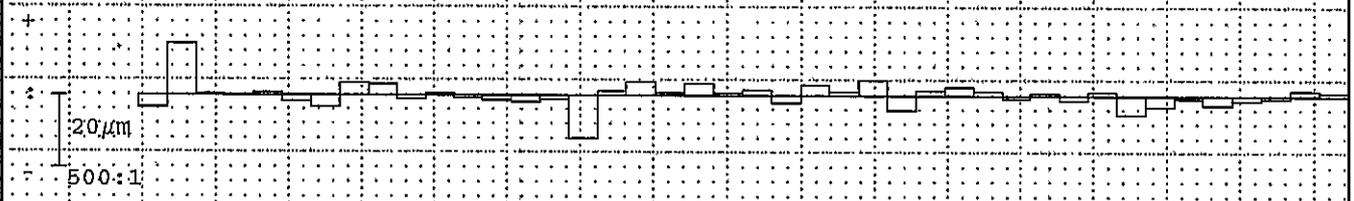
GETRAG B7681

Ruota cilindrica Divisione

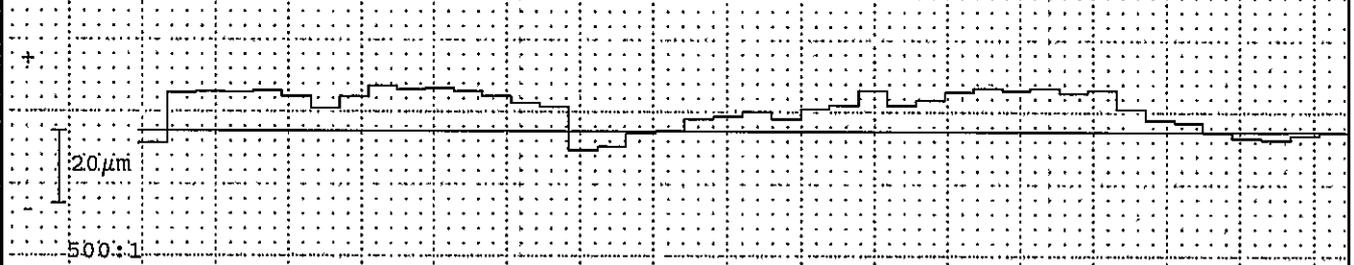


Nr. prog.: STI0410005 0 P26 B7681	Controllatore: TURNO B	Data: 08.04.2016 02:24
Denominazione: CA SR3 di pezzo	Numero denti z 42	Angolo pressione 30° 00' 00"
Numero disegno.: 250.1.5169.76-KK W	Modulo m 2mm	Angolo elica 04 30 00°/-04 30 00°
Comessa/serie nr.:	Untersuchungszweck: Laufende Messung	
Masch.Nr.: M001	Spindel: FORM 2	Charge:

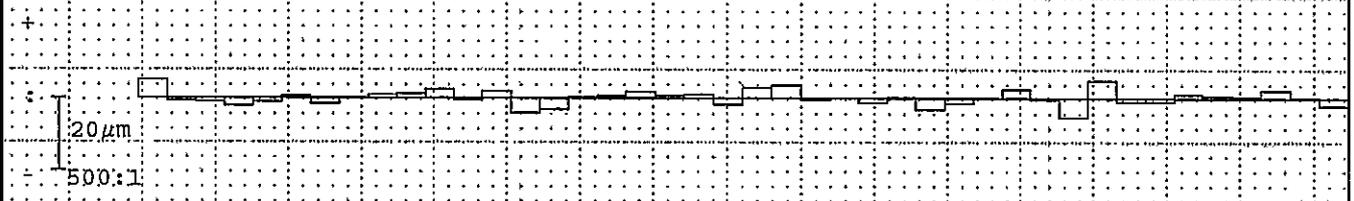
Errori singoli di divisione fp fianco sinistro



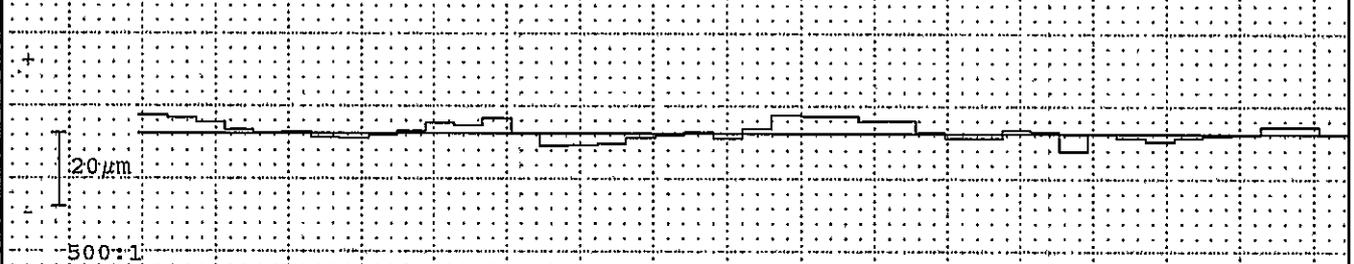
Errore somma di divisione Fp fianco sinistro



Errori singoli di divisione fp fianco destro

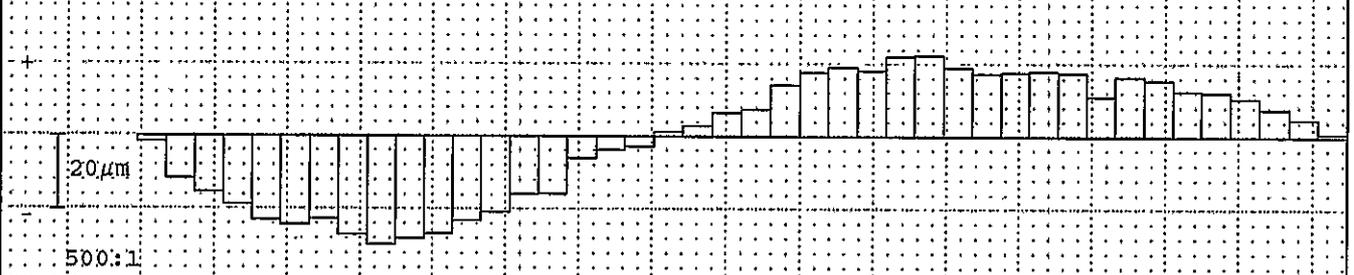


Errore somma di divisione Fp fianco destro



Corsa per misura divis.: 85.8 z=6mm	fianco sinistro				fianco destro			
	Val. misur	Qual.	Val. amm	Qual.	Val. misur	Qual.	Val. amm	Qual.
Gr. err. singoli divisione Fp max	14				5			
Gr. salto di passo Eu max	17				10			
Scarto di divisione Rp	26				10			
Err. globale di divisione Fp-e	18				10			
Err. cordale di divisione Fpz/8	17				6			

Centricità Fr (Ø-sfera = 4.5mm) Ⓞ : 47µm



Err. di concentricità Fr	52	63		
Variaz. spessore dente R _s				

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TECNOLOGIA / TECHNOLOGY

Dentellatura corpo d'aggancio SG3

A cura dell' Operatore / Reserved to Operator

CODICE / CODE		DATA		ORA / TIME	
MACCHINA / MACHINE		OPERATORE / OPERATOR			

EVENTO / EVENTS

			FERMO PROLUNGATO / LONG TIME STOP
CAMBIO UTENSILE / TOOL CHANGE			COLLISIONE / COLLISION
MANUTENZIONE PARTI ATTIVE DELLA MACCHINA MAINTENANCE OF ACTIVE COMPONENTS			MODIFICA DEI PARAMETRI / CHANGE PARAMETERS
MODIFICA AL CNC / CNC MODIFIED			ALTRO / OTHER: (specificare)

MISURE RICHIESTE / MESURE REQUIRED

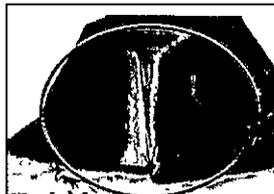
<input type="checkbox"/>	KLINGELNBERG	ANGOLI DENTELLATURA, SIMMETRIA
<input type="checkbox"/>		

MISURAZIONI PARTICOLARI / PARTICULAR MEASURE

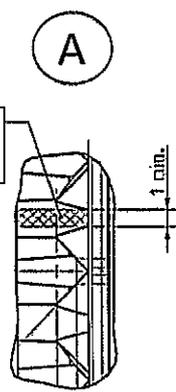
Valori Toll.	
Larghezza Smusso max	0,075±0,075
Angolo Sx	50° -1° +2°
Angolo Dx	50° -1° +2°
Simmetria	0 ± 0,075
Distanza tra Dentellatura Sx e Dx Con Calibro MAI408045 (Vedi Immagine A)	1 mm "min"
Altezza Spiovente	28,32 ± 0,08

Valori Reali	
Larghezza Smusso max	
Angolo Sx	
Angolo Dx	
Simmetria	
Distanza tra Dentellatura Sx e Dx	
Altezza Spiovente	

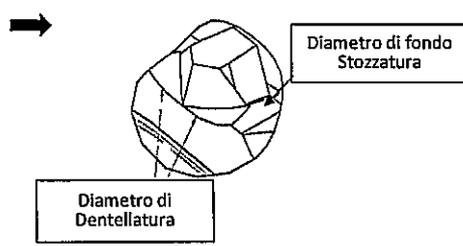
Controllo visivo: bave non ammesse		
Esito :	OK	
	NOK	



Attenzione:
Nella zona marcata non è ammessa
lavorazione di Dentellatura



Verifica di Diametro di Dentellatura < Diametro di fondo Stozzatura		
(controllo indiretto tramite gauge di misura Altezza spiovente - Non va in battuta)		
Esito :	OK	
	NOK	



NOTE	OPERATORE SALA MISURE	
	DATA	ORA



Part Submission Warrant

Part Name PUNTA DENTATA LIBERA 3: M Customer Part Number 2501516980
 Shown on Drawing No. _____ Organization Part # _____
 Engineering Change Level A Dated 18/06/2013
 Additional Engineering Changes _____ Dated _____
 Safety and/or Government Regulation Yes No Purchase Order No. 4500368252 Weight (kg) _____
 Checking Aid No. _____ Checking Aid Engineering Change Level _____ Dated _____

ORGANIZATION MANUFACTURING INFORMATION
COM scpa
 Organization Name & Supplier/Vendor Code _____
ss 168 Km 30+100
 Street Address _____
Palazzo S.G. (PZ) 85026 Italy
 City Region Postal Code Country

CUSTOMER SUBMITTAL INFORMATION
GETRAG (BARI)
 Customer Name/Division _____
ING. GIULI
 "Buyer/Buyer Code" _____
 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)
 Initial Submission
 Engineering Change(s)
 Tooling: Transfer, Replacement, Refurbishment, or additional
 Correction of Discrepancy
 Tooling Inactive > than 1 year
 Other - please specify below _____
 Change to Optional Construction or Material
 Supplier or Material Source Change
 Change in Part Processing
 Parts Produced at Additional Location

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 _____ / _____ 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: _____

Is each Customer Tool properly tagged and numbered? Yes No n/a
 Organization Authorized Signature [Signature] Date 07/03/2014
 Print Name Rubino Michele Phone No. 0972/44539 Fax No. 0972/45713
 Title Resp. CQ E-mail antonio.rubino@com-scpa.it

FOR CUSTOMER USE ONLY (IF APPLICABLE)
 Part Warrant Disposition: Approved Rejected Other
 Customer Signature [Signature] Date 31/03/2014
 Print Name QPE-GPSS - GIACOTTO RUBISO Customer GETRAG S.p.A.
 Via del Colomino, 4 B/W/L/R/LU - 250-LU - 13-
 76026 Modugno (Bari) Number (optional) _____
 Tel. +39 080 5558-11 Fax +39 080 5558-11
 - 0027

Drawing 5169 update from index "b" to "d"

Short description:

d	2x	(0000911.HIP..1)	Ansicht S: Optionale Erkennungserfülle hinzu/ VIEW S: OPTIONAL ID GROOVE ADDED / MAIN: 0 hinzu/ADDED	20160413
c	3x	(0000552.HIP..1)	VIEW W: TEXT 2x hinzu/ADDED: TEXT: "gemessen nach G_808006/MEASURED ACCORDING TO G_808006" wdr./WAS "gemessen nach GN 8005/MEASURED ACCORDING TO GN 8005"	20160405

PPAP Requirements		Required	Note for ind. "c"	Note for ind. "d"	PPAP Docs updated
1	Design Records	Yes	Yes	Yes	Yes
2	Authorized Engineering change documents	Yes	see dwg	see dwg	Yes
3	Customer Engineering approval	n.a.			
4	DFMEA	NO			
5	Process flow diagram(s)	NO			
6	PFMEA	Yes	Already in place meas. Method G_808006	NO Groove on supplier PFMEA	Yes
7	Control plan	Yes	Already in place meas. Method G_808006	NO Groove on supplier Control Plan	Yes
8	Measurement system analysis studies	NO			
9	Dimensional results	Yes	Yes	NO Groove on supplier Dim. Res.	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	Yes	Yes	Yes
15	Master sample	Yes	Yes	Yes	Yes
16	Checking aids	n.a.			
17	Customer-Specific Requirements	NO			
18	Part Submission Warrant (PSW)	Yes	Yes	Yes	Yes
Other requirements					
1	PSW Raw part	NO			
2	PSW E.P. part	Yes	NO	Yes	Yes
3	PSW Engagement Rings	NO			

Part Name Speed Gear 3		Customer Part Number 250.1.3641.77	
Shown on Drawing No. 250.1.3641.77		Organization Part # _____	
Engineering Change Level d C000552_MIP_1 - e C000911_MIP_1		Dated 14-apr-16	
Additional Engineering Changes: _____		Dated _____	
Safety and/or Government Regulation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Purchase Order No. _____	Weight (kg) 1.4450	
Checking Aid No. _____	Checking Aid Engineering Change Level _____	Dated _____	

ORGANIZATION MANUFACTURING INFORMATION	CUSTOMER SUBMITTAL INFORMATION
GETRAG MODUGNO	
Organization Name & Supplier/Vendor Code	Customer Name/Division
VIA DEI CICLAMINI N°4	
Street Address	Buyer/Buyer Code
MODUGNO BARI 70026 ITALY	DCT250
City Region Postal Code Country	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

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EXPLANATION / COMMENTS: **d: Back angle 4.5° meas. method according to G_808006 (already in place), Pointing requirements added**
e: Optional ID groove added (used only in case of EP parts)

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

Organization Authorized Signature Date **29/04/2016**

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 Date **29/04/2016**

Print Name _____ Customer Tracking Number (optional) _____



Part Submission Warrant

Part Name RUOTA DENTATA LIBERA 3H. TORNITA Customer Part Number 2501364180
 Shown on Drawing No. _____ Organization Part # _____
 Engineering Change Level "D" Dated 18/06/2013
 Additional Engineering Changes _____ Dated _____
 Safely and/or Government Regulation Yes No Purchase Order No. _____ Weight (kg) _____
 Checking Aid No. _____ Checking Aid Engineering Change Level _____ Dated _____

ORGANIZATION MANUFACTURING INFORMATION
COM scpa
 Organization Name & Supplier/Vendor Code _____
 ss 168 Km 30+100.
 Street Address _____
 Palazzo S.G. (PZ) 85026 Italy
 City Region Postal Code Country

CUSTOMER SUBMITTAL INFORMATION
GETRAG (BA2)
 Customer Name/Division _____
 Buyer/Buyer Code _____
 Application _____

MATERIALS REPORTING
 Has customer-required Substances of Concern Information been reported? Yes No n/a
 Submitted by IMDS or other customer format: _____

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

REASON FOR SUBMISSION (Check at least one)
 Initial Submission Change to Optional Construction or Material
 Engineering Change(s) Supplier or Material Source Change
 Tooling: Transfer, Replacement, Refurbishment, or additional Change in Part Processing
 Correction of Discrepancy Parts Produced at Additional Location
 Tooling Inactive > than 1 year
 Other - please specify below _____

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 Mold / Cavity / Production Process _____

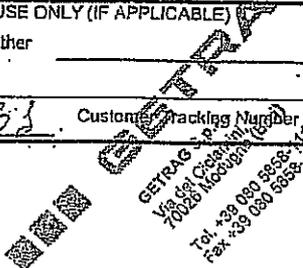
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 I also certify that documented evidence of such compliance is on file and available for review. I have noted any deviations from this declaration below.

EXPLANATION / COMMENTS: _____

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

Organization Authorized Signature Rubino Date 29/06/2013
 Print Name Rubino Michele Phone No. 0972/44539 Fax No. 0972/45713
 Title Resp. CQ E-mail antonio.rubino@com-scpa.it

FOR CUSTOMER USE ONLY (IF APPLICABLE)
 Part Warrant Disposition: Approved Rejected Other
 Customer Signature Giacomo Date 15/07/2013
 Print Name GIACOMO RUBINO - UPE - GP33 Customer Tracking Number (optional) BIWLRU-250-2U-13



-0089



Part Submission Warrant

Part Name	Speed Gear 3	Customer Part Number	250.1.4221.78
Shown on Drawing No.	250.1.4221.78	Organization Part #	
Engineering Change Level	e C000552_MIP_1 - f C000911_MIP_1	Dated	13-apr-16
Additional Engineering Changes		Dated	
Safety and/or Government Regulation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Purchase Order No.	
Weight (kg)			1.4530
Checking Aid No.		Checking Aid Engineering Change Level	
Dated		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?
Submitted by IMDS or other customer format: Yes No n/a

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: **e: Back angle 4.5° meas. method according to G_808006 (already in place), Pointing requirements added**
f: Optional ID groove added (used only in case of EP parts)

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

Organization Authorized Signature *Camarda* Date **29/04/2016**

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

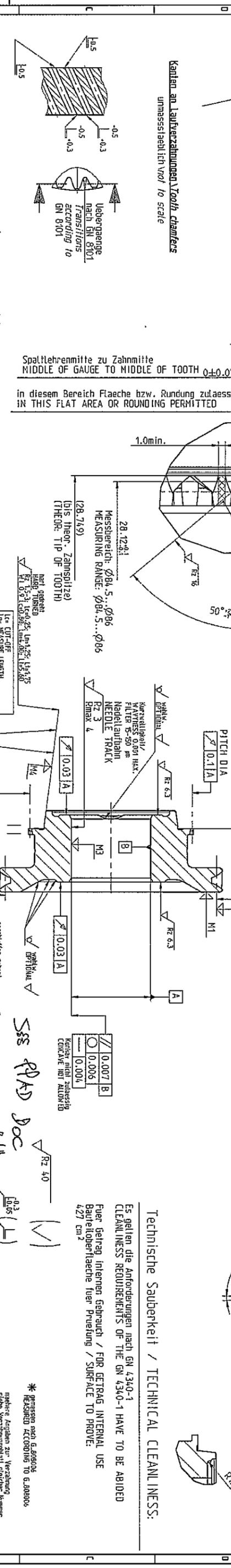
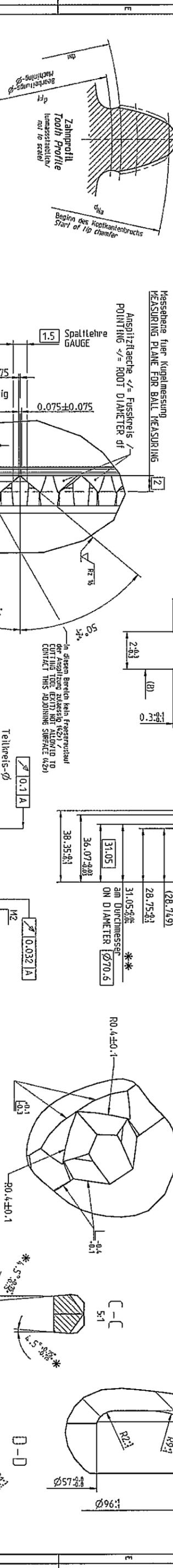
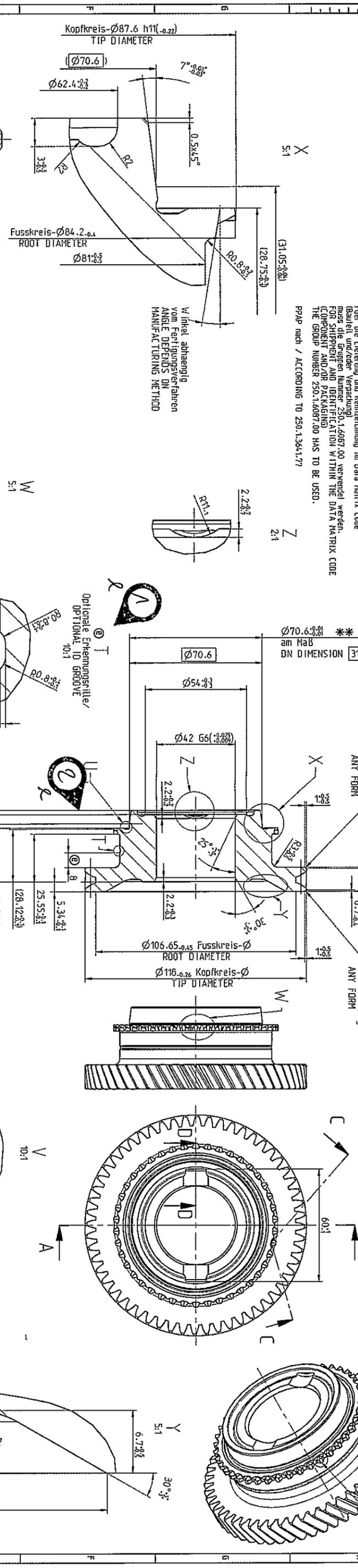
Title **Area 1 Manager** E-mail **ettore.camarda@magna.com**

FOR CUSTOMER USE ONLY (IF APPLICABLE)

Part Warrant Disposition: Approved Rejected Other

Customer Signature *d. Smetea* Date **29/04/2016**

Print Name _____ Customer Tracking Number (optional) _____



Ausserverzahnung / EXTERNAL GEAR		In Messhoehe	
Zahnwelle / SPLINE DATA EXTERNAL			
Bruehemaass / REFERENCE DIAMETER d_b	1.750	88	
Modul / MODUL m	2.0	2.0	
Zahnzahl / NUMBER OF TEETH z	42	42	
Ergebniswert / RESULTING ADDIT. s_a	17.5°	30°	
Steigungswinkel / RAKE ANGLE α	30.0°	0°	
Reinigung / HAND OF RAKE	LEFT, Links	STRAIGHT/gerade	
Profilverformungskorrektur / PROFILE CORRECTION			
Quelllinie / DATA TOOTH QUALITY	0.9	10	
Temperaturklasse / TEMPERATURE CLASS			
Zahnrad / TOOTH MATERIALS s_b	4.016		
Zahnrad / TOOTH MATERIALS s_c	3.975		
Zahnrad / TOOTH MATERIALS s_d	3.904		
Zahnrad / TOOTH MATERIALS s_e	2.50		
Zahnrad / TOOTH MATERIALS s_f	114.655		
Zahnrad / TOOTH MATERIALS s_g	94.509		
Zahnrad / TOOTH MATERIALS s_h	94.413		

CASE HARDENED AND TEMPERED		SPEED GEAR 3RD.	
M1 (CASE HARDENESS) : 80-5-2.5 HRA		4205	
M2 (TOOTH FLANK) : CHD (EH) 550-0.5-0.4		1415	
M3 (BORE) : CHD (EH) 550-0.3min.		1415	
M4 (CORNER) : CHD (EH) 550-0.4-0.4		1415	
M5 (INSIDE BASE OF TOOTH) : min. 300 HV10		1415	

