DaimlerChrysler Ford General Motors

Part Submission Warrant

YAZAKI

Part Name	CVR ASY-FS-JCT PNL BOX CVR	Cust. Part Number	H1BT-14A075-AA
Shown on Drawing No.	H1BT-14A075-AA	Org. Part Number	7176-1577-50
Engineering Change Level	EE00 E013094925 000	Dated	15/12/20157
Additional Engineering Changes	N/A	Dated	N/A
Safety and/or Government Regulation	☐ Yes ☑ No	Purchase Order No.	N/A
Weight (kg)	0,033		
Checking Aid No.	N/A	Checking Aid Engineering Change Level	N/A
Dated	N/A		

ORGANIZATION MANUFACTURING INFORMATION

YAZAKI EUROPE LTD — 323047696
Organization Name & Supplier/Vendor Code

Robert Bosch Strasse., 43
Street Address

Cologne | NRW | D-50769 | Germany
City | Region | Postal Code | Country

CUSTOMER SUBMITTAL INFORMATION

NURSAN

Buyer/Buyer Code

FORD

MATERIALS REPORTING

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

Submitted by IMDS or other customer format: IMDS

IMDS ID: 576676192 / 1

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
- ☐ Change to Optional Construction or Material
- ☐ Supplier or Material Source Change
- ☐ Change in Part Processing
- ☐ Parts produced at Additional Location
- ☑ Other - please specify below: Customer Request

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: 400009225 / 1 Cavity

DECLARATION

I 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 **960 / 8 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: Graça Ferreira Date: 20 March 2023

Print Name: Graça Ferreira Phone No. FAX No.

Title: QE E-mail: tdc@yazaki-europe.com

FOR CUSTOMER USE ONLY (IF APPLICABLE)

PPAP Warrant Disposition: ☐ Approved ☑ Rejected ☐ Other

Customer Signature Date

Print Name Customer Tracking No. (optional)

Dimension Report - internal

A. RAYMOND JABLONEC s.r.o.

ORGANIZATION:	A.Raymond Jablonec s.r.o.
SUPPLIER/VENDOR CODE:	49-504-2616
ARAYMOND PART NO.:	239251000

PART NUMBER	H1BT-14A075-AA
PART NAME:	CVR ASY-FS JCT PNL BOX
DESIGN RECORD CHANGE LEVEL:	
ENGINEERING CHANGE DOCUMENTS:	EE00 E 13094925 000

INSPECTION FACILITY:

3D - 3D Measuring Machine
C - Calliper
DI - Dial Indicator
GP - Gauge Plug
M - Micrometer
PP - Profile Projector
TW - Torque wrench
OP - Optical Projector
TM - Tensile Machine
HA - Halogen moisture analyzer

Datum zkoušky: 17.5.2016

ITEM	DIMENSION / SPECIFICATION	SPECIFICATION / LIMITS	INS. FACIL.	TEST DATE	QTY. TESTED	ORGANIZATION MEASUREMENT RESULT (DATA) (cavity no. 1, cavity no. 2, cavity no. 3 ...)	OK	NOT OK
01	length	4,00 ±0,20 mm	C	27.5.2016	1	4,09; 4,05; 4,13	☑	☐
02	length	27,00 ±0,50 mm	OP	27.5.2016	1	27,21; 27,44; 27,17	☑	☐
03	length	2,00 ±0,20 mm	C	27.5.2016	1	2,02; 1,98; 2,11	☑	☐
04	diameter	6,30 ±0,10 mm	C	27.5.2016	1	6,28; 6,30; 6,33	☑	☐
05	length	8,00 ±0,20 mm	C	27.5.2016	1	8,05; 8,14; 8,08	☑	☐
06	length	4,00 ±0,20 mm	C	27.5.2016	1	4,07; 4,08; 4,06	☑	☐
07	length	42,50 ±0,80 mm	OP	27.5.2016	1	42,87; 43,20; 42,99	☑	☐
08	length	33,00 ±0,80 mm	OP	27.5.2016	1	32,61; 32,58; 32,45	☑	☐
09	force F1:	Push to close force after exerting closure protection 75 N MAX		27.5.2016	1	lock a) F1 = 15,3 - 54,2 N lock b) F1 = 11,7 - 68,9 N	☑	☐
10	force F2:	Pull to open force 75 N MIN		27.5.2016	1	lock a) F2 = 88,5 - 100 N lock b) F2 = 75,2 - 100 N	☑	☐
11	hinge function	film hinge can be opened 30x min at 23°C		27.5.2016	1	OK	☑	☐

Comments:

SIGNATURE	TITLE	DATE
Bradáč Petr		27.5.2016

Dimension Report - internal

A. RAYMOND JABLONEC s.r.o.

ORGANIZATION:	A.Raymond Jablonec s.r.o.
SUPPLIER/VENDOR CODE:	49-504-2616
ARAYMOND PART NO.:	239251000

PART NUMBER	H1BT-14A075-AA
PART NAME:	CVR ASY-FS JCT PNL BOX
DESIGN RECORD CHANGE LEVEL:	
ENGINEERING CHANGE DOCUMENTS:	EE00 E 13094925 000

INSPECTION FACILITY:

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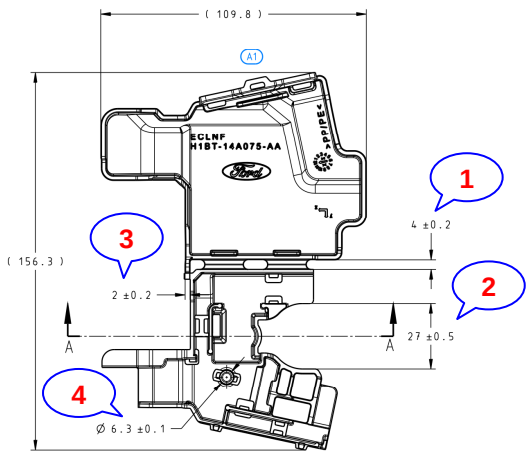
Datum zkoušky: 17.5.2016

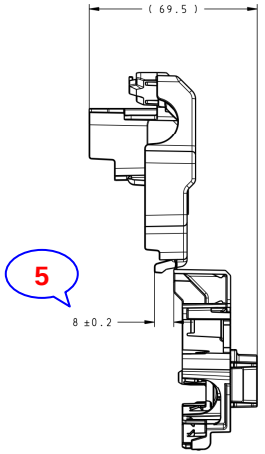
ITEM	DIMENSION / SPECIFICATION	SPECIFICATION / LIMITS	INS. FACIL.	TEST DATE	QTY. TESTED	ORGANIZATION MEASUREMENT RESULT (DATA) (cavity no. 1, cavity no. 2, cavity no. 3 ...)	OK	NOT OK
12	colour	red		27.5.2016	1	RED	☑	☐
13	material	PP		27.5.2016	1	SABIC PP CX 03-82	☑	☐
14	appearance	without defects		27.5.2016	1	OK	☑	☐
15	marking	FORD oval trademark, material code, date of manufacturing		27.5.2016	1	OK	☑	☐
16	marking	manufacturing code, cavity No. and part No.		27.5.2016	1	OK	☑	☐

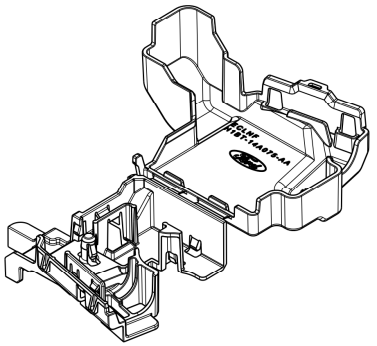
Comments:

SIGNATURE	TITLE	DATE
Bradáč Petr		27.5.2016

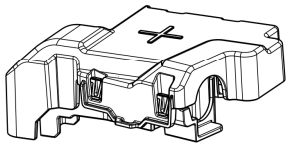
023318



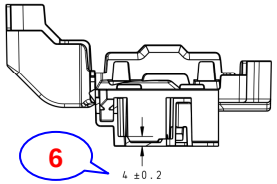




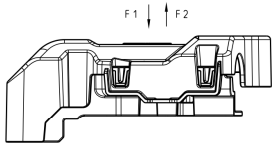
ISOMETRIC VIEW



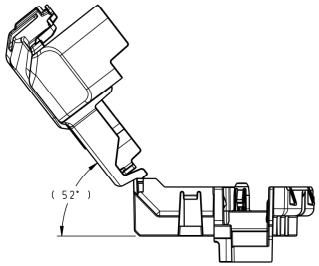
ISOMETRIC VIEW
ASSEMBLY SITUATION



SECTION A



ASSEMBLY SITUATION



PRE ASSEMBLY SITUATION

PART AS RECEIVED AT THE FORD PLANT OR SERVICE PART PACKAGER / WAREHOUSE SHALL BE FREE OF ANY CORROSION ALIGNED WITH THE FORD CUSTOMER SERVICE DIVISION (FCSD) PACKAGING AND SHIPPING GUIDE. CORROSION INHIBITORS OR FOREIGN MATERIALS DETRIMENTAL TO THE INSTALLATION OR FUNCTION OF THE PART MUST BE REMOVABLE BY THE INTENDED CLEANING METHOD.

FOR CURRENT RELEASE STATUS, SEE THE WERS ENGINEERING NOTICE.

FOR SURFACE FINISH REQUIREMENTS SEE ENGINEERING NOTICE AND WX100.

CHANGES TO DESIGN, COMPOSITION OR PROCESSING OF THE PART PREVIOUSLY APPROVED FOR PRODUCTION REQUIRE PRIOR APPROVAL FROM FORD MOTOR COMPANY PRODUCT ENGINEERING REFER TO ISO/TS 16949.

SOURCES FOR MATERIALS DEFINED BY FORD MATERIAL SPECIFICATIONS SHALL BE SELECTED FROM THE FORD MOTOR COMPANY ENGINEERING MATERIAL APPROVED SOURCE LIST.

ALL UNSPECIFIED FEATURES AND DIMENSIONS TO SUIT MANUFACTURER PROVIDING THE FUNCTION OF THE PART IS NOT IMPAIRED.

NOTE1. FORD OVAL TRADEMARK, MATERIAL CODE, DATE OF MANUFACTURING, MANUFACTURING CODE, CAVITY NO AND PART NO. MUST BE STAMPED ON PART.

MATERIAL: PP ACC. TO SPEC. WSS-M4D638-B
COLOUR: RED

MATERIAL CODE >PP< TO APPEAR ON PART PER ISO 1043-1 AND ISO 1043-2 (REFERENCING ISO 11469, PLASTIC) AND/OR ISO 1629 (RUBBER)

PERFORMANCE REQUIREMENTS:

TEST TO BE CARRIED OUT AT TEMPERATURE 23 °C ±5 °C AND SPEED OF 100 mm/min. WITH FORCES MEASURED IN LINE OF LEAST RESISTANCE

7

F1: PUSH TO CLOSE FORCE AFTER EXERTING CLOSURE PROTECTION 75 N MAX
F2: PULL TO OPEN FORCE 75 N MIN

GENERAL TOLERANCE: ±0.5 mm / ±5°

SINK MARKS AND DISTORTIONS ARE ALLOWED.

8

NO RADII IN THE AREA OF EJECTOR.

PARTS TESTED ACC. TO FORD CETP 00.00-E-412

HINGE FUNCTION: FILM HINGE CAN BE OPENED 30X MIN AT 23° C WITHOUT DAMAGE. WHITENING ON FILM HINGE IS ACCEPTABLE. COMPARISON TOWARDS BOUNDARY SAMPLES.

A2 GATE MARK ALLOWED.

9

LTRS	REVISIONS			
ORIGINATOR	CHECKER	ENGR APP	MATL APP	
RELEASED				
EE00 E 13033752 002		20150724		
GKUCKELK	RLIEDTKE	AKNOPKE	MVAZAN	
A1 REVISED DESIGN OF FIXING FEATURE A2 ADDED NOTE				
EE00 E 13094925 000		20151215		
GKUCKELK	RLIEDTKE	AKNOPKE	MVAZAN	

A.RAYMOND 239251	WEIGHT ~ 33 g	TCe B479	CATG NO.

REFERENCE		D1-B479-H1BT-14290-HC-3MVF2-001	
PART MUST COMPLY WITH RESTRICTED SUBSTANCE MANAGEMENT STANDARD WSS-M99P9999-A1 TO SAFEGUARD HEALTH, SAFETY AND THE ENVIRONMENT			
DRAFTED IN ACCORDANCE WITH FORD MOTOR COMPANY ENGINEERING CAD AND DRAFTING STANDARDS VERSION 28.1			3RD ANGLE PROJ DIMENSIONS ARE IN MILLIMETERS
CAD TYPE K-CATIA5	CAD LOC. TCe	CAD FILE H1BT-14A075-A-DWG-01 :3	DTMC IS MASTER
OPER. NO. N/A	UNIT N/A	H1BT-14A075-AA	
DESIGN GKUCKELK	DETAIL GKUCKELK	TITLE CVR ASY-FS JCT PNL BOX CVR	SHT 1 OF 1
CHECKED RLIEDTKE	SAFETY N/A		
SCALE 1:1	DATE 20150724	DIVISION EESE PLANT	

FORD MOTOR COMPANY

ARaymond
A.RAYMOND JABLONEC s.r.o.

DODACÍ LIST / DELIVERY NOTE 2016021501

Dodavatel / Supplier:	Zákazník, fakturační a dodací adresa / Customer, Invoice, Delivery adress:
A. Raymond Jablonec, s.r.o. **Čs. Armády 27/4609** **466 05 Jablonec nad Nisou** **CZECH REPUBLIC**	Yazaki Romania S.R.L. (YRL) Str. Sferei nr.7, Ploiesti, Prahova, Romania
IČO: 60486414 DIČ: CZ60486414	**DIČ: CZ**

Dodací list č. / Delivery note nr.	objednávka č. / order nr.:	Datum tisku / Print date:
2016021501	Alexandru Andronache	**16.2.2016**
Datum vyskladnění / Shipping:	Kontakt / Contact:	Dodací podmínka / Delivery condition:
16.2.2016	Alexandru Andronache	**exw**

Pos.:	Číslo dílu zák. / Customer part nr.:	Popis / Description:	Množství / Quantity:	MJ / Unit:
1	239251000/ H1BT14A075AA	**FSS samples B479**	**210**	**pcs**
2	235092000 / H1BT14A390ABA	**FSS samples B479**	**200**	**pcs**
3	**239386000/ H1BT14A390BAA**	**FSS samples B479**	**180**	**pcs**
4	**239385000/ H1BT14A390AAA**	**FSS samples B479**	**180**	**pcs**
		samples free of charge		

Balení celkem / Number of boxes:	Přepravce / Forwarder:	Vystavil / Issued by:
6 boxes	**AR CZ**	Zdenka Ryšavá

Telefon / Phone: +420 483 358 111 Fax: +420 483 358 711 E-mail: araymond@araymond.cz
www.araymond.cz

A.RAYMOND JABLONEC s.r.o.					**MSA (GRR method)**		
Part Number **013721009**					Gage Name **Posuvka digi. - caliper**		Appraiser A **Černý Michal**
Part Name **Hose clip, rotatable**					Gage Number **A 084**		Appraiser B **Knajfl Patrik**
Characteristic	DT **9,5**	JR **10**	HT **10,5**	Tolerance **+/- 0,5**	Gage Type **CD-15CPX**		Appraiser C **Čumpelík**
Classification **length**		Units **mm**	Result **Measurement system passed**		Parts **10**	Appraisers **3**	Date **4.1.2016**

APPRAISER TRIAL		PART										AVERAGE
		1	2	3	4	5	6	7	8	9	10	
A	1	10,08	10,02	10,03	10,03	9,96	9,79	10,09	10,05	10,18	9,98	10,021
	2	10,06	10,02	10,03	10,05	9,96	9,8	10,1	10,05	10,18	9,97	10,022
	3	10,06	10,02	10,03	10,03	9,96	9,79	10,1	10,05	10,16	9,97	10,017
	AVE	10,0667	10,02	10,03	10,0367	9,96	9,7933	10,0967	10,05	10,1733	9,9733	Xa = 10,02
	R	0,02	0	0	0,02	0	0,01	0,01	0	0,02	0,01	Ra = 0,009
	PART AVERAGE	10,0711	10,0222	10,03	10,0356	9,9556	9,7911	10,0978	10,05	10,1767	9,9767	X'' = 10,0207Rp = 0,3856
B	1	10,08	10,02	10,03	10,04	9,95	9,78	10,09	10,05	10,17	9,98	10,019
	2	10,06	10,03	10,03	10,04	9,96	9,79	10,1	10,05	10,18	9,97	10,021
	3	10,08	10,02	10,03	10,03	9,95	9,79	10,11	10,05	10,18	9,98	10,022
	AVE	10,0733	10,0233	10,03	10,0367	9,9533	9,7867	10,1	10,05	10,1767	9,9767	Xb = 10,0207
	R	0,02	0,01	0	0,01	0,01	0,01	0,02	0	0,01	0,01	Rb = 0,01
	PART AVERAGE	10,0711	10,0222	10,03	10,0356	9,9556	9,7911	10,0978	10,05	10,1767	9,9767	X'' = 10,0207Rp = 0,3856
C	1	10,06	10,02	10,03	10,04	9,95	9,8	10,1	10,05	10,17	9,98	10,02
	2	10,08	10,03	10,03	10,03	9,95	9,79	10,1	10,05	10,19	9,98	10,023
	3	10,08	10,02	10,03	10,03	9,96	9,79	10,09	10,05	10,18	9,98	10,021
	AVE	10,0733	10,0233	10,03	10,0333	9,9533	9,7933	10,0967	10,05	10,18	9,98	Xc = 10,0213
	R	0,02	0,01	0	0,01	0,01	0,01	0,01	0	0,02	0	Rc = 0,009
	PART AVERAGE	10,0711	10,0222	10,03	10,0356	9,9556	9,7911	10,0978	10,05	10,1767	9,9767	X'' = 10,0207Rp = 0,3856

([Ra = 0,009] + [Rb = 0,01] + [Rc = 0,009]) / [Count Appraiser = 3] = R'' = 0,00933

[Max X = 10,190] - [Min X= 9,78] = Xdiff = 0,001

* [R'' = 0,009] x [D4 = 2,574] = UCLr = 0

Repeatabillty - Equipment Variation (EV)

$$EV = \overline{\overline{R}} * K_1$$

$$EV = 0{,}009 * 0{,}591$$

= 0,006

Trials	K1
2	0,8862
3	0,5908

%EV = TV
= 100 [0,006/0,121]
= 4,54 %

Reproducibillty - Appraiser Variation (AV)

$$AV = \sqrt{\left(\overline{X}_{DIFF} * K_2\right)^2 - \left(\frac{EV^2}{n*r}\right)}$$

$$AV = \sqrt{\left(0{,}001 * 0{,}523\right)^2 - \left(\frac{0{,}006^2}{10*3}\right)}$$

= 0,000

n = díly r = měření

Appraisers	2	3
K2	0,7071	0,5231

%AV = TV
= 100 [0/0,121]
= 0,00 %

Repeatabillity & Reproducibility (GRR)

$$GRR = \sqrt{EV^2 + AV^2}$$

$$GRR = \sqrt{0{,}006^2 + 0^2}$$

= 0,006

Parts	K3
2	0,7071
3	0,5231
4	0,4467
5	0,4030
6	0,3742
7	0,3534
8	0,3375
9	0,3249
10	0,3146

%GRR = TV
= 100 [0,006/0,121]
= 4,54 %

Part Variation (PV)

$$PV = R_p * K_3$$

$$PV = 0{,}386 * 0{,}315$$

= 0,121

%PV = TV
= 100 [0,121/0,121]
= 99,90 %

Tolerance (TV)

$$TV = \sqrt{GRR^2 + PV^2}$$

$$TV = \sqrt{0{,}006^2 + 0{,}121^2}$$

= 0,121

ndc = 1.41[PV/GRR]
= 1.41 [0,121/0,006]
= 31,016 ~ 31

Notes: Notes: This analysis could be use as a representative for the similar group of parts ☑ yes

Report by method ARM average range method by MSA IV. edition.

MSA QiNibuHAAnoBAIkA

A.RAYMOND JABLONEC s.r.o.					**MSA (GRR method)**		
Part Number **013105000**					Gage Name **Optical profilprojector**	Appraiser A **Černý Michal**	
Part Name **Hose clip, rotatable**					Gage Number **I 002**	Appraiser B **Janoušek Milan**	
Characteristic	DT **14**	JR **14,5**	HT **15**	Tolerance **+/- 0,5**	Gage Type **Merlin**	Appraiser C **Knajfl Patrik**	
Classification **length***		Units **mm***	Result **Measurement system passed**		Parts **10**	Appraisers **3**	Date **4.1.2016**

APPRAISER TRIAL		PART 1	2	3	4	5	6	7	8	9	10	AVERAGE
A	1	14,61	14,54	14,59	14,68	14,62	14,48	14,55	14,61	14,7	14,52	14,59
	2	14,61	14,55	14,59	14,69	14,62	14,47	14,53	14,61	14,71	14,53	14,591
	3	14,61	14,55	14,59	14,69	14,62	14,47	14,55	14,61	14,72	14,53	14,594
	AVE	14,61	14,5467	14,59	14,6867	14,62	14,4733	14,5433	14,61	14,71	14,5267	Xa = 14,5917
	R	0	0,01	0	0,01	0	0,01	0,02	0	0,02	0,01	Ra = 0,008
	PART AVERAGE	14,6067	14,5444	14,59	14,6878	14,6233	14,4733	14,5433	14,6122	14,7111	14,5233	X" = 14,5916Rp = 0,2378
B	1	14,6	14,54	14,59	14,69	14,63	14,47	14,55	14,61	14,72	14,53	14,593
	2	14,6	14,55	14,59	14,69	14,63	14,47	14,54	14,61	14,72	14,52	14,592
	3	14,61	14,55	14,59	14,7	14,62	14,47	14,55	14,61	14,7	14,52	14,592
	AVE	14,6033	14,5467	14,59	14,6933	14,6267	14,47	14,5467	14,61	14,7133	14,5233	Xb = 14,5923
	R	0,01	0,01	0	0,01	0,01	0	0,01	0	0,02	0,01	Rb = 0,008
	PART AVERAGE	14,6067	14,5444	14,59	14,6878	14,6233	14,4733	14,5433	14,6122	14,7111	14,5233	X" = 14,5916Rp = 0,2378
C	1	14,61	14,54	14,59	14,68	14,62	14,48	14,54	14,62	14,7	14,52	14,59
	2	14,61	14,54	14,59	14,68	14,62	14,48	14,54	14,62	14,72	14,52	14,592
	3	14,6	14,54	14,59	14,69	14,63	14,47	14,54	14,61	14,71	14,52	14,59
	AVE	14,6067	14,54	14,59	14,6833	14,6233	14,4767	14,54	14,6167	14,71	14,52	Xc = 14,5907
	R	0,01	0	0	0,01	0,01	0,01	0	0,01	0,02	0	Rc = 0,007
	PART AVERAGE	14,6067	14,5444	14,59	14,6878	14,6233	14,4733	14,5433	14,6122	14,7111	14,5233	X" = 14,5916Rp = 0,2378

([Ra = 0,008] + [Rb = 0,008] + [Rc = 0,007]) / [Count Appraiser = 3] = R" = 0,00767

[Max X = 14,720] - [Min X= 14,47] = Xdiff = 0,002

* [R" = 0,008] x [D4 = 2,574] = UCLr = 0

Repeatabillty - Equipment Variation (EV)

$$EV = \overline{\overline{R}} * K_1$$

$$EV = 0{,}008 * 0{,}591$$

= 0,005

Trials	K1
2	0,8862
3	0,5908

%EV = TV
= 100 [0,005/0,075]
= 6,04 %

Reproducibillty - Appraiser Variation (AV)

$$AV = \sqrt{\left(\overline{X}_{DIFF} * K_2\right)^2 - \left(\frac{EV^2}{n * r}\right)}$$

$$AV = \sqrt{\left(0{,}002 * 0{,}523\right)^2 - \left(\frac{0{,}005^2}{10 * 3}\right)}$$

= 0,000

n = díly r = měření

Appraisers	2	3
K2	0,7071	0,5231

%AV = TV
= 100 [2,761E-4/0,075]
= 0,37 %

Repeatabillity & Reproducibility (GRR)

$$GRR = \sqrt{EV^2 + AV^2}$$

$$GRR = \sqrt{0{,}005^2 + 2{,}761E{-}4^2}$$

= 0,005

%GRR = TV
= 100 [0,005/0,075]
= 6,06 %

Part Variation (PV)

$$PV = R_p * K_3$$

$$PV = 0{,}238 * 0{,}315$$

= 0,075

Parts	K3
2	0,7071
3	0,5231
4	0,4467
5	0,4030
6	0,3742
7	0,3534
8	0,3375
9	0,3249
10	0,3146

%PV = TV
= 100 [0,075/0,075]
= 99,82 %

Tolerance (TV)

$$TV = \sqrt{GRR^2 + PV^2}$$

$$TV = \sqrt{0{,}005^2 + 0{,}075^2}$$

= 0,075

ndc = 1.41[PV/GRR]
= 1.41 [0,075/0,005]
= 23,243 ~ 23

Notes: Notes: This analysis could be use as a representative for the similar group of parts ☑ yes

Report by method ARM average range method by MSA IV. edition.

A.RAYMOND JABLONEC s.r.o.					**MSA (GRR method)**		
Part Number **018141003**					Gage Name **Váha - scale**	Appraiser A **Černý Michal**	
Part Name **Clip**					Gage Number **F 041**	Appraiser B **Beran**	
Characteristic	DT **30,282**	JR **30,9**	HT **31,518**	Tolerance	Gage Type **Sartorius LA1200S-0CE**	Appraiser C **Faiglová**	
Classification **weight**		Units **g**	Result **Measurement system passed**		Parts **10**	Appraisers **3**	Date **4.1.2016**

APPRAISER TRIAL		PART										AVERAGE
		1	2	3	4	5	6	7	8	9	10	
A	1	30,999	30,952	30,927	30,832	30,864	31,377	31,354	31,339	31,442	30,965	31,1051
	2	30,994	30,949	30,93	30,835	30,866	31,372	31,35	31,337	31,443	30,962	31,1038
	3	30,996	30,954	30,928	30,831	30,868	31,376	31,352	31,341	31,448	30,968	31,1062
	AVE	30,9963	30,9517	30,9283	30,8327	30,866	31,375	31,352	31,339	31,4443	30,965	Xa = 31,105
	R	0,005	0,005	0,003	0,004	0,004	0,005	0,004	0,004	0,006	0,006	Ra = 0,0046
	PART AVERAGE	30,9962	30,9518	30,9277	30,8331	30,8648	31,3748	31,3528	31,3392	31,4447	30,9651	X'' = 31,105Rp = 0,6116
B	1	30,998	30,951	30,926	30,836	30,864	31,373	31,354	31,34	31,447	30,964	31,1053
	2	30,996	30,953	30,929	30,832	30,865	31,374	31,356	31,342	31,441	30,965	31,1053
	3	30,998	30,948	30,924	30,834	30,861	31,376	31,352	31,338	31,446	30,962	31,1039
	AVE	30,9973	30,9507	30,9263	30,834	30,8633	31,3743	31,354	31,34	31,4447	30,9637	Xb = 31,1048
	R	0,002	0,005	0,005	0,004	0,004	0,003	0,004	0,004	0,006	0,003	Rb = 0,004
	PART AVERAGE	30,9962	30,9518	30,9277	30,8331	30,8648	31,3748	31,3528	31,3392	31,4447	30,9651	X'' = 31,105Rp = 0,6116
C	1	30,993	30,952	30,928	30,832	30,867	31,372	31,351	31,337	31,444	30,968	31,1044
	2	30,997	30,951	30,93	30,831	30,865	31,376	31,354	31,34	31,448	30,967	31,1059
	3	30,995	30,956	30,927	30,835	30,863	31,377	31,352	31,339	31,443	30,965	31,1052
	AVE	30,995	30,953	30,9283	30,8327	30,865	31,375	31,3523	31,3387	31,445	30,9667	Xc = 31,1052
	R	0,004	0,005	0,003	0,004	0,004	0,005	0,003	0,003	0,005	0,003	Rc = 0,0039
	PART AVERAGE	30,9962	30,9518	30,9277	30,8331	30,8648	31,3748	31,3528	31,3392	31,4447	30,9651	X'' = 31,105Rp = 0,6116
([Ra = 0,0046] + [Rb = 0,004] + [Rc = 0,0039]) / [Count Appraiser = 3] =												R'' = 0,00417
[Max X = 31,448] - [Min X= 30,83] = Xdiff = 0,000												
1												
* [R'' = 0,004] x [D4 = 2,574] = UCLr = 0												

Repeatabillty - Equipment Variation (EV)

$$EV = \overline{\overline{R}} * K_1$$

$$EV = 0{,}004 * 0{,}591$$

= 0,002

Trials	K1
2	0,8862
3	0,5908

%EV = TV
= 100 [0,002/0,192]
= 1,28 %

Reproducibillty - Appraiser Variation (AV)

$$AV = \sqrt{\left(\overline{X}_{DIFF} * K_2\right)^2 - \left(\frac{EV^2}{n*r}\right)}$$

$$AV = \sqrt{\left(3{,}333E{-}4 * 0{,}523\right)^2 - \left(\frac{0{,}002^2}{10*3}\right)}$$

= 0,000

n = díly r = měření

Appraisers	2	3
K2	0,7071	0,5231

%AV = TV
= 100 [0/0,192]
= 0,00 %

Repeatabillity & Reproducibility (GRR)

$$GRR = \sqrt{EV^2 + AV^2}$$

$$GRR = \sqrt{0{,}002^2 + 0^2}$$

= 0,002

Parts	K3
2	0,7071
3	0,5231

%GRR = TV
= 100 [0,002/0,192]
= 1,28 %

Part Variation (PV)

$$PV = R_P * K_3$$

$$PV = 0{,}612 * 0{,}315$$

= 0,192

4	0,4467
5	0,4030
6	0,3742
7	0,3534
8	0,3375
9	0,3249
10	0,3146

%PV = TV
= 100 [0,192/0,192]
= 99,99 %

Tolerance (TV)

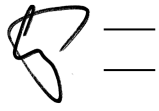
$$TV = \sqrt{GRR^2 + PV^2}$$

$$TV = \sqrt{0{,}002^2 + 0{,}192^2}$$

= 0,192

ndc = 1.41[PV/GRR]
= 1.41 [0,192/0,002]
= 110,201 ~ 110

Notes: Notes: This analysis could be use as a representative for the similar group of parts ☑ yes

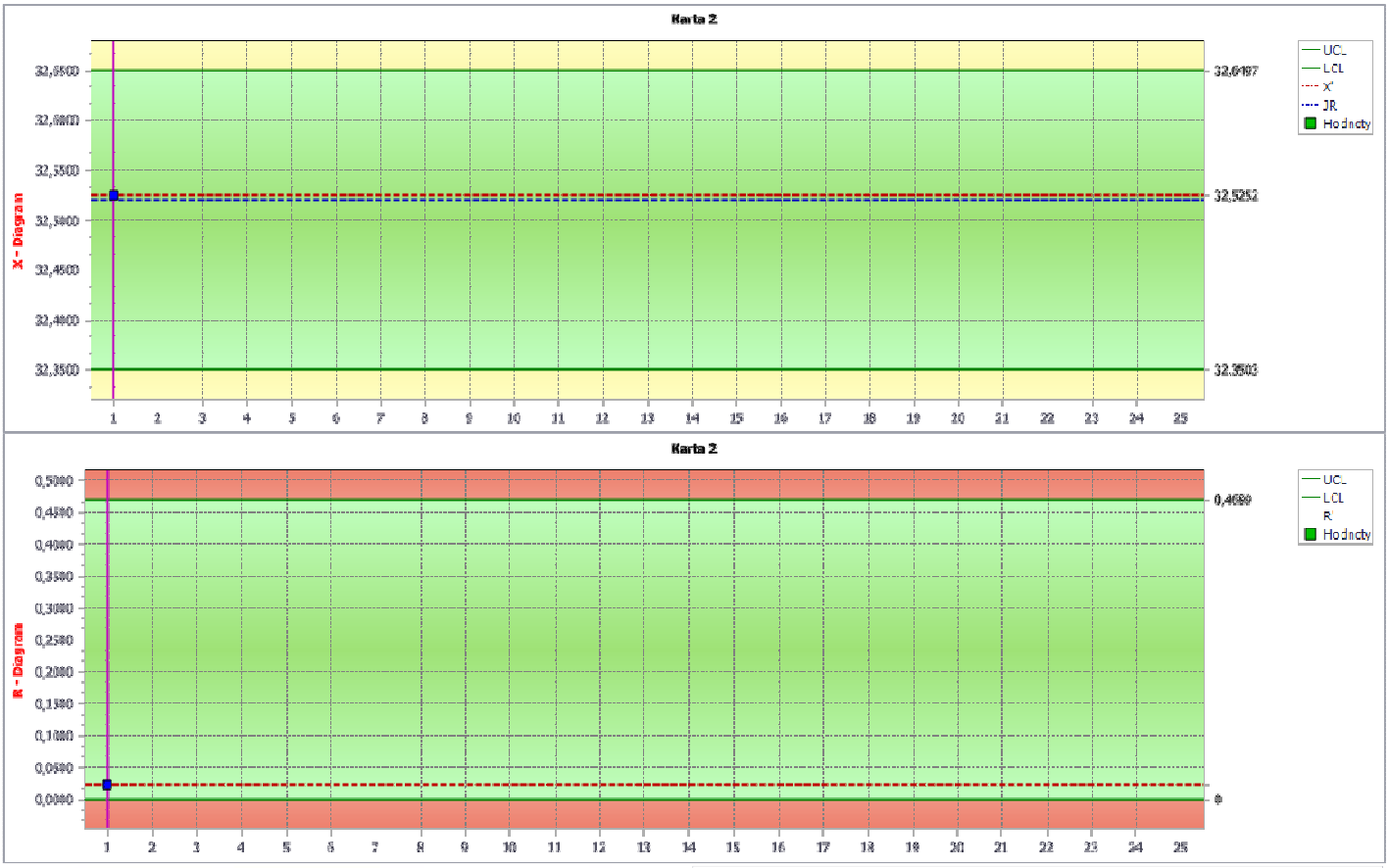


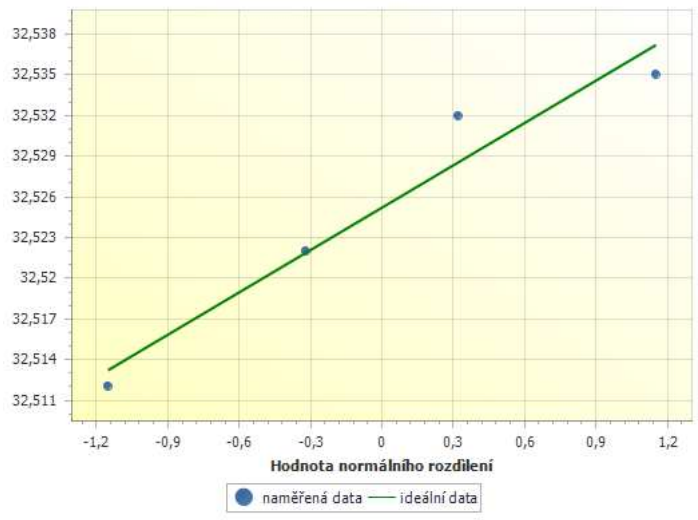
Report by method ARM average range method by MSA IV. edition.

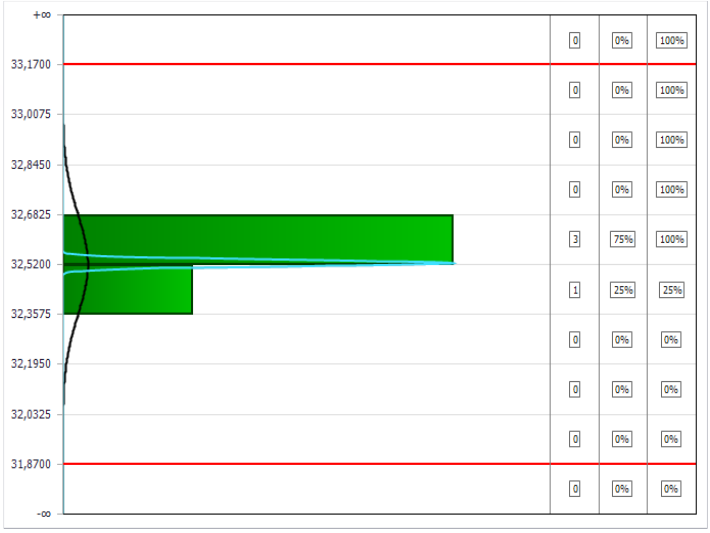
A. RAYMOND JABLONEC s.r.o.

Initial Process Study - SPC
Variable characteristic - weight

Part number:	**239251000**	**H1BT-14A075-AA**	Mould number:	**400009496**	Gauge: **Sartorius LP 1200 (0 - 1200 g)**
Part name:	**battery cover**				Sample size: **4**
Char. code:	**41**				Sample freq.: **0**
Char. name:	**hmotnost**				Card size: **25**
Nom.: **32,520**	USL: **33,170**	LSL: **31,870**	**g**		







Pp	**20,76**	Cp	**19,13**	X':	**32,5253**	Over USL: **0**	PE: **0**
Ppk	**20,59**	Cpk	**18,97**	R:	**0,0230**	Under LSL: **0**	Expected error % **0**
Calculation method: DIN 21747				S:	**0,0104**		
M1 (L1;D4)		**M1 (L1;D2)**					

A. New Model Required OEE (Overall Equipment Effectiveness) -

A1) Supplier & Part Information

	Supplier Name
	Location/Site Code
	Part Name
	Part Number

A2) Capacity Requirements

			APW	MPW	Select for Analysis
	Program Code	<PA> Requirements	8000	9600	<PA> Requir
	Model Year	Revised Requirements			
	Source of Capacity Requirements				
	Date of Study	GCP/MCPV			

A3) Key Contacts

	Name	Phone #	Email
STA Site Engineer			
Supplier Lead			
Ford Buyer			

Capacity Requirements

Supplier to demonstrate APW of 8000 parts per week operating no more than 5 days per week

Supplier to demonstrate MPW of 9600 parts per week operating no more than 6 days per week

A4) Planned Departmental Operating Pattern & Net Available Time

		Process 1		Process 2		Process 3		Process 4		Process 5		Process 6		Process 7		Process 8	
		APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan
A	Process description (in value stream order)	injection molding															
B	Days / Week	5	6														
C	Shifts / Day	3	3														
D	Total Hours / Shift	8	8														
E	Contractual Planned Downtime - lunch, breaks, etc. (minutes/shift)	30	30														
F	Allocation Percent (enter 100 for dedicated)	100,0%	100,0%														
G	Net Available Time (hours / week) [B*C*(D-(E/60))*F]	112,50	135,00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G1	Planned Minutes per Changeover (into this part #)																
G2	Planned Changeover Frequency / Week (into this part #)																

A5) Required Good Parts / Week

		APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan
H	Percent of parts scrapped	1,0%		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%	
J	**Req'd Good Parts / Week to Support Next Process** (Accounts for the scrap loss of each process)	**8000**	**9600**	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Required Incoming Parts for injection molding	Avg. Weekly	Max Weekly
	8081	**9697**

A6) Required OEE (Overall Equipment Effectiveness)

		APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan
K	Ideal Cycle Time per Tool or Machine (sec/cycle)	27	27														
L	# of Tools or Machines in parallel	1	1														
M	# of identical parts produced per Tool or Machine Cycle	2	2														
N	Net Ideal Cycle Time (sec/part) [K / (L*M)]	13,5	13,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P	Theoretical Parts per week at 100% OEE [G x 3600 / N]	30000	36000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q	**Required OEE** [J / P]	**26,7%**	**26,7%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R	Percent of parts reworked (re-run through process)	1,0%															
S	Can process contain its changeover, scrap & rework assumptions? [Is J/(100%-H) + (JxR) + (G1x60xG2/N) <= P]	YES	YES	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T	% Remaining for Availability & Performance Efficiency losses [(P - [(J/(100%-H)) + (JxR) + (G1x60xG2/N)]) / P	72,8%	72,8%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Enter any other assumptions for clarification																

A7) Shared Process - Total Allocation Plan

		injection molding															
U	Enter Total % Allocation from "Shared Loading Plan" Sheet																

B. Supplier Demonstrated OEE - Phase 0 PPAP (Run @ Rate)

B1) Equipment Availability

		injection molding															
V	Total Available Time (ACTUAL changeover NOT included for Shared) (minutes)	240															
W	Planned Downtime - lunches/breaks/mtgs. (minutes)	0															
X	Net Available Time (minutes) [V - W]	240		-		-		-		-		-		-		-	
Y	Shared Equip Changeover Time ACTUAL (minutes)	NOT REQUIRED		NOT REQUIRED		NOT REQUIRED		NOT REQUIRED		NOT REQUIRED		NOT REQUIRED		NOT REQUIRED		NOT REQUIRED	
Z	Shared Equip Changeover Time Weekly Scaled (minutes) [(G1 * G2 * X) / (60*G - (G1 * G2))]	0		-		-		-		-		-		-		-	
AB	Observed Unplanned Downtime (minutes)																
AC	Operating Time (minutes) [X - AB]	240		-		-		-		-		-		-		-	
AD	**Equipment Availability [(X - AB) / (X + Z) * 100]**	**100,0%**		-		-		-		-		-		-		-	

B2) Performance Efficiency

AE	Total Parts Run (Good, Scrapped, & Reworked)	1066															
AF	Planned Net Ideal Cycle Time (seconds/part) [N or Other]	13,5		-		-		-		-		-		-		-	
AG	**Performance Efficiency (AE * AF / AC)**	**99,9%**		-		-		-		-		-		-		-	
AH	"Availability" and/or "Performance Efficiency" Losses Not Captured (minutes) [AC - (AE * AF)]	0		-		-		-		-		-		-		-	

B3) Quality Rate

		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
AJ	# Parts Scrapped		-		-		-		-		-		-		-		-
AK	# Parts Reworked		-		-		-		-		-		-		-		-
AL	**Quality Rate [(AE - AJ - AK) / AE]**	**100,0%**		-		-		-		-		-		-		-	

B4) Overall Equipment Effectiveness (OEE)

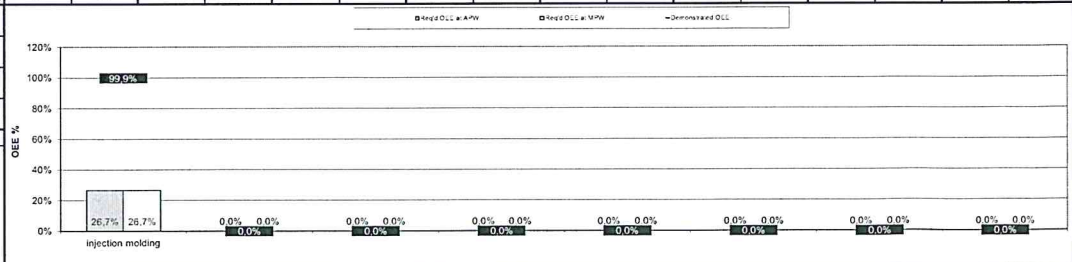
AM	**Phase 0 OEE [AD * AG * AL]**	**99,9%**		-		-		-		-		-		-		-	
B5)	**Process Specific Weekly Part Estimate [P * AM]**	**29970**	**35964**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B6)	**Observed Average Cycle Time (sec/cycle)**																

C. Gap Analysis - Required OEE vs. Demonstrated OEE; Predicted Good Parts / Week

Process Description		injection molding															
		APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result
Demonstrated OEE ≥ Required OEE? (Is AM ≥ Q?)		OK	OK														

Predicted Good Parts per wk	Average	Maximum
Required Capacity (APW/MPW)	8000	9600
Phase 0 Demonstrated Capacity	29970	35964

NOTES Capacity Study Number:



SUPPLIER OPERATION MANAGEMENT APPROVAL

Zdenka Rysava / Sales Account Manager		Zdenka Rysava / Sales Account Manager	
Authorized Representative Name / Title		Email	
Signature	Date		Phone Number

Version 5.0

FOR STA USE

Site Engineer	STA LL6 Supervisor	Approved
		Rejected
Signature/Date	Signature/Date	

A. New Model Required OEE (Overall Equipment Effectiveness) - Araymond H1BT14A075AA

A1) Supplier & Part Information

Araymond	Supplier Name
Jablonec nad Nisou	Location/Site Code
Battery cover	Part Name
H1BT14A075AA	Part Number

A2) Capacity Requirements

		APW	MPW	Select for Analysis
Program Code	<PA> Requirements	8000	9600	<PA> Requir
Model Year	Revised Requirements			
Source of Capacity Requirements	Tool Order (Initial or Revised)			
22-Jul-2016 Date of Study	GCP/MCPV			

A3) Key Contacts

	Name	Phone #	Email
STA Site Engineer			
Supplier Lead			
Ford Buyer			

Capacity Requirements

Supplier to demonstrate APW of 8000 parts per week operating no more than 5 days per week

Supplier to demonstrate MPW of 9600 parts per week operating no more than 6 days per week

A4) Planned Departmental Operating Pattern & Net Available Time

		Process 1		Process 2		Process 3		Process 4		Process 5		Process 6		Process 7		Process 8	
		APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan
A	Process description (in value stream order)	injection molding															
B	Days / Week	5	6														
C	Shifts / Day	3	3														
D	Total Hours / Shift	8	8														
E	Contractual Planned Downtime - lunch, breaks, etc. (minutes/shift)	30	30														
F	Allocation Percent (enter 100 for dedicated)	100,0%	100,0%														
G	Net Available Time (hours / week) [B*C*(D-(E/60))*F]	112,50	135,00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G1	Planned Minutes per Changeover (into this part #)																
G2	Planned Changeover Frequency / Week (into this part #)																

A5) Required Good Parts / Week

		Process 1		Process 2		Process 3		Process 4		Process 5		Process 6		Process 7		Process 8	
		APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan
H	Percent of parts scrapped	1,0%		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%	
J	**Req'd Good Parts / Week to Support Next Process** (Accounts for the scrap loss of each process)	8000	9600	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Required Incoming Parts for injection molding	Avg. Weekly	Max Weekly
	8081	9697

A6) Required OEE (Overall Equipment Effectiveness)

		Process 1		Process 2		Process 3		Process 4		Process 5		Process 6		Process 7		Process 8	
		APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan
K	Ideal Cycle Time per Tool or Machine (sec/cycle)	27	27														
L	# of Tools or Machines in parallel	1	1														
M	# of identical parts produced per Tool or Machine Cycle	2	2														
N	Net Ideal Cycle Time (sec/part) [K / (L*M)]	13,5	13,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P	Theoretical Parts per week at 100% OEE [G x 3600 / N]	30000	36000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q	**Required OEE** [J / P]	**26,7%**	**26,7%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R	Percent of parts reworked (re-run through process)	1,0%															
S	Can process contain its changeover, scrap & rework assumptions? [Is J/(100%-H) + (JxR) + (G1x60xG2/N) <= P]	YES	YES	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T	% Remaining for Availability & Performance Efficiency losses {P - [(J/(100%-H)) + (JxR) + (G1x60xG2/N)]} / P	72,8%	72,8%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Enter any other assumptions for clarification																

A7) Shared Process - Total Allocation Plan

		injection molding															
U	Enter Total % Allocation from "Shared Loading Plan" Sheet		100,0%														

B. Supplier Demonstrated OEE - Phase 3 PPAP (Capacity Verification)

B1) Equipment Availability

		injection molding															
V	Total Available Time (Include ACTUAL changeover time for Shared) (minutes)	240															
W	Planned Downtime - lunches/breaks/mtgs. (minutes)	0															
X	Net Available Time (minutes) [V - W]	240		-		-		-		-		-		-		-	
Y	Shared Equip Changeover Time ACTUAL (minutes)																
Z	Shared Equip Changeover Time Weekly Scaled (minutes) [Y * (X / 60) / (G / G2)]	0		-		-		-		-		-		-		-	
AB	Observed Unplanned Downtime (minutes)																
AC	Operating Time (minutes) [X - Y - AB]	240		-		-		-		-		-		-		-	
AD	**Equipment Availability [(X - Z - AB) / X * 100]**	**100,0%**		-		-		-		-		-		-		-	

B2) Performance Efficiency

AE	Total Parts Run (Good, Scrapped, & Reworked)	1066															
AF	Net Ideal Cycle Time (seconds/part) [N]	13,5		-		-		-		-		-		-		-	
AG	**Performance Efficiency (AE * AF / AC)**	**99,9%**		-		-		-		-		-		-		-	
AH	"Availability" and/or "Performance Efficiency" Losses Not Captured (minutes) [AC - (AE * AF)]	0		-		-		-		-		-		-		-	

B3) Quality Rate

		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
AJ	# Parts Scrapped		-		-		-		-		-		-		-		-
AK	# Parts Reworked		-		-		-		-		-		-		-		-
AL	**Quality Rate [(AE - AJ - AK) / AE]**	**100,0%**		-		-		-		-		-		-		-	

B4) Overall Equipment Effectiveness (OEE)

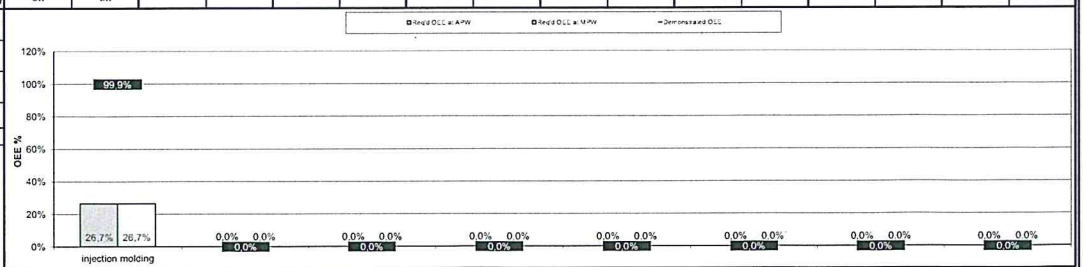
AM	**Phase 3 OEE [AD * AG * AL]**	**99,9%**		-		-		-		-		-		-		-	
B5)	**Process Specific Weekly Part Estimate [P * AM]**	**29970**	**35964**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B6)	**Observed Average Cycle Time (sec/cycle)**																

C. Gap Analysis - Required OEE vs. Demonstrated OEE; Predicted Good Parts / Week

	Process 1		Process 2		Process 3		Process 4		Process 5		Process 6		Process 7		Process 8	
Process Description	injection molding															
	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result
Demonstrated OEE ≥ Required OEE? (Is AM ≥ Q?)	OK	OK														

Predicted Good Parts per wk	Average	Maximum
Required Capacity (APW/MPW)	8000	9600
Phase 3 Demonstrated Capacity	29970	35964
Commitment (APPC/MPPC)	29900	35900

NOTES Capacity Study Number:



SUPPLIER OPERATION MANAGEMENT APPROVAL

Zdenka Rysava / Sales Account Manager — Authorized Representative Name / Title

Zdenka Rysava / Sales Account Manager — Email

Signature — 11.7.2015 — Date — Phone Number

Version 5.0

FOR STA USE

Site Engineer — STA LL6 Supervisor

Approved

Rejected

Signature/Date — Signature/Date

A. Raymond Jablonec s.r.o.	DOPORUČENÍ VÝROBCE ADVOCATION FORM	SQA Rev.:	Page 1/1

Číslo dílu: Ref. AR	239251	**Varianta:** Version:	000	**Index:** Issue:	Ba	**Datum:** Date:	05.11.15
Zákazník: Customer:	Yazaki Europe Limited	**Č. dílu zák.:** Ref. Customer:	H1BT-14A075-AA	**Index:** Customer's issue:			
Název dílu: Designation:	Cable channel B+ cover						

Balení / Package

- ☐ **Uzavřený pytel:** In waterproof bag
- ☐ **Balení nespecifikováno:** No specific advocation
- ☑ **Jiné, popište:** Other, give details: **According to packaging specification**

Teplota / Temperature

Teplota skladování dílů:
Temperature of preserving for the parts: **23℃ +/- 5℃**

Aplikace dílu / Important point for processing

film hinge can be opened 30x min at 23℃ - parts mu st be at least 1 hour at 23 ℃ before testing

Montáž / Assembly

Montáž dílů:
Assembly of the parts :

Schéma:
Pattern:

- ☑ **Manuální** Manually
- ☐ **S kladivem** With hammer
- ☐ **Jiné, popište:** Other, give details:

Použití / Use

Příklad použití dílu:
Give an using example of the parts :

Datum: Date: **7.9.2016**

Podpis: Signature: **P.Bradáč**

A. New Model Required OEE (Overall Equipment Effectiveness) -

A1) Supplier & Part Information

	Supplier Name
	Location/Site Code
	Part Name
	Part Number

A2) Capacity Requirements

			APW	MPW	Select for Analysis
	Program Code	<PA> Requirements	8000	9600	<PA> Requir
	Model Year	Revised Requirements			
	Source of Capacity Requirements				
	Date of Study	GCP/MCPV			

A3) Key Contacts

	Name	Phone #	Email
STA Site Engineer			
Supplier Lead			
Ford Buyer			

Capacity Requirements

Supplier to demonstrate APW of 8000 parts per week operating no more than 5 days per week

Supplier to demonstrate MPW of 9600 parts per week operating no more than 6 days per week

A4) Planned Departmental Operating Pattern & Net Available Time

		Process 1		Process 2		Process 3		Process 4		Process 5		Process 6		Process 7		Process 8	
		APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan
A	Process description (in value stream order)	injection molding															
B	Days / Week	5	6														
C	Shifts / Day	3	3														
D	Total Hours / Shift	8	8														
E	Contractual Planned Downtime - lunch, breaks, etc. (minutes/shift)	30	30														
F	Allocation Percent (enter 100 for dedicated)	100,0%	100,0%														
G	Net Available Time (hours / week) [B*C*(D-(E/60))*F]	112,50	135,00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G1	Planned Minutes per Changeover (into this part #)																
G2	Planned Changeover Frequency / Week (into this part #)																

A5) Required Good Parts / Week

		APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan
H	Percent of parts scrapped	1,0%		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%	
J	**Req'd Good Parts / Week to Support Next Process** (Accounts for the scrap loss of each process)	**8000**	**9600**	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Required Incoming Parts for injection molding	Avg. Weekly	Max Weekly
	8081	**9697**

A6) Required OEE (Overall Equipment Effectiveness)

		APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan
K	Ideal Cycle Time per Tool or Machine (sec/cycle)	27	27														
L	# of Tools or Machines in parallel	1	1														
M	# of identical parts produced per Tool or Machine Cycle	2	2														
N	Net Ideal Cycle Time (sec/part) [K / (L*M)]	13,5	13,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P	Theoretical Parts per week at 100% OEE [G x 3600 / N]	30000	36000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q	**Required OEE** [J / P]	**26,7%**	**26,7%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R	Percent of parts reworked (re-run through process)	1,0%															
S	Can process contain its changeover, scrap & rework assumptions? [Is J/(100%-H) + (JxR) + (G1x60xG2/N) <= P]	YES	YES	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T	% Remaining for Availability & Performance Efficiency losses [(P - [(J/(100%-H)) + (JxR) + (G1x60xG2/N)]) / P	72,8%	72,8%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Enter any other assumptions for clarification																

A7) Shared Process - Total Allocation Plan

		injection molding															
U	Enter Total % Allocation from "Shared Loading Plan" Sheet																

B. Supplier Demonstrated OEE - Phase 0 PPAP (Run @ Rate)

B1) Equipment Availability

		injection molding															
V	Total Available Time (ACTUAL changeover NOT included for Shared) (minutes)	240															
W	Planned Downtime - lunches/breaks/mtgs. (minutes)	0															
X	Net Available Time (minutes) [V - W]	240		-		-		-		-		-		-		-	
Y	Shared Equip Changeover Time ACTUAL (minutes)	NOT REQUIRED		NOT REQUIRED		NOT REQUIRED		NOT REQUIRED		NOT REQUIRED		NOT REQUIRED		NOT REQUIRED		NOT REQUIRED	
Z	Shared Equip Changeover Time Weekly Scaled (minutes) [(G1 * G2 * X) / (60*G - (G1 * G2))]	0		-		-		-		-		-		-		-	
AB	Observed Unplanned Downtime (minutes)																
AC	Operating Time (minutes) [X - AB]	240		-		-		-		-		-		-		-	
AD	**Equipment Availability [(X - AB) / (X + Z) * 100]**	**100,0%**		-		-		-		-		-		-		-	

B2) Performance Efficiency

AE	Total Parts Run (Good, Scrapped, & Reworked)	1066															
AF	Planned Net Ideal Cycle Time (seconds/part) [N or Other]	13,5		-		-		-		-		-		-		-	
AG	**Performance Efficiency (AE * AF / AC)**	**99,9%**		-		-		-		-		-		-		-	
AH	"Availability" and/or "Performance Efficiency" Losses Not Captured (minutes) [AC - (AE * AF)]	0		-		-		-		-		-		-		-	

B3) Quality Rate

		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
AJ	# Parts Scrapped		-		-		-		-		-		-		-		-
AK	# Parts Reworked		-		-		-		-		-		-		-		-
AL	**Quality Rate [(AE - AJ - AK) / AE]**	**100,0%**		-		-		-		-		-		-		-	

B4) Overall Equipment Effectiveness (OEE)

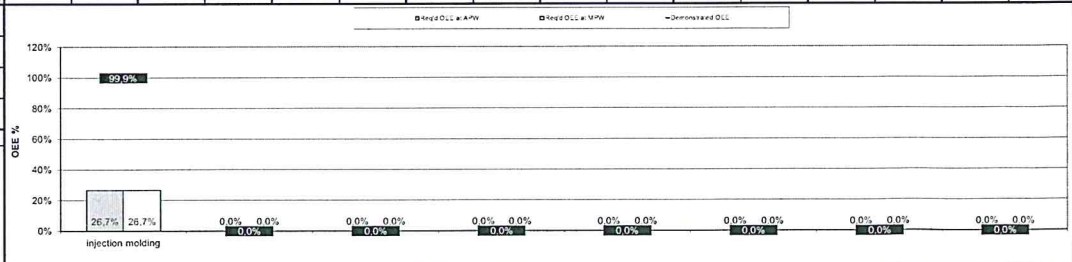
AM	**Phase 0 OEE [AD * AG * AL]**	**99,9%**		-		-		-		-		-		-		-	
B5)	**Process Specific Weekly Part Estimate [P * AM]**	**29970**	**35964**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B6)	**Observed Average Cycle Time (sec/cycle)**																

C. Gap Analysis - Required OEE vs. Demonstrated OEE; Predicted Good Parts / Week

Process Description		injection molding															
		APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result
Demonstrated OEE ≥ Required OEE? (Is AM ≥ Q?)		OK	OK														

Predicted Good Parts per wk	Average	Maximum
Required Capacity (APW/MPW)	8000	9600
Phase 0 Demonstrated Capacity	29970	35964

NOTES Capacity Study Number:



SUPPLIER OPERATION MANAGEMENT APPROVAL

Zdenka Rysava / Sales Account Manager		Zdenka Rysava / Sales Account Manager	
Authorized Representative Name / Title		Email	
Signature	Date		Phone Number

Version 5.0

FOR STA USE

Site Engineer	STA LL6 Supervisor	Approved
		Rejected
Signature/Date	Signature/Date	

A. New Model Required OEE (Overall Equipment Effectiveness) - Araymond H1BT14A075AA

A1) Supplier & Part Information

Araymond	Supplier Name
Jablonec nad Nisou	Location/Site Code
Battery cover	Part Name
H1BT14A075AA	Part Number

A2) Capacity Requirements

		APW	MPW	Select for Analysis
Program Code	<PA> Requirements	8000	9600	<PA> Requir
Model Year	Revised Requirements			
Source of Capacity Requirements	Tool Order (Initial or Revised)			
22-Jul-2016 Date of Study	GCP/MCPV			

A3) Key Contacts

	Name	Phone #	Email
STA Site Engineer			
Supplier Lead			
Ford Buyer			

Capacity Requirements

Supplier to demonstrate APW of 8000 parts per week operating no more than 5 days per week

Supplier to demonstrate MPW of 9600 parts per week operating no more than 6 days per week

A4) Planned Departmental Operating Pattern & Net Available Time

		Process 1		Process 2		Process 3		Process 4		Process 5		Process 6		Process 7		Process 8	
		APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan
A	Process description (in value stream order)	injection molding															
B	Days / Week	5	6														
C	Shifts / Day	3	3														
D	Total Hours / Shift	8	8														
E	Contractual Planned Downtime - lunch, breaks, etc. (minutes/shift)	30	30														
F	Allocation Percent (enter 100 for dedicated)	100,0%	100,0%														
G	Net Available Time (hours / week) [B*C*(D-(E/60))*F]	112,50	135,00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G1	Planned Minutes per Changeover (into this part #)																
G2	Planned Changeover Frequency / Week (into this part #)																

A5) Required Good Parts / Week

		Process 1		Process 2		Process 3		Process 4		Process 5		Process 6		Process 7		Process 8	
		APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan
H	Percent of parts scrapped	1,0%		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%		0,0%	
J	**Req'd Good Parts / Week to Support Next Process** (Accounts for the scrap loss of each process)	8000	9600	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Required Incoming Parts for injection molding	Avg. Weekly	Max Weekly
	8081	9697

A6) Required OEE (Overall Equipment Effectiveness)

		Process 1		Process 2		Process 3		Process 4		Process 5		Process 6		Process 7		Process 8	
		APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan	APW Plan	MPW Plan
K	Ideal Cycle Time per Tool or Machine (sec/cycle)	27	27														
L	# of Tools or Machines in parallel	1	1														
M	# of identical parts produced per Tool or Machine Cycle	2	2														
N	Net Ideal Cycle Time (sec/part) [K / (L*M)]	13,5	13,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P	Theoretical Parts per week at 100% OEE [G x 3600 / N]	30000	36000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q	**Required OEE** [J / P]	**26,7%**	**26,7%**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R	Percent of parts reworked (re-run through process)	1,0%															
S	Can process contain its changeover, scrap & rework assumptions? [Is J/(100%-H) + (JxR) + (G1x60xG2/N) <= P]	YES	YES	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T	% Remaining for Availability & Performance Efficiency losses {P - [(J/(100%-H)) + (JxR) + (G1x60xG2/N)]} / P	72,8%	72,8%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Enter any other assumptions for clarification																

A7) Shared Process - Total Allocation Plan

		injection molding															
U	Enter Total % Allocation from "Shared Loading Plan" Sheet		100,0%														

B. Supplier Demonstrated OEE - Phase 3 PPAP (Capacity Verification)

B1) Equipment Availability

		injection molding															
V	Total Available Time (Include ACTUAL changeover time for Shared) (minutes)	240															
W	Planned Downtime - lunches/breaks/mtgs. (minutes)	0															
X	Net Available Time (minutes) [V - W]	240		-		-		-		-		-		-		-	
Y	Shared Equip Changeover Time ACTUAL (minutes)																
Z	Shared Equip Changeover Time Weekly Scaled (minutes) [Y * (X / 60) / (G / G2)]	0		-		-		-		-		-		-		-	
AB	Observed Unplanned Downtime (minutes)																
AC	Operating Time (minutes) [X - Y - AB]	240		-		-		-		-		-		-		-	
AD	**Equipment Availability [(X - Z - AB) / X * 100]**	**100,0%**		-		-		-		-		-		-		-	

B2) Performance Efficiency

AE	Total Parts Run (Good, Scrapped, & Reworked)	1066															
AF	Net Ideal Cycle Time (seconds/part) [N]	13,5		-		-		-		-		-		-		-	
AG	**Performance Efficiency (AE * AF / AC)**	**99,9%**		-		-		-		-		-		-		-	
AH	"Availability" and/or "Performance Efficiency" Losses Not Captured (minutes) [AC - (AE * AF)]	0		-		-		-		-		-		-		-	

B3) Quality Rate

		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
AJ	# Parts Scrapped		-		-		-		-		-		-		-		-
AK	# Parts Reworked		-		-		-		-		-		-		-		-
AL	**Quality Rate [(AE - AJ - AK) / AE]**	**100,0%**		-		-		-		-		-		-		-	

B4) Overall Equipment Effectiveness (OEE)

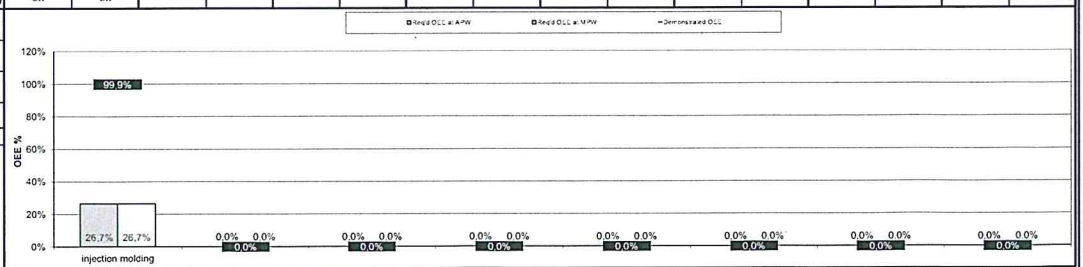
AM	**Phase 3 OEE [AD * AG * AL]**	**99,9%**		-		-		-		-		-		-		-	
B5)	**Process Specific Weekly Part Estimate [P * AM]**	**29970**	**35964**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B6)	**Observed Average Cycle Time (sec/cycle)**																

C. Gap Analysis - Required OEE vs. Demonstrated OEE; Predicted Good Parts / Week

	Process 1		Process 2		Process 3		Process 4		Process 5		Process 6		Process 7		Process 8	
Process Description	injection molding															
	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result	APW Result	MPW Result
Demonstrated OEE ≥ Required OEE? (Is AM ≥ Q?)	OK	OK														

Predicted Good Parts per wk	Average	Maximum
Required Capacity (APW/MPW)	8000	9600
Phase 3 Demonstrated Capacity	29970	35964
Commitment (APPC/MPPC)	29900	35900

NOTES Capacity Study Number:



SUPPLIER OPERATION MANAGEMENT APPROVAL

Zdenka Rysava / Sales Account Manager — Authorized Representative Name / Title

Zdenka Rysava / Sales Account Manager — Email

Signature — 11.7.2015 — Date — Phone Number

Version 5.0

FOR STA USE

Site Engineer — STA LL6 Supervisor

Approved

Rejected

Signature/Date — Signature/Date

YAZAKI

FUNCTIONAL APPROVAL REPORT - DESIGN/SALES

Supply Management Request

Control No:

Design/Sales Office:	**YST Brake**	Name Design / ~~Sales~~ Engineer:	**R. Liedtke**
Lead Part Number:	**H1BT-14A075-AA**	Supplier:	**A. Raymond (CZ)**
Part name:	**Battery Plus Cover**	Drawing Number:	**H1BT-14A075-AA**
Program(s):	**B479**	Revision Level: (Delta 0, 1, etc.)	**EE00-E-13094925-000**
Model Year/Carline:	**2017/x**		

Engineering Statement

TEST RESULTS:

[X] **All vehicle tests completed successfully**

[ ] **All component tests according to Ford drawing & DVP & R completed successfully**

⇨ [ ] Test Report Number

[ ] **Some tests are not yet completed or completed unsuccessfully** ⇨ Comment

FUNCTIONAL APPROVAL?

[X] **YES**

[ ] **NO** ⇨ Fill in comment to give explanation why Approval can not be given!

COMMENTS:

Appearance not requested by OEM during VP build event.
Appearance request will be deleted in next CPS.

ATTACHED DOCUMENTS:

Signatures

A. Erbe 2016-08-29	R. Liedtke 2016-08-29
PREPARED BY: (SIGN AND DATE)	**APPROVED BY:** (SIGN AND DATE)

DOCUMENT TO BE RETURNED TO YEL SD/SUPPLIER QUALITY ENGINEER OR COMBU QUALITY PLANNER

New Component Development B479

Date: 20.05.2015

Component Development Team		Core Team	Extended Team		
PM	John Burden		x	john.burden@yazaki-europe.com	+49 (0) 221 / 888899-71
PL (electr. Design)	Steffen Köhler	x		steffen.koehler@yazaki-europe.com	+49 (0) 4401 / 981-362
PL (mech. Design)	Volker Dierkes		x	volker.dierkes@yazaki-europe.com	+49 (0) 221 / 597997-475
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Q Eng. Planning	Bernd Lange		x	bernd.lange@yazaki-europe.com	+49 (0) 4401 / 981-468
Comp. Qualification	Sebastian Scharf	x		sebastian.scharf@yazaki-europe.com	+49 (0) 4401 / 981-231
AP	Bernd Bohlen		x	bernd.bohlen@yazaki-europe.com	+49 (0) 4401 / 981-368
S	Tilo Dauelsberg		x	tilo.dauelsberg@yazaki-europe.com	+49 (0) 4401 / 981-228

ARaymond team Ford B479

Thomas Tausendfreund	project manager –design	Thomas.Tausendfreund@araymond.com	+4976216684912
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Zdenka Ryšavá	Sales Account Manager	Zdenka.Rysava@araymond.com	+420483358163
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Jindřich Doležal	design & engineering plastic	Jindrich.Dolezal@araymond.com	+420483358144
Pavel Kočnar	design & engineering plastic	Pavel.Kocnar@araymond.com	+420483358145
Petr Holman	Quality engineer	Petr.Holman@araymond.com	+420483358214
Petr Bradáč	Quality engineer	Petr.Bradac@araymond.com	+420483358127

YAZAKI

TEAM FEASIBILITY STATEMENT

Customer & Project Name: YAZAKI
Supplier: A.Raymond Jablonec s.r.o.
Part Number: H1BT-14A075AA
Part Name: Battery cover
Yazaki SQE Engineer: Andreas Erbe
Date: 20.7.16

Feasibility Considerations

Our product quality planning team has considered the following questions, not intended to be all-inclusive in performing a feasibility evaluation. The drawing and/or specifications provided have been used as a basis for analysing the ability to meet all specifications.

Current material usage:
Drawing no and revision:
Applied specifications:

YES	NO	CONSIDERATION
X		Is the product adequately defined (application requirements, etc.) to enable feasibility evaluation?
X		Can Engineering Performance Specifications be met as written?
X		Can product be manufactured to tolerances specified on the drawing?
	N/A	Can product be manufactured in accordance with Cpk`s / other characteristics that meet requirements?
X		Is there adequate capacity to produce the product?
X		Does the design allow the use of efficient material handling techniques?
		Can the product be manufactured without incurring any unusual:
	X	Costs for capital equipment?
X		Costs for tooling?
	X	Alternative manufacturing methods?
XX	X	Is statistical process control required on product?
X		Is statistical process control presently used on similar products? Weight
		Where statistical process control is used on similar products:
X		Are the processes in control and stable?
X		Where relevant are Cpk`s greater than 1.33?
	X	Are any toxic/hazerdous substances concerned (SOC) included?

Conclusion

[X] Feasible — Product can be produced as specified
[ ] Feasible — Changes recommended:

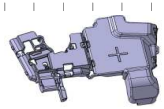
[ ] Not Feasible — Design revision required in order to produce product within the specified requirements:

Sign-Off Team:

Name	Title	Sign	Date
Petr Brandeis	Quality		
Ivan CHRISTL	Engineering		20.7.2016
Zdenek Rejsek	SALES		20.7.2016

Submit this form after completion to the respective Yazaki Project Supplier Quality Engineer (SQE) or ComBU QA Planner

ID	Název úkolu	Zahájení	Dokončení
1	Purchase order for seriál tool	26.10. 15	30.10. 15
2	Tooling design	2.11. 15	14.12. 15
3	Delivery of the material and standard parts	14.12. 15	25.12. 15
4	Tooling manufacturing	14.12. 15	15.2. 16
5	Manual finishing and assembly	8.2. 16	22.2. 16
6	First shot samples + PPAP level 1	15.2. 16	22.2. 16
7	Part available at customer facilities	15.2. 16	22.2. 16
8	Tooling optimization	22.2. 16	4.4. 16
9	Tool ready for serial production	4.4. 16	8.4. 16
10	PPAP	4.4. 16	9.9. 16



ARAYMOND PART NUMBER	239 251
CUSTOMER PART NUMBER	H1BT-14A075-AA
PART NAME	CVR ASY - FS JCT PLN BOX CVR

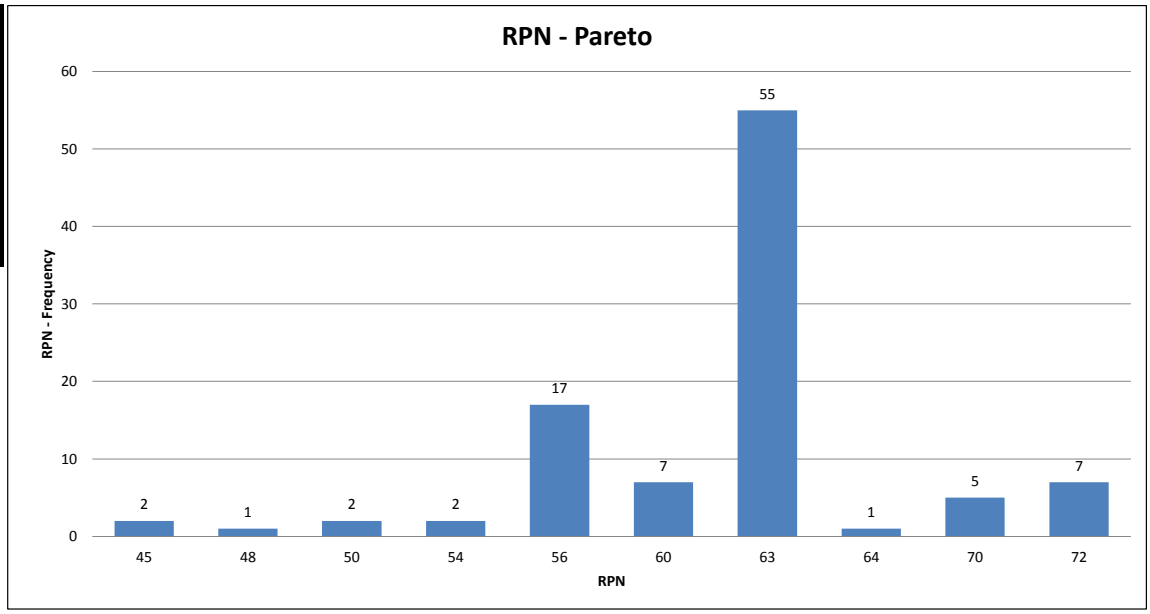
Projekt: 239251_239385_239386.mpp
Datum: 6.9. 16

Úkol	Zahrnutý úkol	Rozdělení	Seskupit podle souhrnu	Neaktivní souhrn	Ruční úkoly zahrnuté v souhrnném úkolu	Pouze s datem dokončení	
Milník	Zahrnutý milník	Vnější úkoly	Neaktivní úkol	Ruční úkol	Ruční souhrn	Průběh	
Souhrnný	Zahrnutý průběh	Souhrn projektu	Neaktivní milník	Pouze s dobou trvání	Pouze zahájení		

Design-FMEA Overview

Company Name:	**A. Raymond GmbH & Co. KG**			
FMEA Number:			**FMEA Date / Start:**	26.06.2015
Part Name:	**Battery Plus Cover**		**FMEA Date / Revision:**	19.10.2015
Part Number(s):	H1BT-14A075-AA		**Team:**	T. Tausendfreund, A. Glagau, C. Kolb
			Production Plant:	AR Czech Republic

RPN	Frequency
45	2
48	1
50	2
54	2
56	17
60	7
63	55
64	1
70	5
72	7



No.	RPN	Failure Description	Process number	Rootcause
1	72	Assembly of cable channel not warranted		Distance between fastening points not adjusted correctly
2	72	Assembly of cable channel not warranted		Investigation of installation space incomplete
3	72	Assembly of cable channel not warranted		Cable channel gets deformed by wire harness
4	72	Unstable fastening of cable channel		Thermal expansion of plastic not considered
5	72	Unstable fastening of cable channel		Undefined force transmission through wire harness
6	72	Wire harness gets damaged		Sharp edges in or at the ends of the channels
7	72	Guiding of wire harness not sufficient		Cable channel constructed too weak
8	70	Film hinge not moveable		Film hinge constructed too strong
9	70	Positioning of film hinge not guaranteed		Positioning of film hinge not correct
10	70	Locking feature breaks during assembly		Radii in junction area too small

YAZAKI

Carline / Component: B479 / H1BT-14A075-AA
Supplier: A. RAYMOND GmbH & Co. KG
Date of FMEA: 19.10.15

◉ **Design-FMEA** ○ **Process-FMEA**

I. General & Formalism

		YES	NO*
1	Is there a systematical approach to identify potential failures ? *Gibt es eine systematische Vorgehensweise zur Erkennung möglicher Fehler ?*	◉	○
2	Has the FMEA been created by a cross-functional team ? *Wurde die FMEA vom einem aus mehreren Funktionsbereichen zusammengesetzten Team erstellt ?*	◉	○
3	Are all formsheet header data complete and correct ? *Sind alle Daten im Formularkopf vollständig und korrekt ?*	◉	○
4	Do have all single pages a clear reference to the header data and revision level ? *Haben alle Einzelblätter eine klare Referenz zu den Kopfdaten und dem Ausgabestand ?*	◉	○
5	Do have the single pages a subsequent numbering and show the total number of pages ? *Haben alle Einzelblätter eine fortlaufende Numerierung und Angabe der Gesamtzahl der Einzelblätter ?*	◉	○
6	Is a unique date format used in the entire document ? *Wird ein einheitliches Format für Datumsangaben im ganzen Dokument verwendet ?*	◉	○
7	Does the status of the FMEA conform to the latest status of the product development/ process planning ? *Entspricht der Stand der FMEA dem aktuellen Stand der Produktentwicklung / Prozessplanung ?*	◉	○
8	Has the team reviewed relevant information, e.g. specifications, concern/warranty data from previous/other projects, … ? *Hat das Team wichtige Informationen, z.B. Spezifikation, Beanstandungs-/Gewährleistungdaten früherer/anderer Projekte, berücksichtigt ?*	◉	○

II. Structure and Failure Analysis

		YES	NO*
1	Has the scope of the D-FMEA (including interfaces) defined by a comprehensive boundary diagram ? *Ist das bei der D-FMEA zu untersuchende System in einem Blockdiagramm umfassend dargestellt (einschl. Schnittstellen) ?*	◉	○
2	for PFMEA only: Are all relevant process steps according work-flow listed ? *Sind alle wichtigen Prozessschritte entsprechend dem Arbeitsablauf aufgeführt ?*		
3	for PFMEA only: Are the tasks/functions of the "5 M" (men, machine, material, method, medium) for each process step listed ? *Sind für jeden Prozessschritt die Aufgaben/Funktionen der "5 M" (Mensch, Maschine, Material, Methode, Mitwelt) aufgeführt ?*		
4	Are more than one malfunction assigned to each function/task ? *Sind den einzelnen Funktionen/Aufgaben mehr als eine Fehlfunktion zugeordnet ?*	◉	○
5	Are the malfunctions/potential effects of failure on the product, next operation, … described clearly and traceable ? *Sind die Fehlfunktionen/Auswirkung des potenttiellen Fehlers auf das Produkt, den nächsten Arbeitsschritt, … eindeutig und nachvollziehbar beschrieben ?*	◉	○
6	Are all potential Special Characteristics known from other projects considered in the D-FMEA ? *Wurden alle potentiellen besonderen Merkmale bekannt aus anderen Projekten in der D-FMEA berücksichtigt ?*	◉	○
7	Are all potential Special Characteristics (YS, YC) correctly identified and marked ? *Sind alle potentiellen besonderen Merkmale (YS, YC) korrekt identifiziert und markiert ?*	◉	○

YS = potential significant characteristic (D-FMEA only) YC = potential critical characteristic (D-FMEA only) SC = significant characteristic (P-FMEA only) CC = critical characteristic (P-FMEA only)	B = Bedeutung A = Auftretenswahrscheinlichkeit E = Entdeckungswahrscheinlichkeit RPZ = Risikoprioritätszahl (RPZ = B x A x E)	S = Severity O = Occurrence D = Detection RPN = Risk Priority Number (RPN = S x O x D)

"NO" in orange lines : no approval possible "NO" in beige lines : revision of documents necessary	"NO" in orange Zeilen : KEINE Abnahme möglich "NO" in beige Zeilen : Überarbeitung der Dokumente erforderlich

Carline / Component: B479 / H1BT-14A075-AA
Supplier: A. RAYMOND GmbH & Co. KG
Date of FMEA: 19.10.15

◉ **Design-FMEA** ○ **Process-FMEA**

III. Risk analysis

		YES	NO*
1	Are evaluation catalogues available for severity, occurrence and detection likelihood ? *Sind Bewertungskataloge für Bedeutung, Auftretens- und Entdeckungswahrschweinlichkeit verfügbar ?*	◉	○
2	Have equal failure effects an equal S-ranking (in the own system) ? *Haben gleiche Fehlerfolgen die gleiche B-Bewertung (im eigenen System) ?*	◉	○
3	Have equal failure causes (with preventive measures) an equal O-ranking ? *Haben gleiche Fehlursachen (mit Vermeidungsmassnahmen) die gleiche A-Bewertung ?*	◉	○
4	Have equal failure causes (with detecting measures) an equal D-ranking ? *Haben gleiche Fehlursachen/Fehler (mit Entdeckungsmassnahmen) die gleiche E-Bewertung ?*	◉	○
5	Have the single factors S, O and D and the RPN respectively been analyzed for the determination of improving measures ? *Wurden bei der Festlegung von Verbesserungs- maßnahmen die Einzelfaktoren B, A und E bzw. die RPZ ausgewertet ?*	◉	○

IV. Optimisation

		YES	NO*
1	Have effective preventive measures been determined, if necessary. *Wurden ggf. wirksame Vermeidungsmassnahmen festgelegt ?*	◉	○
2	Have effective detective measures been determined, if necessary? *Wurden ggf. wirksame Entdeckungsmassnahmen festgelegt ?*	◉	○
3	Have the responsible and the target completion date been determined for all planned measures ? *Sind zu allen geplanten Maßnahmen Verantwortliche und Termine festgelegt ?*	◉	○
4	Is the status of implementation tracked and updated for all determined measures ? *Wird für alle festgelegte Maßnahmen der Bearbeitungsstand verfolgt und aktualisiert ?*	◉	○
5	Have closed measures been implemented in due time ? *Erfolgte die Umsetzung abgeschlossener Maßnahmen termingerecht ?*	◉	○
6	Was the FMEA updated after preventive measures were implemented ? *Wurde die FMEA nach der Implementierung der Vorbeugungsmassnahmen aktualisiert ?*	◉	○

* In case of open issues (evaluation "NO") a feedback must be given to the supplier within two weeks

V. Review & Approval

		YES	NO
1	Is the FMEA from partner/supplier available at S-Y ST Europe? If not, please see item 2 and 3. *Ist die FMEA vom Partner/Lieferanten bei Yazaki FBU verfügbar? Wenn nicht, siehe Punkte 2 + 3.*	○	◉
2	Was the FMEA examined and are appropriate records existing at Yazaki FBU ? *Wurde die FMEA geprüft und gibt es Aufzeichnungen darüber bei Yazaki FBU ?*	◉	○
3	Is a summary of the top 10 issues and a Pareto-Diagram of examined FMEA available at Yazaki FBU ? *Ist eine Zusammenfassung der Top 10 Punkte und ein Pareto-Diagramm der geprüften FMEA bei Yazaki FBU verfügbat ?*	◉	○

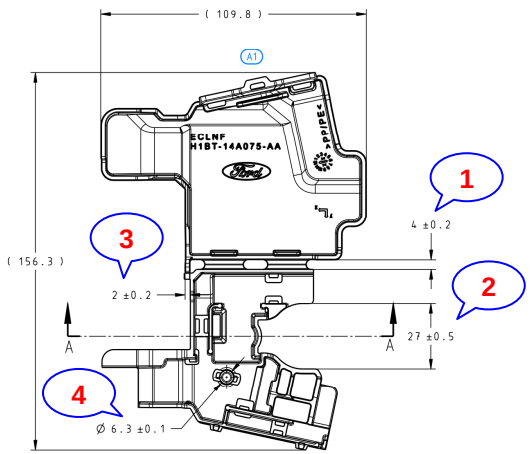
☑ Approved and feedback given to supplier

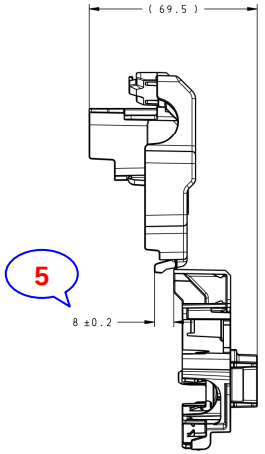
☐ Reviewed and feedback given to supplier:

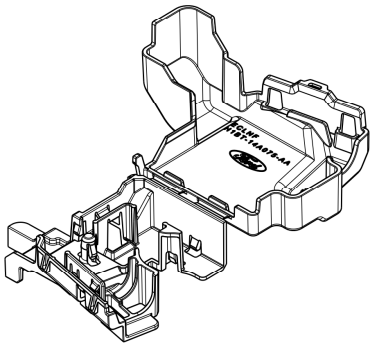
☐ Revised FMEA / documents necessary

17.11.2015 Bluetchen, Norbert

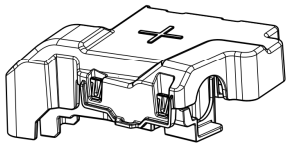
Date Name Signature



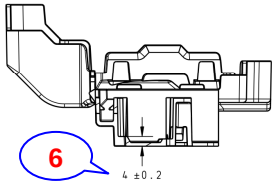




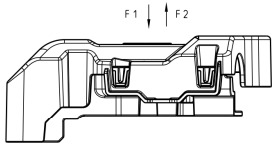
ISOMETRIC VIEW



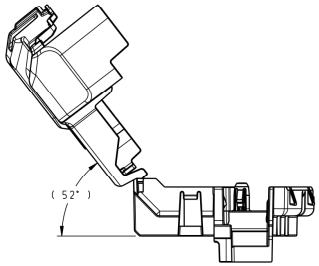
ISOMETRIC VIEW
ASSEMBLY SITUATION



SECTION A



ASSEMBLY SITUATION



PRE ASSEMBLY SITUATION

PART AS RECEIVED AT THE FORD PLANT OR SERVICE PART PACKAGER / WAREHOUSE SHALL BE FREE OF ANY CORROSION ALIGNED WITH THE FORD CUSTOMER SERVICE DIVISION (FCSD) PACKAGING AND SHIPPING GUIDE. CORROSION INHIBITORS OR FOREIGN MATERIALS DETRIMENTAL TO THE INSTALLATION OR FUNCTION OF THE PART MUST BE REMOVABLE BY THE INTENDED CLEANING METHOD.

FOR CURRENT RELEASE STATUS, SEE THE WERS ENGINEERING NOTICE.

FOR SURFACE FINISH REQUIREMENTS SEE ENGINEERING NOTICE AND WX100.

CHANGES TO DESIGN, COMPOSITION OR PROCESSING OF THE PART PREVIOUSLY APPROVED FOR PRODUCTION REQUIRE PRIOR APPROVAL FROM FORD MOTOR COMPANY PRODUCT ENGINEERING REFER TO ISO/TS 16949.

SOURCES FOR MATERIALS DEFINED BY FORD MATERIAL SPECIFICATIONS SHALL BE SELECTED FROM THE FORD MOTOR COMPANY ENGINEERING MATERIAL APPROVED SOURCE LIST.

ALL UNSPECIFIED FEATURES AND DIMENSIONS TO SUIT MANUFACTURER PROVIDING THE FUNCTION OF THE PART IS NOT IMPAIRED.

NOTE1. FORD OVAL TRADEMARK, MATERIAL CODE, DATE OF MANUFACTURING, MANUFACTURING CODE, CAVITY NO AND PART NO. MUST BE STAMPED ON PART.

MATERIAL: PP ACC. TO SPEC. WSS-M4D638-B
COLOUR: RED

MATERIAL CODE >PP< TO APPEAR ON PART PER ISO 1043-1 AND ISO 1043-2 (REFERENCING ISO 11469, PLASTIC) AND/OR ISO 1629 (RUBBER)

PERFORMANCE REQUIREMENTS:

TEST TO BE CARRIED OUT AT TEMPERATURE 23 °C ±5 °C AND SPEED OF 100 mm/min. WITH FORCES MEASURED IN LINE OF LEAST RESISTANCE

7

F1: PUSH TO CLOSE FORCE AFTER EXERTING CLOSURE PROTECTION 75 N MAX
F2: PULL TO OPEN FORCE 75 N MIN

GENERAL TOLERANCE: ±0.5 mm / ±5°

SINK MARKS AND DISTORTIONS ARE ALLOWED.

8

NO RADII IN THE AREA OF EJECTOR.

PARTS TESTED ACC. TO FORD CETP 00.00-E-412

HINGE FUNCTION: FILM HINGE CAN BE OPENED 30X MIN AT 23° C WITHOUT DAMAGE. WHITENING ON FILM HINGE IS ACCEPTABLE. COMPARISON TOWARDS BOUNDARY SAMPLES.

A2 GATE MARK ALLOWED.

9

LTRS	REVISIONS			
ORIGINATOR	CHECKER	ENGR APP	MATL APP	
RELEASED				
EE00 E 13033752 002		20150724		
GKUCKELK	RLIEDTKE	AKNOPKE	MVAZAN	
A1 REVISED DESIGN OF FIXING FEATURE A2 ADDED NOTE				
EE00 E 13094925 000		20151215		
GKUCKELK	RLIEDTKE	AKNOPKE	MVAZAN	

A.RAYMOND 239251	WEIGHT ~ 33 g	TCe B479	CATG NO.

REFERENCE		D1-B479-H1BT-14290-HC-3MVF2-001	
PART MUST COMPLY WITH RESTRICTED SUBSTANCE MANAGEMENT STANDARD WSS-M99P9999-A1 TO SAFEGUARD HEALTH, SAFETY AND THE ENVIRONMENT			
DRAFTED IN ACCORDANCE WITH FORD MOTOR COMPANY ENGINEERING CAD AND DRAFTING STANDARDS VERSION 28.1			3RD ANGLE PROJ DIMENSIONS ARE IN MILLIMETERS
CAD TYPE K-CATIA5	CAD LOC. TCe	CAD FILE H1BT-14A075-A-DWG-01 :3	DTMC IS MASTER
OPER. NO. N/A	UNIT N/A	H1BT-14A075-AA	
DESIGN GKUCKELK	DETAIL GKUCKELK	TITLE CVR ASY-FS JCT PNL BOX CVR	SHT 1 OF 1
CHECKED RLIEDTKE	SAFETY N/A		
SCALE 1:1	DATE 20150724	DIVISION EESE PLANT	

FORD MOTOR COMPANY

X Série/Production

KONTROLNÍ PLÁN / CONTROL PLAN

Pozn. / Remark:

ARaymond MORE THAN FASTENING

Díl / Part:	Index změny / Change Level:	Název / Name:	Číslo zákazníka / CustPart:	Zákazník / Customer:
239251000	Ca / 8.4.2016	Cable channel B+ cover	H1BT14A075AA	Yazaki Europe Limited

		Znak / Characteristic				Metoda / Method				
Číslo	Proces / Diagram procesu	Číslo	Popis	Kl	Specifikace	Způsob kontroly	Rozsah	Četnost	Metoda kontroly	Plán reakce
No.	Process / Flow-Chart	No.	Description	Cl	Characteristics	Evaluation	Size	Frequency	Control Method	Reaction Plan
1	Příjem základního materiálu Receipt of raw material		Dodací list Delivery note		Shoda s dokumentací According to contract	Vizuálně Visual	1	Šarže Charge	TOP 06-01-96 ; TOP 10-01-96	TOP 13-01-96 ; TOP 19-01-97
		1	Množství Quantity		Shoda s objednávkou According to order	Vizuálně Visual	1	Šarže Charge	TOP 06-01-96 ; TOP 10-01-96	TOP 13-01-96 ; TOP 19-01-97
		2	Kontrola hodnot uvedených na atestu Check of values mentioned on material atest		Hodnoty dle specifikace Results acc. to specification	Administrativní kontrola Administrative check	1	Šarže Charge	TOP 06-01-96 ; TOP 10-01-96	TOP 13-01-96 ; TOP 19-01-97
		3	Kontrola balení Packaging		Bez porušení No demage Check acc. to Q-drawing	Měření, funkční test Measuring, function test	1	Šarže Charge	TOP 10-01-96	TOP 13-01-96 ; TOP 19-01-97
2	Zaskladnění Storage		Příjem materiálu na hlavní sklad Material storage		Mat. označen žlutým štítkem Mat. marked by yellow label	Vizuálně Visual	1	Paleta Palette	TOP 15-01-96	TOP 13-01-96 ; TOP 19-01-97
3	Příprava základního materiálu Raw material preparation		Druh a typ základního materiálu Type of raw material		Shoda s dokumentací According to instruction	Vizuálně Visual	1	Paleta Palette	PP 09-14-99 ; PP 09-15-99	TOP 13-01-96 ; TOP 19-01-97
		1	Množství Quantity		Shoda s objednávkou According to order	Vizálně Visual	1	Paleta Palette	PP 09-14-99 ; PP 09-15-99	PP 09-14-99 ; PP 09-15-99
4	Míchání a barvení Raw material colouring		Druh a poměr barviva Type and percentage of colouring		Shoda s dokumentací According to instruction	Vizuálně Visual	1	Zakázka Order	PP 09-14-99 ; PP 09-15-99	PP 09-14-99 ; PP 09-15-99
5	Vstřikování Injection moulding		Nasazení formy a seřízení lisu Preparation of mould and machine		Vstřikovací parametry dle SL Acc. to set-up card	Porovnáním nastavených hodnot a SL Review of set-up card and machine settings		Každé seřízení Each set-up	PP 09-01-96	TOP 13-01-96 ; TOP 19-01-97
6	Kontrola 1.zdvihu Production approval		Kontrola 1.zdvihu Production approval		Kontrola dle Q-výkresu Check acc. to Q-drawing	Měření, funkční test Measuring, function test	1 zdvih 1 stroke	Zakázka Order	PP 09-01-96	Přeseřídit nastavení vstřik. lisu Adjust machine setting
		1	Vizuální kontrola Visual check		Kontrola dle Q-výkresu Check acc. to Q-drawing	Vizuálně Visual	1 zdvih 1 stroke	Zakázka Order	PP 09-01-96 ; Q-výkres	Přeseřídit nastavení vstřik. lisu Adjust machine setting
		2	Zkoušky dle Q-výkresu Check acc. Q-drawing		Kontrola dle Q-výkresu Check acc. to Q-drawing	Měření, funkční test Measuring, function test	1 zdvih 1 stroke	Zakázka Order	PP 09-01-96 ; Q-výkres	Přeseřídit nastavení vstřik. lisu Adjust machine setting

X Série/Production

KONTROLNÍ PLÁN / CONTROL PLAN

Pozn. / Remark:

ARaymond MORE THAN FASTENING

Díl / Part:	Index změny / Change Level:	Název / Name:	Číslo zákazníka / CustPart:	Zákazník / Customer:
239251000	Ca / 8.4.2016	Cable channel B+ cover	H1BT14A075AA	Yazaki Europe Limited

Číslo No.	Proces / Diagram procesu Process / Flow-Chart	Znak / Characteristic Číslo No.	Popis Description	Kl Cl	Specifikace Characteristics	Metoda / Method Způsob kontroly Evaluation	Rozsah Size	Četnost Frequency	Metoda kontroly Control Method	Plán reakce Reaction Plan
7	Průběžná kontrola Current check	3	Hmotnost zdvihu - SPC Weigth of stroke - SPC		Dodržení regulačních mezí Cp, Cpk > 1,67	Vážení weighing	3 zdvihy 3 strokes	Zakázka Order	PP 09-01-96 ; Q-výkres	Přeseřídit nastavení vstřik. lisu Adjust machine setting
			Průběžná kontrola Production approval		Kontrola dle Q-výkresu Check acc. to Q-drawing	Měření, funkční test Measuring, function test	1 zdvih 1 stroke	Po 2 hod. Every 2 hours	PP 09-02-96	Informovat seřizovače Notify adjuster
		1	Vizuální kontrola Visual check		Kontrola dle Q-výkresu Check acc. to Q-drawing	Vizuálně Visual	1 zdvih 1 stroke	Po 2 hod. Every 2 hours	PP 09-02-96 ; Q-výkres	Informovat seřizovače Notify adjuster
		2	Zkoušky dle Q-výkresu Check acc. Q-drawing		Kontrola dle Q-výkresu Check acc. to Q-drawing	Měření, funkční test Measuring, function test	1 zdvih 1 stroke	Po 2 hod. Every 2 hours	PP 09-02-96 ; Q-výkres	Informovat seřizovače Notify adjuster
		3	Hmotnost zdvihu - SPC Weigth of stroke - SPC		Dodržení regulačních mezí ; Cp, Cpk > 1,67	Vážení weighing	3 zdvihy 3 strokes	Po 2 hod. Every 2 hours	PP 09-02-96 ; Q-výkres	Informovat seřizovače Notify adjuster
8	Výstupní kontrola Final inspection		Kontrola posledního zdvihu Check of last stroke		Kontrola dle Q-výkresu Check acc. to Q-drawing	Měření, funkční test Measuring, function test	1 zdvih 1 stroke	Dávka Batch	TOP 10-01-96	TOP 13-01-96 ; TOP 19-01-97
		1	Vizuální kontrola Visual check		Kontrola dle Q-výkresu Check acc. to Q-drawing	Vizuálně Visual	1 zdvih 1 stroke	Dávka Batch	TOP 10-01-96	TOP 13-01-96 ; TOP 19-01-97
		2	Zkoušky dle Q-výkresu Check acc. Q-drawing		Kontrola dle Q-výkresu Check acc. to Q-drawing	Měření, funkční test Measuring, function test	1 zdvih 1 stroke	Dávka Batch	TOP 10-01-96	TOP 13-01-96 ; TOP 19-01-97
9	Rekvalifikace Layout inspection and functional testing		Rekvalifikace na zástupce Layout inspection and fucntional testing for representative		Rozměry a fce dle PPAP výkresu Dimensions and fucntional testing acc. to PPAP dwg	Měření, funkční test Measuring, function test	1 zdvih 1 stroke	1 ročně annulay	TOP 17-04-03	TOP 17-04-03 ; TOP 13-01-96
10	Zaskladnění Storage		Hmotnost dílu Weight of part		Shoda se skl. systémem Acc. storage systém	Vážení weighing	1	Dávka Batch	PP 15-01-96 ; PP 15-06-99	TOP 13-01-96 ; TOP 19-01-97
11	Balení Packaging		Množství a druh balení Quantity and sort of package		Shoda se skl. systémem Acc. storage systém	Vizuálně Visual	1	Dávka Batch	PP 15-01-96 ; PP 15-06-99	TOP 13-01-96 ; TOP 19-01-97
12	Doprava Shipping		Číslo dílu a množství Part Number and quantity		Shoda s dodacím listem Acc. delivery note	Vizuálně Visual	1	Dodávka Delivery	PP 15-01-96 ; PP 15-06-99	TOP 13-01-96 ; TOP 19-01-97

ARaymond
MORE THAN FASTENING

POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS(FMEA SYSTEM)

Print date: 9.9.2016
Printed by: Administrátor

FMEA Number: 239251000

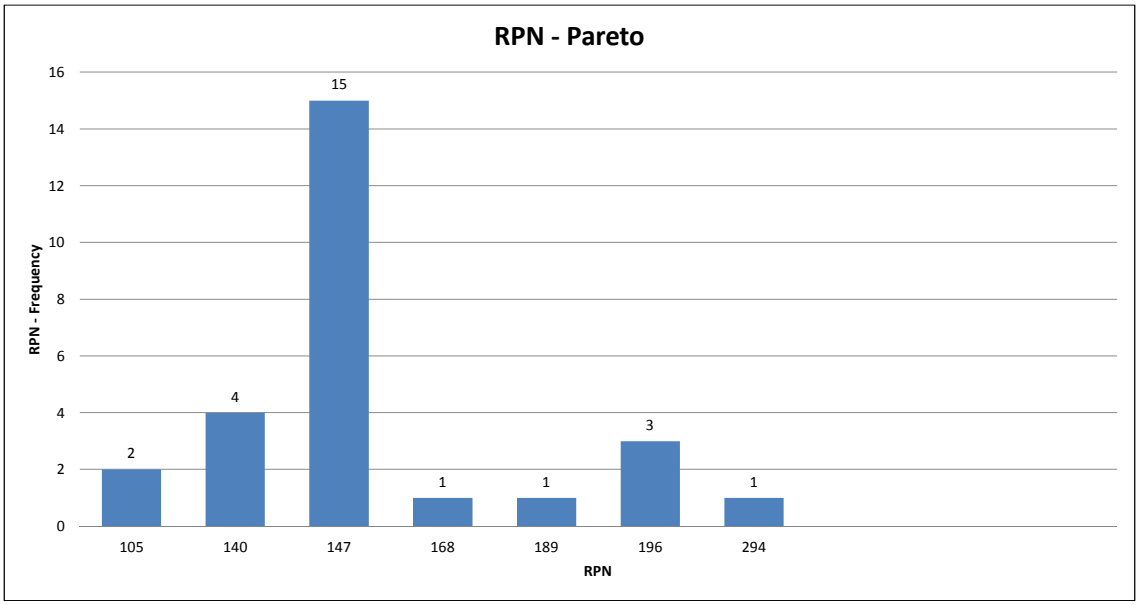
Part No: H1BT-14A075-AA 239251000 / 400009496 **Process Responsibility:** R.Hladík **Prepared By:** P.Bradáč
Model Year(s)/Veh **Key Date:** 5.9.2016 **FMEA Date. (orig)** 13.11.2015 **rev.** 2
Core Team: Christl Ivan, Bradáč Petr, Bradáč Petr

[redacted]

Process-FMEA Overview

Company Name:	**A.Raymond Jablonec s.r.o.**			
FMEA Number:	**239251000**		**FMEA Date / Start:**	13.11.2015
Part Name:	**cable channel**		**FMEA Date / Revision:**	2/5.9.2016
Part Number(s):	239251000 7176157750 H1BT-14A075-AA		**Team:**	Christl, Bradáč, Bradáč
			Production Plant:	A.Raymond Jablonec s.r.o.

RPN	Frequency
105	2
140	4
147	15
168	1
189	1
196	3
294	1



No.	RPN	Failure Description	Process number	Rootcause
1	294	ejectors worn out		wear of mould
2	196	incorrect time of ejection		setting sheet not respected
3	196	incorrect time of mould opening		setting sheet not respected
4	196	broken ejector		wear of mould
5	189	packaging unit not followed		human mistake
6	168	cores damaged		wear of mould
7	147	shaping ejectors turned over		human mistake
8	147	corrosion of mould		maintanance of mould insufficient
9	147	incorrect temperature		human mistake
10	147	blocked nozzle		maintanance of mould insufficient

Carline / Component: H1BT-14A075-AA
Supplier: A.Raymond (Czech)
Date of FMEA: 05.09.2016 (Rev. 2)

○ **Design-FMEA** ◉ **Process-FMEA**

I. General & Formalism		**YES**	**NO***
1	Is there a systematical approach to identify potential failures ? *Gibt es eine systematische Vorgehensweise zur Erkennung möglicher Fehler ?*	◉	○
2	Has the FMEA been created by a cross-functional team ? *Wurde die FMEA vom einem aus mehreren Funktionsbereichen zusammengesetzten Team erstellt ?*	◉	○
3	Are all formsheet header data complete and correct ? *Sind alle Daten im Formularkopf vollständig und korrekt ?*	◉	○
4	Do have all single pages a clear reference to the header data and revision level ? *Haben alle Einzelblätter eine klare Referenz zu den Kopfdaten und dem Ausgabestand ?*	◉	○
5	Do have the single pages a subsequent numbering and show the total number of pages ? *Haben alle Einzelblätter eine fortlaufende Numerierung und Angabe der Gesamtzahl der Einzelblätter ?*	◉	○
6	Is a unique date format used in the entire document ? *Wird ein einheitliches Format für Datumsangaben im ganzen Dokument verwendet ?*	◉	○
7	Does the status of the FMEA conform to the latest status of the product development/ process planning ? *Entspricht der Stand der FMEA dem aktuellen Stand der Produktentwicklung / Prozessplanung ?*	◉	○
8	Has the team reviewed relevant information, e.g. specifications, concern/warranty data from previous/other projects, … ? *Hat das Team wichtige Informationen, z.B. Spezifikation, Beanstandungs-/Gewährleistungdaten früherer/anderer Projekte, berücksichtigt ?*	◉	○

II. Structure and Failure Analysis		**YES**	**NO***
1	Is the scope of the P-FMEA (including interfaces) shown by a flowchart or a list of process steps ? *Ist der in der P-FMEA zu untersuchende Prozeß als Flußdiagramm oder Liste der Einzelschritte dargestellt ?*	◉	○
2	for PFMEA only: Are all relevant process steps according work-flow listed ? *Sind alle wichtigen Prozessschritte entsprechend dem Arbeitsablauf aufgeführt ?*	◉	○
3	for PFMEA only: Are the tasks/functions of the "5 M" (men, machine, material, method, medium) for each process step listed ? *Sind für jeden Prozessschritt die Aufgaben/Funktionen der "5 M" (Mensch, Maschine, Material, Methode, Mitwelt) aufgeführt ?*	◉	○
4	Are more than one malfunction assigned to each function/task ? *Sind den einzelnen Funktionen/Aufgaben mehr als eine Fehlfunktion zugeordnet ?*	◉	○
5	Are the malfunctions/potential effects of failure on the product, next operation, … described clearly and traceable ? *Sind die Fehlfunktionen/Auswirkung des potenttiellen Fehlers auf das Produkt, den nächsten Arbeitsschritt, … eindeutig und nachvollziehbar beschrieben ?*	◉	○
6	Are all Special Characteristics (SC, CC) demanded by customer considered and marked in the P-FMEA ? *Sind alle vom Kunden vorgegebenen besonderen Merkmale (SC, CC) in der P-FMEA berücksichtigt und markiert ?*	◉	○
7	Are all Special Characteristics identified in the D-FMEA considered and marked in the P-FMEA ? *Sind alle in der D-FMEA identifizierten besonderen Merkmale in der P-FMEA berücksichtigt und markiert ?*	◉	○

YS = potential significant characteristic (D-FMEA only) YC = potential critical characteristic (D-FMEA only) SC = significant characteristic (P-FMEA only) CC = critical characteristic (P-FMEA only)	B = Bedeutung A = Auftretenswahrscheinlichkeit E = Entdeckungswahrscheinlichkeit RPZ = Risikoprioritätszahl (RPZ = B x A x E)	S = Severity O = Occurrence D = Detection RPN = Risk Priority Number (RPN = S x O x D)

"NO" in orange lines : no approval possible "NO" in beige lines : revision of documents necessary	"NO" in orange Zeilen : KEINE Abnahme möglich "NO" in beige Zeilen : Überarbeitung der Dokumente erforderlich

Carline / Component: H1BT-14A075-AA
Supplier: A.Raymond (Czech)
Date of FMEA: 05.09.2016 (Rev. 2)

○ **Design-FMEA** ◉ **Process-FMEA**

III. Risk analysis

		YES	NO*
1	Are evaluation catalogues available for severity, occurrence and detection likelihood ? *Sind Bewertungskataloge für Bedeutung, Auftretens- und Entdeckungswahrschweinlichkeit verfügbar ?*	◉	○
2	Have equal failure effects an equal S-ranking (in the own system) ? *Haben gleiche Fehlerfolgen die gleiche B-Bewertung (im eigenen System) ?*	◉	○
3	Have equal failure causes (with preventive measures) an equal O-ranking ? *Haben gleiche Fehlursachen (mit Vermeidungsmassnahmen) die gleiche A-Bewertung ?*	◉	○
4	Have equal failure causes (with detecting measures) an equal D-ranking ? *Haben gleiche Fehlursachen/Fehler (mit Entdeckungsmassnahmen) die gleiche E-Bewertung ?*	◉	○
5	Have the single factors S, O and D and the RPN respectively been analyzed for the determination of improving measures ? *Wurden bei der Festlegung von Verbesserungs- maßnahmen die Einzelfaktoren B, A und E bzw. die RPZ ausgewertet ?*	◉	○

IV. Optimisation

		YES	NO*
1	Have effective preventive measures been determined, if necessary. *Wurden ggf. wirksame Vermeidungsmassnahmen festgelegt ?*	◉	○
2	Have effective detective measures been determined, if necessary? *Wurden ggf. wirksame Entdeckungsmassnahmen festgelegt ?*	◉	○
3	Have the responsible and the target completion date been determined for all planned measures ? *Sind zu allen geplanten Maßnahmen Verantwortliche und Termine festgelegt ?*	◉	○
4	Is the status of implementation tracked and updated for all determined measures ? *Wird für alle festgelegte Maßnahmen der Bearbeitungsstand verfolgt und aktualisiert ?*	◉	○
5	Have closed measures been implemented in due time ? *Erfolgte die Umsetzung abgeschlossener Maßnahmen termingerecht ?*	◉	○
6	Was the FMEA updated after preventive measures were implemented ? *Wurde die FMEA nach der Implementierung der Vorbeugungsmassnahmen aktualisiert ?*	◉	○

* In case of open issues (evaluation "NO") a feedback must be given to the supplier within two weeks

V. Review & Approval

		YES	NO
1	Is the FMEA from partner/supplier available at S-Y ST Europe? If not, please see item 2 and 3. *Ist die FMEA vom Partner/Lieferanten bei Yazaki FBU verfügbar? Wenn nicht, siehe Punkte 2 + 3.*	○	◉
2	Was the FMEA examined and are appropriate records existing at Yazaki FBU ? *Wurde die FMEA geprüft und gibt es Aufzeichnungen darüber bei Yazaki FBU ?*	◉	○
3	Is a summary of the top 10 issues and a Pareto-Diagram of examined FMEA available at Yazaki FBU ? *Ist eine Zusammenfassung der Top 10 Punkte und ein Pareto-Diagramm der geprüften FMEA bei Yazaki FBU verfügbat ?*	◉	○

☑ Approved and feedback given to supplier

☐ Reviewed and feedback given to supplier:

☑ Revised FMEA / documents necessary Ford part no. Incomplete in FMEA Header

07.09.2016 Erbe, Andreas

Date Name Signature

Special Characteristics Communication and Agreement

	1. DFMEA and potential special characteristics	Type ONLY in Yellow Boxes	1A. PFMEA & Special Characteristics Agreement	Type ONLY in Green Boxes
Lead / Support roles and timing for each stage	Customer / Supplier		Supplier/ Customer	

Special Characteristics for:

B479 / MY 2016 3/4	A.Raymond / Czech	H1BT-14A075-AA

Program:	B479 / MY 2016 3/4	Part Number:	H1BT-14A075-AA	Customer Engineer Approval/Date:	Signature	Rüdiger Liedtke	
Supplier Name/Plant:	A.Raymond / Czech	Engineering Release Number:	EE01 - E - 13094925-000	Customer Quality Approval/Date:	Signature	Andreas Erbe	30.06.2015
Supplier SIM Code:		Design Lead Brand:		Others Approval/Date:	Signature	Name	e-mail
Part / System Name:	Battery Plus Cover	Ford Customer Plant:	Ford Craiova	Supplier Approval/Date:	Signature	Petr Holman	petr.holman@araymond.com

Key: For Special Characteristic definitions refer to Ford FMEA Handbook

From DFMEA:

YC	Sev 9,10. Potential CC.
YS	Sev 5-8 and may require special control to maintain process capability. Potential SC.

From PFMEA:

CC	Sev 9,10 (Part). Critical Characteristic.
OS	Sev 9,10 (Process). Operator Safety.
SC	Sev 5-8 AND Occ 4-10. Significant Characteristic.
HI	Sev 5-8 AND Occ 4-10. High Impact Characteristic.

Special Characteristic Totals:
Note 1: Automatic calculation of totals (for guidance only).
Note 2: Count of SCs may be less than count of YSs

YC	YS	CC	OS	SC	HI
0	0	0	0	0	0

Stage 1. DFMEA				Stage 1A. PFMEA	
No.	Characteristic Description	Specification & Tolerance	DFMEA Class	PFMEA Class	Process Control Method
1					
2					
3					
4					

Design Verification Plan

Ford part number H1BT-14A075-AA			
page / Seite	of / von	R=Responsible S=Support A=Assist	
1	3		

RAY-Nr. / RAY-part-no.			239251000		RAY-Entw.-Nr. / RAY-dev.-no		239251-1	
Kunden Teil-Nr. / Customer part-no.			H1BT-14A075-AA		Kunde / customer		YAZAKI SYSTEMS TECHNOLOGIES GMBH	
Teilename / part-name			Battery plus cover		Projekt / project			
Zeichnungsindex / drawing index					Änderungsdatum / changing date		02/10/2015	
Team Mitglieder A. Raymond / team members A. Raymond:			T.Tausendfreund, A.Glagau		Team Mitglieder Kunde / team members customer:		R.Liedtke, D.Jansen	
Abteilung A. Raymond / department A. Raymond:			PKK/		Fortl. Dokumenten Nr. und Datum/ Document no and date.:		000360	06/11/2015
Nr. / no	Prüfung / test feature	Verfahren / procedure	Anforderung / requirement	Prüfumfang / sample size	Test equipment / further required information	Verantwortlich / Responsible R / S / A	Verfizierung Ende / verification closed date	Bemerkung / remark
1.	Thermal Shock Resistance	As defined in EY-0128	As defined in Ford CETP 00.00-E-412 Section 1.3 (see also document "B479 DVP Testing Plastic Parts Engine Compartment 17 06 15")	12 per cavity	Climate chamber	R = Raymond	25.05.2016	
2.	Humidity / Temperature Cycle	As defined in EY-0128	As defined in Ford CETP 00.00-E-412 Section 1.3 (see also document "B479 DVP Testing Plastic Parts Engine Compartment 17 06 15")	3 per cavity	Climate chamber	R = Raymond	25.05.2016	

	Design Verification Plan	Ford part number H1BT-14A075-AA		
		page / Seite 2	of / von 3	R=Responsible S=Support A=Assist

3.	Vibration test	As defined in EY-0128 - Class III	As defined in Ford CETP 00.00-E-412 Section 1.3 (see also document "B479 DVP Testing Plastic Parts Engine Compartment 17 06 15")	3 per cavity	Shaker & Vibration rig	R = Raymond	25.05.2016	
4.	Assembly force of lid - F1	Force Test; Test-Speed 100mm/min	Push to close force of lid = 75 N max	6 per cavity or 10 samples in case of one cavity	Tension testing machine	R = Raymond	25.05.2016	
5.	Disassembly force of lid - F2	Force Test; Test-Speed 100mm/min	Pull to open force of lid = 75 N min	6 per cavity or 10 samples in case of one cavity	Tension testing machine	R = Raymond	25.05.2016	
6.	Assembly force of Battery Plus Eyelet to cover	Force Test; Test-Speed 100mm/min	Push in force of eyelet = 75 N max	6 per cavity or 10 samples in case of one cavity	Tension testing machine	R = Raymond	25.05.2016	
7.	Disassembly force of Battery Plus Eyelet from cover	Force Test; Test-Speed 100mm/min	Pull out force of eyelet = 112 N min	6 per cavity or 10 samples in case of one cavity	Tension testing machine	R = Raymond	25.05.2016	
8.	Force to disengage cover (force to bridge pre-assemby position)	Force Test; Test-Speed 100mm/min	Force to disengage = tbd	6 per cavity or 10 samples in case of one cavity	Tension testing machine	R = Raymond	25.05.2016	

	Design Verification Plan	Ford part number H1BT-14A075-AA		
		page / Seite 3	of / von 3	R=Responsible S=Support A=Assist

9.	Robustness test for hinge durability	Hinge has to be bended 50x min. forwards and backwards from off-tool position to assembly position (180°, locking features can be removed for this test).	No damage or cracking. Whitening on the hinge is acceptable (comparison with boundary samples).	6 per cavity or 10 samples in case of one cavity	Tension testing machine	R = Raymond	25.05.2016	
10.	Handling Drop Test	As defined in EY-0128	As defined in Ford CETP 00.00-E-412 Section 1.3 (see also document "B479 DVP Testing Plastic Parts Engine Compartment 17 06 15")	6 per cavity or 10 samples in case of one cavity	-	R = Raymond	25.05.2016	

Customer DVP approval			
Customer:	Yazaki Systems Technologies		
Name:	Rüdiger Liedtke	Date:	06.11.15
Email:	Ruediger.Liedtke@yazaki-europe.com	Signature:	

Tool Tag information 400009496

Photo Tool (complete view)

Photo Tool Tag (readable close-up)

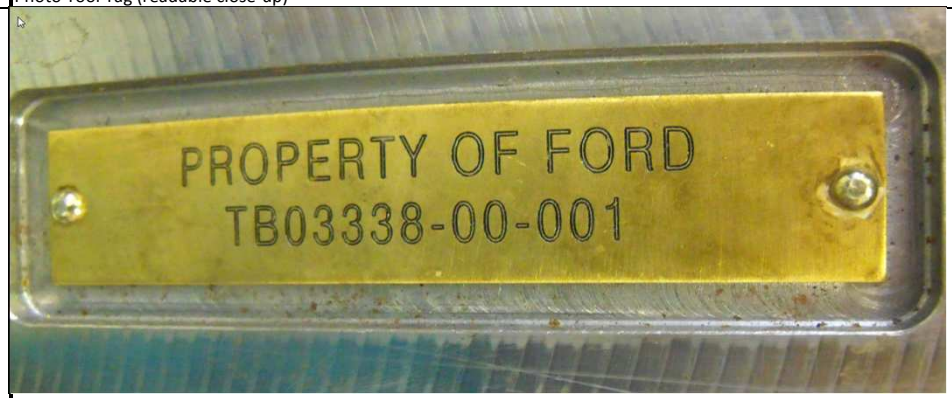
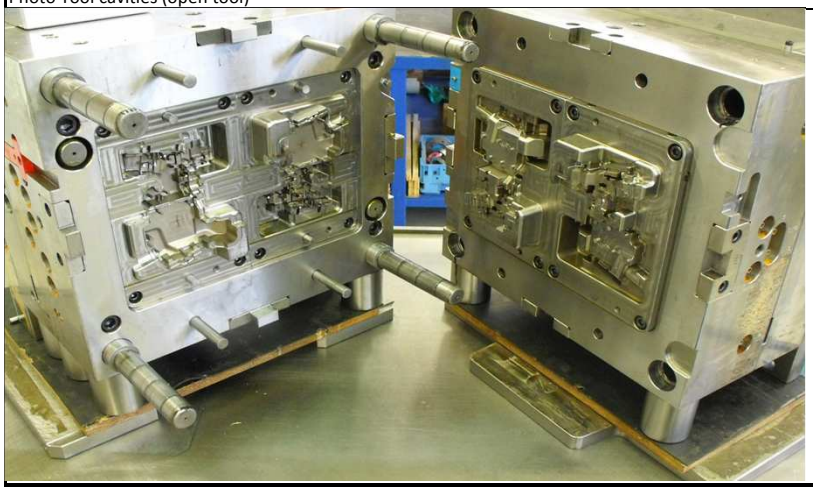


Photo Tool cavities (open tool)



Tool information

Location: Cs. Armady 27, Jablonec n./N., Czech Repulic, 46602

Street, Town, City, Country, State, ZIP Code

Dimension (mm): width: 496 mm deepth: 596 mm height: 643 mm

Weight (kg): 1150 kg

PACKAGING SPECIFICATION

Yazaki Part number:		**Supplier Name:**	
Suppier Part number:	239251000		
Part Description:			

PLASTIC BAG - STACK METHOD

Include Sketch/Picture:

Bag size:		**mm**
Quantity of bags/carton:		**pcs**
or		
Quantity of cartons/stage:		**pcs**
Total Qty per box - SPS:	170	**pcs**
(SPS - Standard packsize)		

BLANC CARTON BOX

Include Sketch/Picture of Box and Label:

Box type:	cardboard box 644	
Box dimensions: (**L**ength **x W**idth **x H**eight)	600 x 400 x 400	**mm**
Wall thickness:	5	**mm**
Full box weight:	6,81	**kg**
Label type:	VDA	**(*)**
Label colour:		**(*)**
Label position:		**(*)**
Label details / size:	210 x 150	**mm (*)**

PALLET

Include Sketch/Picture of complete pallet:

(incl. cartons & wrapping/strapping)

Pallet type:	one-way	
(one-way Euro pallet - fumigated)		
Empty pallet size (LxWxH):	1200 x 800 x 130	**mm**
Max. Height 1.80 m		
Full pallet size (LxWxH):	1200 x 800 x 1330	**mm**
Max. Height 1.80 m		
Total nr of boxes per stage:	4	**boxes**
Nr of stages per pallet:	3	**stages**
Full pallet weight (max. 800 kg)**:**	91	**kg**
Wrapping :	**Yes**	*(delete as appropriate)*
Strapping :	**No**	*(delete as appropriate)*
Pallet stackable :	**Yes**	*(delete as appropriate)*

(*) Notes to labels:

1. **Label type**: each primary product packaging must be labelled with an adhesive bar-code label, type Odette, VDA, etc.
2. **Label info**: label info shall be clear and scannable and include as a minimum; Supplier name, Yazaki part number, Supplier reference nr, Quantity, Trace-ability info (e.g. Lot nr, Production info, Order ref., etc.).
3. **Additional/specific labels**:

Orange: Whenever an Engineering Change occurs, the next three (3) consecutive deliveries have to be identified with an extra orange / otherwise agreed label.

Green: Whenever a quality concern has occurred, the next three (3) separate O.K. deliveries (Good Job) must be identified with an extra green label.

Signature Supplier:

ARaymond oddělení logistiky Čs. Armády 27, 468 05 Jablonec n.N.

Signature *Martin Vágner*

Signed by:

Function:

Date:

Appendix C - Production Part Approval, Dimensional Results

DaimlerChrysler Ford GM

Production Part Approval
Dimensional Test Results

ARaymond
A. RAYMOND JABLONEC s.r.o.

ORGANIZATION:	A.Raymond Jablonec s.r.o.
SUPPLIER/VENDOR CODE:	49-504-2616
ARAYMOND PART NO.:	239251000
PART NUMBER	H1BT-14A075-AA
PART NAME:	CVR ASY-FS JCT PNL BOX
DESIGN RECORD CHANGE LEVEL:	
ENGINEERING CHANGE DOCUMENTS:	EE00 E 13094925 000

INSPECTION FACILITY:

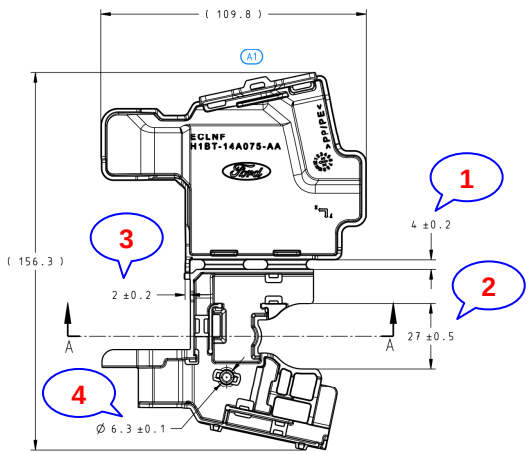
3D - 3D Measuring Machine	GP - Gauge Plug	OP - Optical Projector
C - Calliper	M - Micrometer	TM - Tensile Machine
DI - Dial Indicator	PP - Profile Projector	HA - Halogen moisture analyzer
	TW - Torque Wrench	OS - 3D Optical Scanner

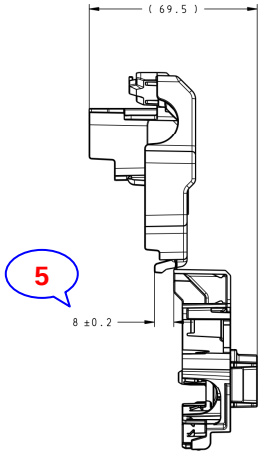
ITEM	DIMENSION / SPECIFICATION	SPECIFICATION / LIMITS	INS. FACIL.	TEST DATE	QTY. TESTED	ORGANIZATION MEASUREMENT RESULT (DATA)	OK	NOT OK
01 / 1	length	4,00 ±0,20 mm	C	17.5.2016	1	4,09; 4,05; 4,13	☑	☐
02 / 1	length	27,00 ±0,50 mm	OP	17.5.2016	1	27,21; 27,44; 27,17	☑	☐
03 / 1	length	2,00 ±0,20 mm	C	17.5.2016	1	2,02; 1,98; 2,11	☑	☐
04 / 1	diameter	6,30 ±0,10 mm	C	17.5.2016	1	6,28; 6,30; 6,33	☑	☐
05 / 1	length	8,00 ±0,20 mm	C	17.5.2016	1	8,05; 8,14; 8,08	☑	☐
06 / 1	length	4,00 ±0,20 mm	C	17.5.2016	1	4,07; 4,08; 4,06	☑	☐
07 / 1	length	42,50 ±0,80 mm	OP	17.5.2016	1	42,87; 43,20; 42,99	☑	☐
08 / 1	length	33,00 ±0,80 mm	OP	17.5.2016	1	32,61; 32,58; 32,45	☑	☐

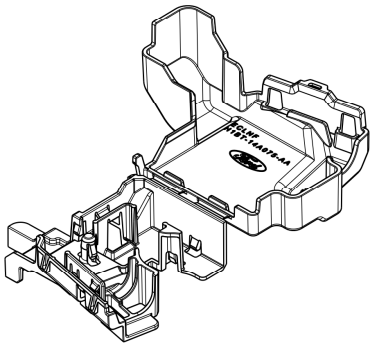
Blanket statements of conformance are unacceptable for any test results.

March 2006 CFG-1003

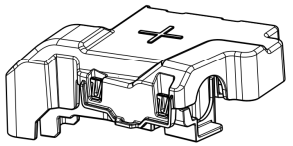
SIGNATURE	TITLE	DATE
Bradáč Petr		15.7.2016



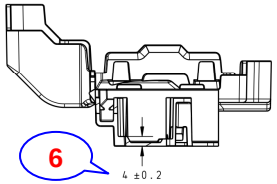




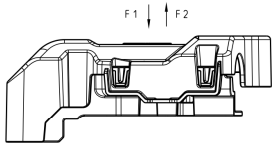
ISOMETRIC VIEW



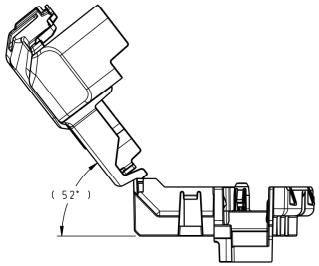
ISOMETRIC VIEW
ASSEMBLY SITUATION



SECTION A



ASSEMBLY SITUATION



PRE ASSEMBLY SITUATION

PART AS RECEIVED AT THE FORD PLANT OR SERVICE PART PACKAGER / WAREHOUSE SHALL BE FREE OF ANY CORROSION ALIGNED WITH THE FORD CUSTOMER SERVICE DIVISION (FCSD) PACKAGING AND SHIPPING GUIDE. CORROSION INHIBITORS OR FOREIGN MATERIALS DETRIMENTAL TO THE INSTALLATION OR FUNCTION OF THE PART MUST BE REMOVABLE BY THE INTENDED CLEANING METHOD.

FOR CURRENT RELEASE STATUS, SEE THE WERS ENGINEERING NOTICE.

FOR SURFACE FINISH REQUIREMENTS SEE ENGINEERING NOTICE AND WX100.

CHANGES TO DESIGN, COMPOSITION OR PROCESSING OF THE PART PREVIOUSLY APPROVED FOR PRODUCTION REQUIRE PRIOR APPROVAL FROM FORD MOTOR COMPANY PRODUCT ENGINEERING REFER TO ISO/TS 16949.

SOURCES FOR MATERIALS DEFINED BY FORD MATERIAL SPECIFICATIONS SHALL BE SELECTED FROM THE FORD MOTOR COMPANY ENGINEERING MATERIAL APPROVED SOURCE LIST.

ALL UNSPECIFIED FEATURES AND DIMENSIONS TO SUIT MANUFACTURER PROVIDING THE FUNCTION OF THE PART IS NOT IMPAIRED.

NOTE1. FORD OVAL TRADEMARK, MATERIAL CODE, DATE OF MANUFACTURING, MANUFACTURING CODE, CAVITY NO AND PART NO. MUST BE STAMPED ON PART.

MATERIAL: PP ACC. TO SPEC. WSS-M4D638-B
COLOUR: RED

MATERIAL CODE >PP< TO APPEAR ON PART PER ISO 1043-1 AND ISO 1043-2 (REFERENCING ISO 11469, PLASTIC) AND/OR ISO 1629 (RUBBER)

PERFORMANCE REQUIREMENTS:

TEST TO BE CARRIED OUT AT TEMPERATURE 23 °C ±5 °C AND SPEED OF 100 mm/min. WITH FORCES MEASURED IN LINE OF LEAST RESISTANCE

7

F1: PUSH TO CLOSE FORCE AFTER EXERTING CLOSURE PROTECTION 75 N MAX
F2: PULL TO OPEN FORCE 75 N MIN

GENERAL TOLERANCE: ±0.5 mm / ±5°

SINK MARKS AND DISTORTIONS ARE ALLOWED.

8

NO RADII IN THE AREA OF EJECTOR.

PARTS TESTED ACC. TO FORD CETP 00.00-E-412

HINGE FUNCTION: FILM HINGE CAN BE OPENED 30X MIN AT 23° C WITHOUT DAMAGE. WHITENING ON FILM HINGE IS ACCEPTABLE. COMPARISON TOWARDS BOUNDARY SAMPLES.

A2 GATE MARK ALLOWED.

9

LTRS	REVISIONS			
ORIGINATOR	CHECKER	ENGR APP	MATL APP	
RELEASED				
EE00 E 13033752 002		20150724		
GKUCKELK	RLIEDTKE	AKNOPKE	MVAZAN	
A1 REVISED DESIGN OF FIXING FEATURE A2 ADDED NOTE				
EE00 E 13094925 000		20151215		
GKUCKELK	RLIEDTKE	AKNOPKE	MVAZAN	

A.RAYMOND 239251	WEIGHT ~ 33 g	TCe B479	CATG NO.

REFERENCE		D1-B479-H1BT-14290-HC-3MVF2-001	
PART MUST COMPLY WITH RESTRICTED SUBSTANCE MANAGEMENT STANDARD WSS-M99P9999-A1 TO SAFEGUARD HEALTH, SAFETY AND THE ENVIRONMENT			
DRAFTED IN ACCORDANCE WITH FORD MOTOR COMPANY ENGINEERING CAD AND DRAFTING STANDARDS VERSION 28.1			3RD ANGLE PROJ DIMENSIONS ARE IN MILLIMETERS
CAD TYPE K-CATIA5	CAD LOC. TCe	CAD FILE H1BT-14A075-A-DWG-01 :3	DTMC IS MASTER
OPER. NO. N/A	UNIT N/A	H1BT-14A075-AA	
DESIGN GKUCKELK	DETAIL GKUCKELK	TITLE CVR ASY-FS JCT PNL BOX CVR	SHT 1 OF 1
CHECKED RLIEDTKE	SAFETY N/A		
SCALE 1:1	DATE 20150724	DIVISION EESE PLANT	

FORD MOTOR COMPANY