Huf Hülsbeck & Fürst

Huf Group

Corporate Supplier Manual

Guideline: 8D Method

… the **intelligent touch** to cars

Contents:

1. Objective

The objective of this attachment is to define and require an 8 D problem solving and reporting method for suppliers of the Huf Group.

2. Area of Applicability

All suppliers of the Huf Group.

3. Definitions and Explanations

8 D: Eight Disciplines (D1 – D8)

FTA: Fault Tree Analysis

Nok: not okay

4. Proceedings and Procedures

The 8D Method within this Attachment 1 is defined as:

- a standard method
- a problem solving process
- a reporting format

Every Huf complaint has to be processed by using this method. As a first step Huf requires a fast interim 4D report (D0-D4) up to the information about containment actions. For complaint closure the fulfillment of complete 8D method has to be shown. Both interim 4D and final 8D report have to be submitted timely at the request of Huf.

An 8D template is shown in appendix C. The supplier is allowed to use own templates if the 8D structure (D0-D8 with relevant tools) is met and the 8D proceeding according this guideline is ensured.

8D Worksheets (see Appendix D) support the 8 D proceeding at the supplier. If required from Huf, the supplier has to enclose the completed worksheets to the 8 D report. This could be the case if the complaint is escalated (e.g. because of occurrence at Huf customer) and/or the occurred failure is critical.

4.1 The 8D Steps

The 8D method is based on 8 steps plus a preliminary step for preparing.

In the table below the 8D steps are listed including a link to all supporting documents (e.g.: checklists, flow charts, templates). Additionally all supporting documents are printed in the attachments.

8D- Table

	Step	Explanation	Checklist	Template		Tools & Methods
				Standard	Escalated	
D0 – D8	General		Common Task	8D internal overview		
0	Preliminary step	Step 0	Checklist D0		8D Worksheet D0-D3 ↓	
1	Establish a Team	Step 1	Checklist D1		8D Worksheet D0-D3 ↓	
2	Problem description	Step 2	Checklist D2		8D Worksheet D0-D3 ↓	Customer, Photo
3	Containment actions	Step 3	Checklist D3		8D Worksheet D0-D3 ↓	
4	Root cause(s)	Step 4	Checklist D4		8D Worksheet D4/D5 ↓ Root Cause Analyze	Ishikawa FTA, 5 Why's
5	Choose permanent corrective actions	Step 5	Checklist D5		8D Worksheet D4/ D5	Reliability Study Tests
6	Implement permanent corrective actions	Step 6	Checklist D6			
7	Prevent reoccurrence	Step 7	Checklist D7			FMEA, Control Plan, Procedure
8	Problem solved	Step 8	Checklist D8			
Report to Customer				8D Report sheet		

5. Appendix

Appendix A: Explanations

Appendix B: Checklist

Appendix C: Template 8 D Report

Appendix D: Templates Worksheets

Appendixes C and D are available as Excel templates (Partner Portal).

Appendix A: Explanations

D0: Preliminary Step

Preparing for the 8D, ensure that all relevant information needed for the 8D are available. If needed emergency actions must be implemented to separate the NOK parts ant to protect the customer.

D1: Establish a Team

Establish a small team consisting of people who can contribute to solving the problem and implementing a solution. A champion and team leader has to be designated

D2: Problem Description

Describe the internal/external customer problem by identifying "what is wrong with what". Get a profile of the problem (what, where, when, how many…).

D3: Containment Actions

Define, verify, and implement the interim containment action to isolate effects of the problem until a permanent corrective action can be found. Validate the effectiveness.

D4: Root Cause(s)

Isolate and verify the root cause by testing each possible cause against the problem description and test data. Also isolate and verify the place in the process where the effect of the root cause should have been detected and contained.

D5: Choose Permanent Corrective Actions

List possible actions that could resolve the root cause(s) of the problem. Select the 'best' permanent corrective action(s). Verify the chosen action(s) will solve the problem without causing undesirable effects.

D6: Implement Permanent Corrective Actions

Plan and implement selected permanent corrective actions. Define how the effectiveness of the permanent corrective action(s) can be monitored continuously.

D7: Prevent Recurrence

Modify the necessary systems including policies, practices, and procedures to prevent recurrence of this problem and similar ones.

D8: Problem solved

Complete the team work. Evaluate the achieved experience and decide who should be informed about it.

Appendix B: Checklist

Common Tasks for every step

1. Do we have the right team composition to proceed the (next) step and make decisions?
2. Has the factual information in the 8D report been reviewed and updated?
3. Have we informed all involved departments within our company/plants about 8D status, its content with results, decisions and planned activities?
4. Have all changes been documented (FMEA, control plan, process flow, etc.)?

D0 – Preliminary step

1. Did Huf require emergency response actions or are those actions necessary from our point of view?
2. How was the emergency response action verified and validated?
3. Is the symptom complexity known? Have the symptoms been quantified and confirmed with measurements?
4. Does already an 8D report exist for this problem? Is it a repeated problem?

D1 – Establish a Team

1. Has the Team Leader/Champion of the team been identified?
2. How is Huf represented in the 8D team?
3. Are the departments/plants affected by the problem represented in the team? Does the team structure ensure all necessary input and required experience? Is the team small enough to act effectively?
4. Are the roles and responsibilities of the team members clear?
5. Does the team have sufficient decision-making authority and/or is the decision process clear?

D2 – Problem Description

1. Do we have a clear description of the specific problem?
2. Is/Are the symptom(s) clear? Are the conditions clear when symptoms occur? If more than one symptom exists, is it possible to separate them clearly?
3. Have 'Repeated Whys' been used? What's wrong with what? Has Is/Is-Not Analysis been performed (what, where, when, how big)?
4. Has this problem appeared before? If yes, where in the process?
5. Is it a 'something changed' or a 'never been there' situation?
6. Does this process flow reflect the last approved status?
7. Are samples with these symptoms available?
8. Have all required data been collected and analyzed?
9. Do we have enough information to investigate and evaluate potential root cause(s)? If not, which information and analysis are missing?
10. Which influence has the emergency response actions to the deviation?
11. Could the problem affect other/similar components or assemblies?
12. Has the Problem Description been confirmed by team and Huf?

D3 – Containment Actions

1. Are Containment Actions necessary and/or required by Huf? Have criteria been established for selection of Containment Actions?
2. Have the appropriate departments/plants been involved in this containment action decision?
3. Have appropriate Advanced Product Quality Planning (APQP) tools (e.g., FMEA, control plans, instructions) been considered? Have we considered the experience from the emergency response actions?
4. Is it ensured that the Containment Actions protect Huf totally from the effect? How have all containment actions been successfully verified?
5. Do the Containment Actions show an adequate balance of benefits and risks? Are implementation resources adequate?
6. Do we have a clear plan to implement the Containment Actions (who has to do what and when)?
7. Did we inform Huf via 8D report? Is Huf approval required and given?
8. How is the effectiveness of the containment action? Which improvements are necessary?

D4 – Root Cause(s)

1. What sources of information have been used to develop the potential root-cause list? Do we have all needed information and analysis results?
2. Which quality tools are in use to find the root cause(s)? Has a Cause & Effect Diagram been completed? Have 'Repeated Whys' been used?
3. Can we clearly identify factor(s) changed which contributes to this problem? What data make us sure that these changed factors are responsible for the problem?
4. If we indicated more than one potential root cause, does the sum account for 100 percent the problem? Do all known data confirm this?
5. Do(es) the root cause(s) match to the problem according the Problem Description?
6. Is the desired performance level (specification) achievable?
7. If the desired performance level is not achievable, which other changes (e.g. design) can solve the problem?
8. Is it useful to split the 8D investigations with regard to the single potential root causes (sub-8D e.g. with supplier)?
9. Has the root-cause analysis gone deep enough? How did we verify the root cause(s)?
10. Is a control system for relevant parameters available and verified to detect the problem? Is there a need to improve the control system?

D5 – Choose Permanent Corrective Actions

1. Have criteria been established for selection of corrective actions and escape point? Did the team leader/champion and Huf (if required) confirm these criteria?
2. What departments/plants are needed to be involved in the planning of the corrective actions? Are they part of the team?
3. What options have been considered by choosing the permanent corrective actions? Did we choose the most effective corrective action? If not (e.g. because of financial considerations), did we analyse the benefit of the most effective corrective action in relation to the costs? Did we keep in mind the short and long term point of view?
4. How did we verify the chosen corrective actions (checked variables, consider tolerances and process variations) and what evidence do we have that these corrective actions will resolve the problem at the root cause level?
5. Did we identify and verify the risk to create other problems with chosen corrective actions? How should these be managed? Did we involve Huf?
6. Does the Champion concur with the chosen corrective actions (if required)? Did Huf release the corrective actions?
7. Do we have a clear implementation plan for the corrective actions (who has to do what and when)?
8. What resources will be required for implementation of the corrective actions and are they adequate? Are these resources available?
9. What is the plan to carry on the containment actions until corrective actions are implemented and validated?

D6 – Implement Permanent Corrective Actions

1. What departments/plants are needed to be involved in the implementation of the corrective actions? Are representatives of those departments on our team to plan and implement their tasks and responsibilities?
2. What Huf and/or supplier involvement is needed? Who will coordinate the activities at Huf and/or at the supplier?
3. How are we monitoring completion of the implementation plan? What points in this plan could go wrong and what can be done to prevent this?
4. What is the exit point for the containment actions?
5. What measures are used to validate the chosen corrective actions (as well for short and long term)?
6. How will we continue to monitor long-term results? Can we be sure that the measurement system is capable to prove the root cause is eliminated?
7. Does the validation confirm that all root causes have been completely eliminated?
8. Have all process related documents been reviewed and updated?

D7 – Prevent Recurrence

1. Where in our process did this problem enter and how could this happen?
2. What procedures or conditions allowed this problem to occur without detection?
3. Have all affected processes, production lines and/or products been identified?
4. What will be done differently to prevent recurrence of the root cause?
5. Who needs to be informed about the identified opportunities for improvement? Is a plan available to coordinate preventive actions and standardize the practices (who has to do what and when)?
6. How can we verify and validate the preventive actions?
7. Does the champion confirm these preventive actions?
8. Did we publish and transfer all knowledge from present 8D to the knowledge data base? If applicable is also information included about not implemented – but as most effective identified - corrective actions? How is ensured that results and experiences will be saved?

D8 – Problem solved

1. Has the 8D published to the Huf and internal addressees?
2. Are there opportunities to provide recognition from Leader to Team, Team Member to Team Member, Team to Leader, Team to Champion? Significant contributions by individual team members?
3. Review of 8D objectives. What was done well in this problem solving process and what gives opportunity for improvement?
4. Is the 8D report officially closed / signed off?
5. Is the 8D report completed?

Appendix C: Template 8D Report

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Huf Group

8D-Nr./8D No.:		**Lieferant / Supplier:**			
Huf Werk/Plant:		**Teilebezeichnung/ Component description:**			
Huf Teile-Nr./Part No.:		**Lieferanten Teile-Nr./ Supplier Part No.:**			
Beanstandung/ Complaint reason:		**Anzahl gelieferter Teile/ Nbr. of delivered parts**		**Anzahl fehlerhafter Teile/ Nbr. of defective parts:**	
Huf Berichts-Nr./Ref.-No.:		**Eröffnet am / Start date:**		**intern/ internal** ☐ **extern/ external** ☐	

0.	**Vorbereitung, Notfallmaßnahmen/Preliminary step, emercency actions**				
1.	**Team (Teamleiter unterstrichen/Team Leader underlined):**	**Abteilung/ Department:**	**Telefon/ Telephone:**	**e-mail:**	**Firma/ Company:**
2.	**Problem-, Fehlerbeschreibung/Problem, Failure Description:**				
	Datum Erstauftreten des Fehlers/Date of first detection:				

3.	**Sofortmaßnahmen/Containment Actions:**	Wer/Who	Einführungsdatum/ Implementation date	Wirksamkeit/ Efficiency
4.	**Fehlerursache(n)/Root cause(s):**	Wer/Who	Wann/When	% Beteiligung/ Contribution
5.	**Geplante Abstellmaßnahmen/Select Permanent Corrective Actions:**	Wer/Who	Wann/When	Wirksamkeit/ Efficiency
6.	**Eingeführte Abstellmaßnahme/Choose Permanent Corrective Action:**	Wer/Who	Wann/When	Wirksamkeit/ Efficiency

7.	**Verhinderung des Wiederauftretens/Actions to prevent recurrence:**	Änderungsdatum/ Revision date:	Verantwortlich/ Responsible:	Einführungstermin/ Implemented date:
	Design-FMEA/Design FMEA ☐			
	Prozess-FMEA/Process FMEA ☐			
	Kontrollplan/Control Plan ☐			
	Inspektionsplan, Produktprüfung/Inspect.Plan, Prod.Inspect. ☐			
	Prozessbeschreibung/Procedure ☐			
8.	**Problem gelöst/Problem solved**			Abschlussdatum/ Close date:
	Unterschrift Teamleiter/Sign off Team Leader:			
	Unterschrift betroffene Abteilungen/Sign off concerned departments:			

Verteiler/Distribution:	
Anhänge/Attachments:	

Appendix D: Template 8D Worksheets
8D Internal Overview

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Interne Übersicht/Internal Overview

8D-Nr./8D No.:		**Lieferant / Supplier:**			
Huf Werk/Plant:		**Teilebezeichnung/ Component description:**			
Huf Teile-Nr./Part No.:		**Lieferanten Teile-Nr./ Supplier Part No.:**			
Beanstandung/ Complaint reason:		**Anzahl gelieferter Teile/ Nbr. of delivered parts:**		**Anzahl fehlerhafter Teile/ Nbr. of defective parts:**	
Huf Berichts-Nr./Ref.-No.:		**Eröffnet am / Start Date:**		**intern/ internal** ☐ **extern/ external** ☐	

Teamleiter/ Teamleader:

Problembeschreibung/Problem Description:

Art der Rückweisung/ Kind of reject: ☐ Gewährleistung/ Warranty ☐ 0 km ☐ intern/ internal ☐ extern/ external ☐ Serienproduktion/ Series Production ☐ Projekt/ Project

Problem-, Fehlerquelle/ Problem, Failure Origin:	**intern/ internal:**	☐	**Produktion/ Production**	☐	**Produktentwicklung/ Product Development**	☐	**Logistik/ Logistic**
	extern/ external:	☐	**Lieferant/ Supplier**	☐	**Kunde/ Customer**	☐	**Spediteur/ Carrier**

Ursache(n)/Root cause(s):

Korrekturmaßnahmen zur Fehlervermeidung/ Corrective actions against occurrence of failure:	Wer/ Who	Einführungstermin/ Impl. Date	Effektivität/ Efficiency

Korrekturmaßnahmen zur Fehlerentdeckung/ Corrective actions to detect the failure:	Wer/ Who	Wann/ When	Anteil/ Contribution

Fehlerbild/Picture of failure:

Maßnahmen zur Vermeidung des Wiederauftretens/ Actions to prevent recurrence:		Änderungsdatum/ Revision date:	Verantwortlich/ Responsible:	Einführungstermin/ Implemented Date:
Design-FMEA/Design FMEA	☐			
Prozess-FMEA/Process FMEA	☐			
Kontrollplan/Control Plan	☐			
Inspektionsplan, Produktprüfung/Inspect.Plan, Prod.Inspect.	☐			
Prozessbeschreibung/Procedure	☐			

Abgeschlossen durch/ Closed by: Name: _____ Unterschrift/Signature: _____ Abschlussdatum/ Close Date:

Interner Verteiler/Internal distribution:

Anhänge/Attachments:

8D Worksheet D0 – D3

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Lieferant/Supplier:	
8D-Report ff. 8D-Nr./8D No:	

0. Notfallmaßnahmen/Emercency Actions	Wer/Who	Wann/When	Wirksamkeit/ Efficiency 25% 50% 75% 100%

1. Team: Name	Abteilung/Department:	Telefon/Telephone:	E-Mail:	Firma/Company:
Teamleiter/Teamleader:				

2. Problembeschreibung/Problem Description:

Art der Rückweisung/ Kind of reject: ☐ Gewährleistung/ Warranty ☐ 0 km ☐ intern/ internal ☐ extern/ external ☐ Serienproduktion/ Serial Production ☐ Projekt/ Project

Menge der von Huf zurück gewiesenen Teile/ Qty. of rejected parts by Huf:		Menge der fehlerhaften Teile/ Qty. of defect parts:	bei/at Huf:	
			innerbetrieblich/in house	
Chargen-Nr. der fehlerhaften Teile/ Lot No. of defect parts:		Produktiondatum/ Production date:		
Wiederholungsfehler/ Repeated problem? ☐ Ja/Yes ☐ Nein/No		Kann während normaler Produktion erkannt werden/ Can be detect in the normal production? ☐ Ja/Yes ☐ Nein/No		

Beschreibung des Problems, Fehlers/
Description of the problem, failure:

Zusätzliche einzusetzende Methoden: '5 Why´s; Ist-/Ist-nicht-Methode
Additional methods to use: '5 Why´s'; 'Is/Is not Not analyse'

Anhänge: (Foto, Bericht, Skizze)/
Attachments: (photo, report, sketch):

3. Sofortmaßnahmen: sortieren, nacharbeiten, verschrotten/ **Containment Actions:** sort, rework, scrap	Wer/Who:	Einführungsdatum/ Impl. Date:	Wirksamkeit/ Efficiency: 25% 50% 75% 100%
Maßnahmen bei Huf/Actions at Huf:			
Maßnahmen innerbetrieblich/Actions in house:			
Maßnahmen beim Lieferanten/Actions at supplier:			

8D Worksheet D4 – D5

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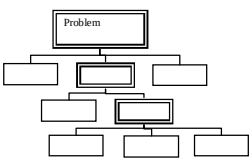
Huf Group

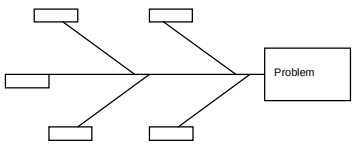
Lieferant/Supplier:	
8D-Report ff. 8D-Nr./8D No:	

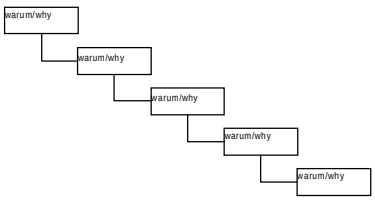
4. Ursache(n)/Root cause(s):

Bei mehreren Ursachen muss hier die Gesamtheit 100% der Problemursachen darlegen. If more than one root cause are existent, the total must be 100% contribution of the problem.	Wer/Who	Wann/When	Anteil/ Contribution
1. Ursache/1st root cause			
2. Ursache/2nd root cause			
3. Ursache/3rd root cause			
4. Ursache/4th root cause			
Anhänge/Attachments:			∑ 100 %

Zur Ermittlung der Ursache sollten Methoden wie FTA, Ishikawa, 5 Why´s angewendet und angehängt werden./
For root cause identification the methods like FTA, Ishikawa, 5 Why´s should be used and attached.







5. Geplante Abstellmaßnahme(n)/Select Permanent Corrective Action(s):	Wer/Who:	Einführungsdatum/ Impl. Date:	Wirksamkeit/ Efficiency: 25% 50% 75% 100%
1. Abstellmaßnahme/1st corrective action			
2. Abstellmaßnahme/2nd corrective action			
3. Abstellmaßnahme/3rd corrective action			
4. Abstellmaßnahme/4th corrective action			

Anhänge/Attachments:

Root Cause Analysis

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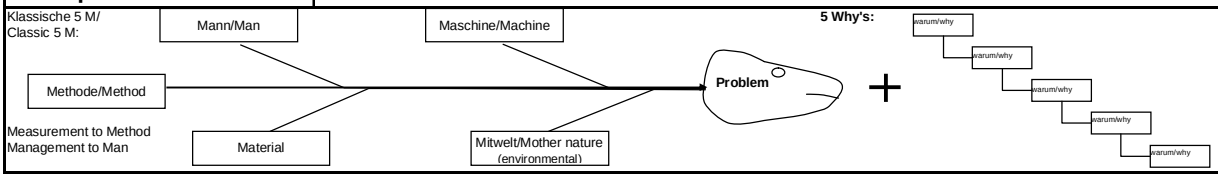
8D-Report ff. 8D-Nr./8D No:



5M Kategorie/ 5M category	Faktor/ Factor	Warum Frage/ Why question	Warum Antwort/ Why answer	derzeitige Fehlerermittlung/ current failure detection (FMEA, Control Plan)	Ursache/ root cause
Mann/ Man					
Maschine/ Machine					
Methode/ Method					
Material					
Mitwelt/ Mother Nature					