

Criteria: SEVERITY (Gravity) of the defined effect					
		QUALITÉ	Guidelines		
			Quality	Health & Security	Productivity
Order	Effect	Effect on the product (Effect for the user)	Effect on the PROCESS (Effect for the assembly)		
10	Potential omission to meet the requirements of security or laws	Affect the functioning without advance notice of a vehicle which can potentially have a consequence of security nature.	Vehicles must not be sent.	Can put the security of the employee in danger.	Create a stop of line of assembly.
9		Questions a non-compliance in a regulation of the government, a law or a standard (EPA, NHTSA, CARB, etc.).	Vehicles must not be sent.	Do not respect the CSST standards.	Create a stop of line of assembly.
8	Loss or degradation of primary function ----- Major disturbance	Loss (without advance notice) of a primary function without consequence of security nature(Non-usable vehicle requiring towing)(Usable vehicle at a reduced level of performance) AND/OR The majority of the customers will return immediately at the dealer because of this failure.	100 % of vehicles can have to be reworked and/or 100 % of parts can have to be put in rubbishes.	Functional with considerable ergonomics stakes.	100% product vehicles B/O
7		Degradation (with advance notice) of a primary function without consequence of security nature allowing to go up to the necessary place to make the repair . Premature wear of the primary function AND/OR The majority of the customers will return at the dealer because of this failure.	A portion of vehicles can have to be reworked and/or a portion of parts can have to be sorted out or disposals(<100%).	Functional with light ergonomics stakes	A portion of produced vehicles B/O (<100%)
6	Major disturbance, Loss or degradation of secondary function ----- Moderate disturbance	Loss (without advance notice) of a secondary function (usable vehicle but at a level of comfort / ease / convenience reduces) AND/OR The majority of the customers will wait for the next maintenance to repair this failure.	100 % of vehicles and/or parts can have to be worked again at the work station.	Considerable additional physical effort	Deviation of the standard process including slowing down of the operations or the addition of workers.
5		Degradation (with advance notice) of a secondary function(usable vehicle but at a level of comfort / ease / convenience reduces). Premature wear of the secondary function. AND/OR The majority of the customers will wait for the next maintenance to make correct this failure.	A portion of vehicles and/or parts,plays can have to be worked again at the work station (<100%).	Light additional physical effort	Deviation of the standard process including slowing down of the operations or the addition of workers.
4	Irritant ----- Minor disturbance	Adjustment / finish / bruit / vibration non-shapes of the vehicle. Perceptible defect by the majority of the users (>75%). AND/OR The majority of the customers will mention the problem to their dealer. The majority of the customers who live this problem pass from a promoter mode to a "neutral" mode.	100 % of parts can have to be sorted out or reworked again outside of the work station	Considerable difficulty of installation for the assembler	Deviation of the standard process including punctual potential loss.
3		Adjustment / finish / bruit / vibration non-shapes of the vehicle. Perceptible defect by the average of the users (>50%). AND/OR The majority of the customers will mention the problem to their dealer, but they would agree " to live with ". The majority of the customers who live this problem pass from a "promoter"mode to a "neutral" mode.	A portion of parts can have to be reworked directly at the work station (<100%)	Light difficulty of installation for the assembler	Deviation of the standard process including punctual potential loss.
2		Adjustment / finish / bruit / vibration non-shapes of the vehicle. Perceptible defect by informed users (<25%). AND/OR The majority of the customers will not mention the problem to their dealer, they agree " to live with ". The majority of the customers who live this problem pass from a "promoter" mode to a "neutral" mode.	Light disturbance in the standard work or at the operator	Irritating ex: unpleasant smell	Deviation of the standard process without impact.
1	None	No effect	No Effect	No Effect	No Effect

Conseils: Prendre toujours le plus sévère des deux effets

Criteria: Probability						
Order	Probability of failure	Network (end of life)	Mesurée	Probability (To use if there is no historical data of a similar component)		
		Frequency		Forgetting part	Bad positioning of a part	Breaking or desadjustment of an equipment
10	Very high: the failure is almost inevitable	> 5%	>1 sur 10	NA	NA	NA
9			1 sur 20	<u>High: small part which can be easily forgotten because it is a part of a minimum of 5 other parts to be installed.</u>	<u>High: part easily badly positioned. The operator has to every time validate the orientation</u>	<u>High: machine which can be easily desadjusted (short term).</u>
8	High: elements presenting a lot of failures (or associated with similar elements which often knew failures)	3 - 4,9%	1 sur 50	NA	NA	NA
7			1 sur 100	NA	NA	NA
6	Moderate: elements presenting occasional failures (Or associated with similar elements which knew on the occasion of the failures, but not in an important proportion)		1 sur 200	<u>Moderate: part play which can be forgotten if an operator disregards his work station.</u>	<u>Moderate: part can be sometimes badly positioned. The operator sometimes has to validate the orientation</u>	<u>Moderate: equipment which could be desadjusted (middle term).</u>
5		1 - 2,9%	1 sur 500	NA	NA	NA
4			1 sur 1 000	NA	NA	NA
3	Low: isolated Failure		1 sur 2 000	<u>Weak: important Part which takes 30 % of the time of assembly and which can be forgotten with difficulty.</u>	<u>Weak: part can be badly positioned with difficulty. The operator cannot make the mistake unless a lack of training.</u>	<u>Weak: the equipment can be desadjusted (long term).</u>
2		<1%	1 sur 10 000	NA	NA	NA
1	Very low: almost impossible Failure		<1 sur 100 000	<u>None: major Part installed by the operator. Cannot be forgotten.</u>	<u>None: part cannot be badly positioned.</u>	<u>None: the equipment cannot be desadjusted.</u>

Criteria : DETECTION					
Order	Probability of detection	Type of inspection			Method of detection: probability that a defect is detected by (natural) control measures
		Visual inspection	Control Tool	mistake stoper	
10	Defect almost impossible to detect				No control measure allows to detect the failure mode or any organized control measure (ex: grease in a connector).
9	Controls in position will probably not detect the default	X			Visual control measures. The failure mode is difficult to identify. (Example: Tridon snare badly positioned) Requires attention - visual Inspection
8	Control measures in position have not enough chance to detect the defect.	X			Visual control measures. The failure mode can be identify (Example: sea-doo direction cable) Requires attention - visual Inspection
7	Visual indicator	X			Visual control measures. The part possesses an integrated visual help, visible after assembly, facilitating the detection of the defect. Ex: Inversion of parts of color (Aesthetic decal part) Requires attention - visual Inspection on integrated visual help.
6	Control measures in position could detect the defect		X		Periodic control measure (Check good quality start, charter of control) made by means of a tool of control (templates, etc.) with variable data or GO/NO-GO, on a subsequent workstation or directly at the workstation. (Adjustment pulley skidoo, ublack) (note 2)
5	Control measures or detection straight from the operations in position have a real chance to detect the defect.		X		Control measure made by means of a tool of control (templates of validation, etc.) and variable data or GO/NO-GO on 100% of vehicles (and/or parts), On a subsequent workstation. (example) (note 2)
4			X		Control measure made by means of a tool of control (templates, etc.) with variable data or GO/NO-GO on 100% of vehicles (and/or parts), directly at the workstation . The subsequent operation made on the defect part cannot be made but can be omitted (tight bolt) (template alignment seadoo suspension) (note 2).
3	Control measures in position are certainly going to detect the defect.		X	X	Detection inside the factory. Control measure made by means of a tool of automated control (test chamber, BTE, camera, etc.),On a subsequent workstation. Vehicles (and/or parts) Defect will be rejected. (note 2)
2			X	X	Detection straight from the process, directly at the workstation. Defect vehicles (and/or parts) Cannot go to the subsequent workstation (stop of production). (note 2)
1	Preventive controls in position (Prevent from producing a defect).			X	Impossible to assemble/ make defect vehicles (and/or parts) because of the anti-mistake device in place on the process / equipment or on the parts. The subsequent operation made on the defect part cannot be made (Insertion engine in missing frame). (note 2)

Note 1 Visual inspection include: look and/or touch and/or mark

Note 2 The tools of control make reference to the processes associated to the robustness of equipments (C3*).