

# Parts Commonality



<p><b><u>Background</u></b></p> <ul style="list-style-type: none"> <li>Unless there is a conscious commitment to parts commonality, the number of parts increases immediately</li> </ul>	<p><b><u>Objective</u></b></p> <p>To reduce total cost, parts commonality and modularization are needed. The method of parts variety reduction from the concept phase has more impact.</p>															
<p><b><u>Phase</u></b></p> <pre> graph TD     Concept[Concept] --&gt; Feasibility[Feasibility]     Feasibility --&gt; Verify[Verify]     Verify --&gt; SOP[SOP]     SOP --&gt; Terminate[Terminate]     Platform[Platform] --&gt; Concept     Commonality[Commonality] --&gt; Feasibility             </pre>	<p><b><u>Who</u></b></p> <table border="1"> <thead> <tr> <th>Phase</th> <th>Project Leader</th> <th>Engineering</th> <th>Production Engineering</th> <th>Coordinator</th> </tr> </thead> <tbody> <tr> <td>Module</td> <td>Y</td> <td>Y</td> <td>Y</td> <td>Planning</td> </tr> <tr> <td>Parts Commonality</td> <td></td> <td>Y</td> <td>Y</td> <td>Project Leader</td> </tr> </tbody> </table>	Phase	Project Leader	Engineering	Production Engineering	Coordinator	Module	Y	Y	Y	Planning	Parts Commonality		Y	Y	Project Leader
Phase	Project Leader	Engineering	Production Engineering	Coordinator												
Module	Y	Y	Y	Planning												
Parts Commonality		Y	Y	Project Leader												
<p><b><u>Procedure</u></b></p> <ol style="list-style-type: none"> <li>Platform concept should order from vice president level</li> <li>Commonality will be analyzed at platform, module, unit and component level</li> <li>Consider balance between total sales and cost, marketing wants to keep all bland but need long-term solution</li> <li>Prevent engineers from designing new parts, using more existing parts are much better not only cost reduction but also keep better quality</li> <li>Use check sheet to enforce utilization of common parts</li> <li>VRP (Variety Reduction Program) supports this initiative.</li> <li>Target cost must include indirect labor and general expenses reduction</li> </ol>																
<p><b><u>Output</u></b></p> <ul style="list-style-type: none"> <li>Reduction of parts variety</li> </ul>	<p><b><u>Results</u></b></p> <p>If parts variety reduced 50%, total cost would typically be reduced by 30%.</p>															
<p><b><u>Comment</u></b></p> <p>If we start from concept and design phase, even though we would use more carryover parts, the appearance of vehicle can still be attractive. Designer needs the discipline to use more carryover, but more attractive design.</p>																