

Changeover Key		Process Flow Diagram Worksheet										Part #	
P=Product		Product: All-Terrain Front Wheel Subassy											
T=Tooling		Rev Date:											
S=Software		Prepared By:											
D=Dunnage													
L=Label													
Op-Seq #	Fab	Move	Store/Get	Inspect	Rework	Scrap/Contain		Changeover	Operation Description	Class (KPC)	Significant Product Characteristics (Outputs)	Class (KCC)	Significant Process Characteristics (Inputs)
1.2	◇	○	△	□	⬢	○			Front Wheel Subassembly Station				
1.2.1									Get wheel hub from parts presentation device		Correct hub selected		Correct hub are in presentation device
1.2.2									Orient and place wheel hub in wheel assembly fixture		Wheel hub is correctly located in wheel assy fixture		Fixture does not allow incorrect hub placement
1.2.3									Get wheel rim from parts presentation device		Correct wheel rim selected		Correct wheel rims are in presentation device
1.2.4									Orient and place wheel rim in wheel assembly fixture		Wheel rim is correctly located in wheel assy fixture		Fixture does not allow incorrect rim placement
1.2.5									Get set of wheel spokes from parts presentation device		Correct spoke set selected		Correct spokes are in presentation device
1.2.6									Orient and place wheel spokes in wheel assembly fixture		1. Correct number of wheel spokes 2. Correctly oriented spokes properly connected in wheel assy fixture		1. Correct kit of 36 wheel spokes 2. Error-proofed wheel assy fixture (orientation,correct parts)
1.2.7									Attach and tighten spokes to wheel rim and wheel hub	KPC	Spokes correctly tightened to required specification	KCC	Spoke tightening gun correctly calibrated (torque management)
1.2.8									Adjust spoke tightness to ensure wheel rim is round to specs	KPC	Wheel roundness meets specifications	KCC	Correct spoke adjustment procedure
1.2.9									Get tire liner from parts presentation device		Correct tire liner selected		Correct tire liners are in presentation device
1.2.10									Orient and install tire liner around wheel rim		Tire liner correctly located on wheel rim		Correct tire liner installation procedure
1.2.11									Get tire from parts presentation device		Correct tire selected		Correct tire are in presentation device
1.2.12									Orient and install tire around wheel rim and tire liner		Tire correctly located on wheel rim		Tire installation tool well suited for mounting tire on wheel rim
1.2.13									Get tube from parts presentation device		Correct tube selected		Correct tubes are in presentation device