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Revision #:	1		

Customer Rqmt. #	Importance	Description	Comments/Status
S1	9	Finger safe operation of device	
S2	9	Mechanical shutdown interlocks on guarding	
S3	9	Self check shaft attachment before operation	
S4	9	Must have E-stop to drain any source of energy in device	
S5	9	Detect and stop after accidental shaft detachment	
F1	9	Runs test for Miniumum time to establish steady state efficiency and temperature	
F2	7	Target test duration ~30min, max 4hrs	
F3	8	Log data	
P1	9	must fit through standard double door while moved by no more than 2 people	
P2	9	on casters or carried	
D1	6	must be "maintenance free" for ~4years	
D2	5	prefer OTS parts and manually machined parts	
C1	5	Can have CNC machined parts	
D3	9	Do not optimize parts, use high FOS in design (fatigue, stress, displacement)	
F4	9	design couplers to match current shaft design to constrain shafts to tester	
F5	9	outboard end of shaft should mate to current rear hubs	
F6	9	manual motion in all DOF on outboard side	
F7	9	Repeatable angular placement/translation of outboard component	
C2	9	use Solidworks for all CAD and Drawings, final documents saved to the BAJA PDM	
F8	9	Accurate torque readings	
C3	7	Power supplied by available sources	
F9	6	Supply useful error messages when test fails or during setup	
C4	7	have space for notes to be recorded and saved in each test file	
C5	8	software written in professionally supported language (Matlab, Python, Labview)	
F10	9	Data saved as CSV, XLSX	
F11	9	Calculate relative efficiency of halfshafts	

Requirements	
S	Safety
F	Function
P	Portability
D	Durability
C	Customer Preference

Cust. Rqmt. #: enables cross-referencing (traceability) with engineering requirements

Importance: 1=must have, 2=nice to have, 3=preference only.

Description: organize as primary and secondary requirements (hierarchy) -- Ulrich exhibit 4.8

Comment/Status: allows tracking of questions, proposed changes, etc; indicate if you are meeting the requirement ("met") or not ("not met")