

## **Quick Changeovers / Set-up Reduction**

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[wptabtitle]Description[/wptabtitle]

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At many operations, setup reduction is a key tool for establishing work flow. This course will teach participants how to develop a "€œpit crew"€• to execute standardized, rapid, low-variability setups that ensure process readiness and production quality. We will develop and document setup procedures using hands-on exercises that translate easily to workplaces. This is usually conducted over 1½ to 2 days and should include an ILS-led setup reduction activity in your plant to enhance the learning, ensure capability of the team to apply what they have learned across your operations and provide immediate return on your training investment. [/wptabcontent]

[wptabtitle]Objectives & Outcomes[/wptabtitle] [wptabcontent]

- Prioritize setup reduction activities to have maximum impact
- Describe foundational concepts, including internal versus external activities and the importance of variability reduction
- Document and analyze the current state method
- Develop standardized external operations including 5S to support setup, readiness verification systems and setup carts or pre-positioning systems
- Describe strategies to convert internal operations to external operations including rapid transitioning of machine operating parameters, functional analysis, standardized interfaces, tool presetting, principles of fixture design for rapid changeover and gauging systems
- Analyze tooling to define setup families and optimum run sequences, including preferred run sequences for processes under pull production control
- Design rapid disconnect methods
- Establish procedures to eliminate or minimize process adjustment, including the use of design of experiments
- Design parallel work activities to reduce internal downtime
- Coordinate a setup reduction event
- Document standardized setup procedures, including concurrent activities
- Sustain and improve setup procedures
- Use auditing systems and setup control boards

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[wptabtitle]Target Audience[/wptabtitle] [wptabcontent]



This course is designed for a team of individuals charged with development of rapid changeover procedures and execution of those procedures in the work place. This might include a mix of setup operators, process operators, maintenance technicians, production engineers, operations supervisors and tooling specialists.

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## [/wptabs]

PartNo. / Name: Transfer Mold Setup		Standardization Work Combination Table										0/04/2009				
Phoo	ess							1111			1 111	1.11				
Seg. Operation	Operation	Time									Operat	ton Duratio	on (Min.)	94 mutes		
		Man	Mech	Wait	Wak		10	20	30	40	50	60	70	80	90	100
1	Mold Mounting Work (Front Side) - Les s Plunger Installation	36.52			1					<u>    </u>						
2	Move Front Side to Rear Side				1.33			1111		D						
3	Mold Mounting Work (Rear Side) - Less Plunger Installation	5.26														
4	Mount Plunger (1st Time)	6.32														
5	Mount Plunger (2nd Time)	7.58				External + Improvement				C	$\supset$				Π	
0	Fork Truck Travel - Waiting Time			10.08		Th:										
7	Mold Setter Left the Area - Retrieve Tools, Adaptors, Etc.				26.65						Π		1Ë			Л
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9						Ш		Ш								Π
10																
11						mte	1	al=	94 1	mn			94 Mi		V	
21						Ext	er	nal=	=0 n	nin					1	

Part No. / Name: Transfer Mold Setup on Shop #29 Process		Standardization Work Combination Table Vote: 03/25/2009													
Proc	85	_						111				11			
Seq.	Operation		-	me		Edernal					Operation		Minutes		
Seed.	Operation	Man		Wait	Walk	10	2		30	40	50	111	10		nutes
1	Pre-stage materials needed for job change	15.80						Π				$\prod$			
2	Job change dissassembly process	8.00					÷	3							
3	Move Front Side to Rear Side				0.20			2							
4	Remove platform	2.00						8		Ш		Π			
5	Remove old mold from machine and retrieve new mold from storage (place on machine only)	2.50						H							
6	Install platform	1.00													
7	Assembly and tighten down mold for production (rear)	9.50										III			
8	Move Front Side to Rear Side				0.19			Ш	1	Ш		III		Ш	
9	Assembly and tighten down mold for production (front)	9.50										IIT			
10	Assembly and tighten down mold for production (back)	4.31													
11		46 Minutes												:32n	
21										1		der	nal	=14	min







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111	7	8	9	10	11	12	1	2	PR
Mold						-	-	=	-
MoldMaterial	-	-	-	-	-	-	-	-	-
Material Only	-	-	-	-	-	-	-	-	-
Color				-		-	-	-	-
2"	3	4	5	6	7	8	9	10	
Mold			-	-	-	=	-	-	-
MoldMaterial	-	-	-	-	-	-	-	-	-
Material Only		-	-	-	-	-	-	-	-
Color			-	-	-	-	-	-	-
3"	11	12	1	2	3	4	5	6	