

SLB Safe Hands Best Practices



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Introduction

SLB

- A global technology company, driving energy innovation for a balanced planet
- Headquarters – Paris, London, Houston and The Hague
- With operations in 120 countries
- 95,000+ employees
- Diverse workforce with 160 different nationalities

Surface Singapore

- Operational since 1973
- Asia & Middle East Hub
- 400 Employees
- Heavy Equipment Manufacturing Facility (Machining, Welding, Assembly & Test, R&D)
- Certificated for API 6A / 16A / 17D, ISO 9001 / 3834 / 45001 / 14001, and ATEX



Plant Overview

- Full Function Surface Facility
 - Commercial
 - Project Management
 - Engineering
 - Materials
 - Finance
 - HR
 - Manufacturing
- Asia and Middle East Hub
 - Predominantly Surface Production Systems Plant
 - Housing various business lines: Surface
 - OSS Engineering
 - MPS
 - Corporate

Facility Specification & Capabilities	
Footprint (sq.ft.)	217,906 Workshop 89,506 Office 570,000 Total
Lifting Capacity	40 Tons
Special	R&D, DCOE
Machining	25 CNC
Welding	14 TIG 7 Fabrication
Quality	IUT, PMI, NDE
Testing	Hydro (35K PSI) Gas (20K PSI)
Functional Test	2 SUT/SIT/FAT



Products

Primary Products	
Type	Range
Critical Service Full Clad Equipment	Full Range
Gate Valves	1"-9"
Stack Trees	2"-9"
Block Valve Trees	2"-9"
Conventional & SSMC Wellhead	7"-21"
Tubing & Casing Hanger	7"-22"
Fastlock & Clamp Connectors	Full Range
Mudline Systems	18"-7"
Digital Products	Full Range

API 6A Material Class	AA – HH
Pressure PSI	3K – 20K
PSL	1 - 4



Typical Manufacturing Flow



1. Rough Machining



2. Cladding



3. Final Machining



4. QC Inspection



5. Assembly



6. Hydro Test



7. Gas Test



8. Painting (External)



9. Final Inspection & Shipment



SLB Safe



An ambition enabled by a set of **programs, tools and initiatives** that fit into one or more of these four pillars:

1

HSE Leadership
(The shadow you cast)



2

Employee Engagement
(Human behavior)



3

Training & Reporting
(Situational awareness)



4

Compliance
(Procedural adherence)



Line Management

HSE Function



SLB Safe Pillar #1- HSE Leadership (The shadow you cast)

CAMERON SINGAPORE SURFACE HSE LEADERSHIP BOARD - 2023											
(WEEK 09) (RRR = 10)										Last updated: 1-Mar-23	
Key Leading Activity	Target										
		Manager (SLR Plant)	Manager (Maintenance)	Manager (Manufacturing)	Manager (A&T)	Manager (Warehouse)	Manager (My Engineering)	Manager (Quality Control)	Manager (HSE & LEAN)	Manager (Center Planning)	Manager (Materials)
Overall Training (OTC)	95%	100%	100%	96%	100%	100%	100%	100%	100%	100%	100%
HSE Engagement Checklist / CAT	12/year 1/mth	2	3	3	2	2	5	2	5	2	2
Total HSE Reporting											
RIR	80/year	7	6	4	7	3	2	5	23	0	0
OI (min. 2/mth)		15	4	8	4	7	20	5	5	11	10
Total HSE Reporting YTD		22	10	12	11	10	22	10	28	11	10

CAMERON SINGAPORE SURFACE HSE LEADERSHIP BOARD - 2023											
(WEEK 09) (RRR = 10)										Last updated: 1-Mar-23	
Key Leading Activity	Target										
		Manager (ENG APME)	Manager (Process)	Manager (Process)	Manager (HR)	Manager (Finance)	Manager (Quality)	Manager (Quality)	Manager (Cooling)	Manager (SUSE)	Manager (EOE)
Overall Training (OTC)	95%	100%	97%	100%	96%	100%	100%	100%	100%	100%	100%
HSE Engagement Checklist / CAT	12/year 1/mth	2	2	6	2	2	4	2	2	2	2

HSE Commitment & Leadership Board



Weekly Management Walk



Management Engagement



Regular Town Hall



SLB Safe Pillar #2 – Employee Engagement (Human Behavior)



HAND SAFETY VIDEO

Compare the old video with motions from employees and highlight on various during improvement over the years on hand safety

O/I & Group Photo Activities

Various campaigns to engage field staff with a focus on hand safety

Hand Safety Pledge

Hand safety is a responsibility, not a privilege

Virtual Hazard Hunt

Use videos for offering employees to identify all on common hand safety hazards found in our manufacturing environment

Toolbox Talks

A series of toolbox talks through the month covering the common topics of hand safety

Hand & Safety - IV

Stimulate activities and awareness to employees on the topic of 'Toolbox Talk'

HAND SAFETY CAMPAIGN - MAY 2021

In conjunction with Singapore WSH Council 'Safety Hand Campaign 2021' and SLB 'Hand Safety IV Focus & Action'

Tag us in the month of May on your O/Is raised: #Focused&Aware



SLB Safe Start Injury Prevention

In 2023, pledge to:
 → Follow procedure (HARC, JSA, SWI, etc.)
 → Hands UP before Hands ON
 → Ensure that my colleagues and I arrive home safely

ASIA Hand & Finger Safety Campaign (Q4-22)

- HSE Leadership (The shadow you cast)**
Leadership Presence "Boots on the Ground"
 - Conduct **Safety Meeting** to communicate this Hand & Finger Safety campaign and reinforce key take-away, and record in QUEST
 - Conduct weekly **Walk-Around**
 - Hand & Finger Safety
 - Machineries/tools/equipment
 - 5S Housekeeping
 - Correct PPE worn
 - Engage with employees; Encourage RIRR, address safety concerns and re-emphasize STOP the job
 - Review/Update existing **HARC** related to medium and high-risk activities
- Employee Engagement (Human behavior)**
 - Organize location weekly **Hazards Hunt** with focus on Hand & Finger risks
 - Life-Saving **Stop-the-Job Recognition** at Safety Meetings
 - Utilize **Step Back 5x5 / Step 7 Safe Work Process** prior to start work
- Training & Reporting (Situational awareness)**
 - ASIA Hand & Finger Safety Campaign QUEST Certification
 - Hand Injuries & Awareness Part 1,2,3 & 5 (>98%)
 - Hand Safety Focus & Awareness (Part 4) Certification Assigned in Asia Basin
- Compliance (Procedural adherence)**
 - Commentary Task Assessment (CTA) (>98%)
 - Full Compliance to
 - Std 03 PPE
 - Std 17 Injury Prevention



Congratulations 2022- FY Top HSE Reporters Award Recognition Session 14 Feb 23



Asia Hand & Finger Safety Campaign

I, _____ PLEDGED my HSE Commitment - I will protect my ARMS, HANDS and FINGERS with following:

- Always look out for our Personal SAFETY, and the SAFETY of our co-workers and contractors
- We are empowered and accountable to Stop-the-Job and Intervene if unsafe to proceed
- We shall adhere to the Life-Saving Rules
- We shall comply to PPE plan for the task
- We shall fo
- Always use

Personal Pledge for Safe Hands



SLB Safe Pillar #3 – Training & Reporting (Situational Awareness)

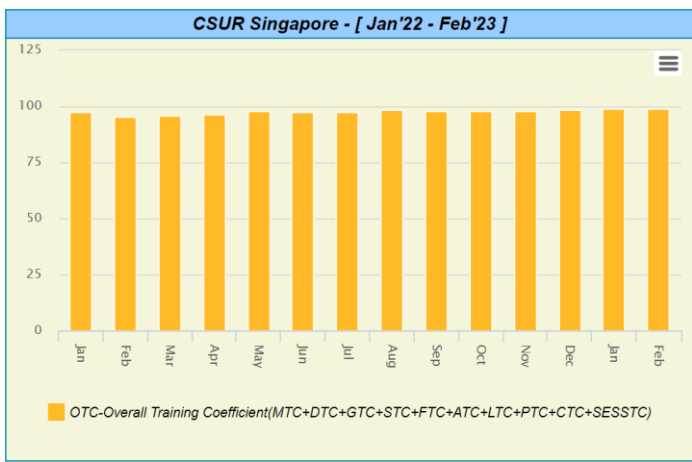
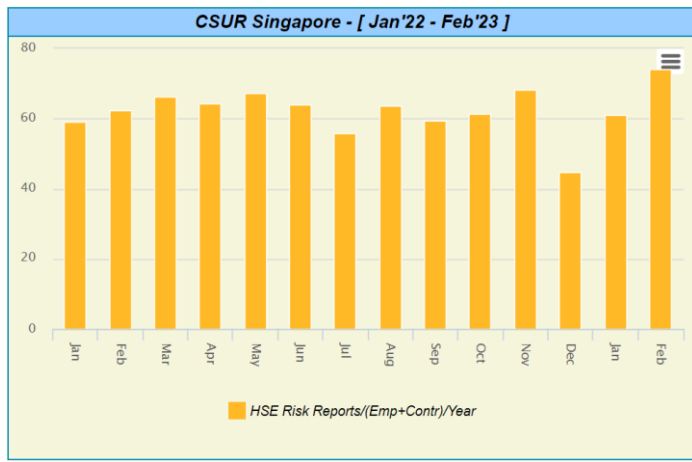
PROTECTING YOUR HANDS & FINGERS | HAND INJURIES AND AWARENESS

PROTECTING YOUR HANDS & FINGERS 2 | CONSCIOUS HAND PLACEMENT

PROTECTING YOUR HANDS & FINGERS 3 | RIGHT TOOL EVERY TIME

PROTECTING YOUR HANDS & FINGERS 4 | FOCUSED AND AWARE

PROTECTING YOUR HANDS & FINGERS 5 | HANDS-FREE TOOLS



Think ACE – Protect your ARMS, HANDS & FINGERS

PROTECT YOUR DIGITS... THINK ACE!

Your ARMS, HANDS & FINGERS are irreplaceable tools

What do you use them for?

- DRESSING
- TYPING
- COOKING
- HOLDING
- DRIVING
- PLAYING

How can you injure them?

- LIFTING & ASSEMBLY OPERATIONS
- PIPPA SLINGS MOVING PARTS
- CUTTING, MECHANICAL
- CIRCUIT BREAKERS

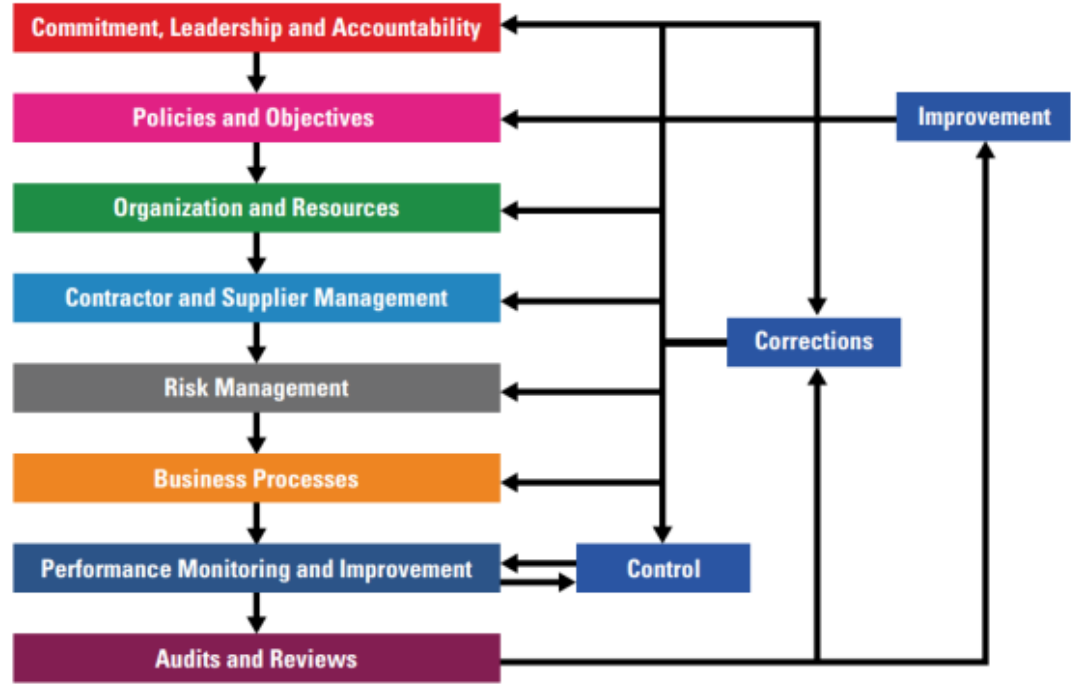
Our HSE Leading Indicator...
HSE Reporting & Training Coefficient



SLB Safe Pillar #4 – Compliance (Procedural Adherence)

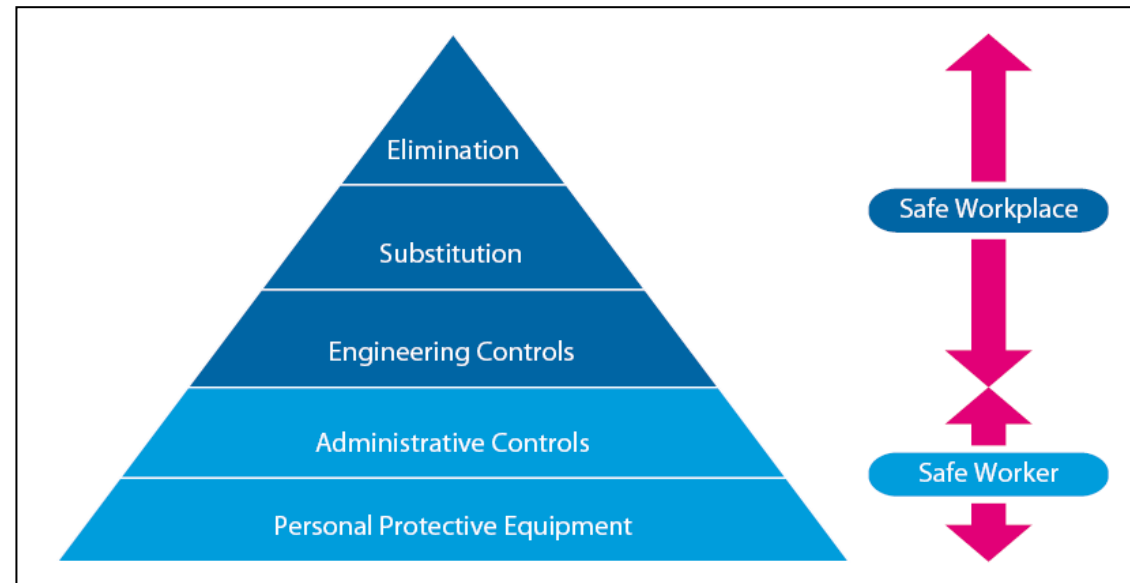
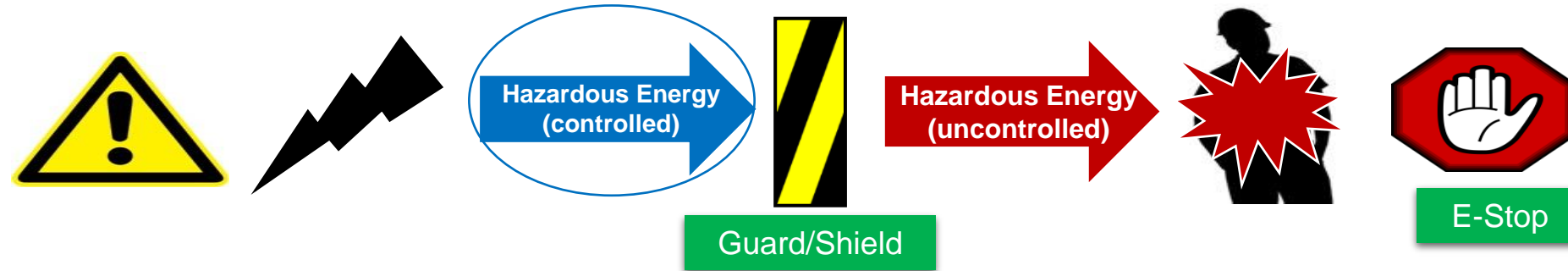


SLB HSE Management System



Risk Management

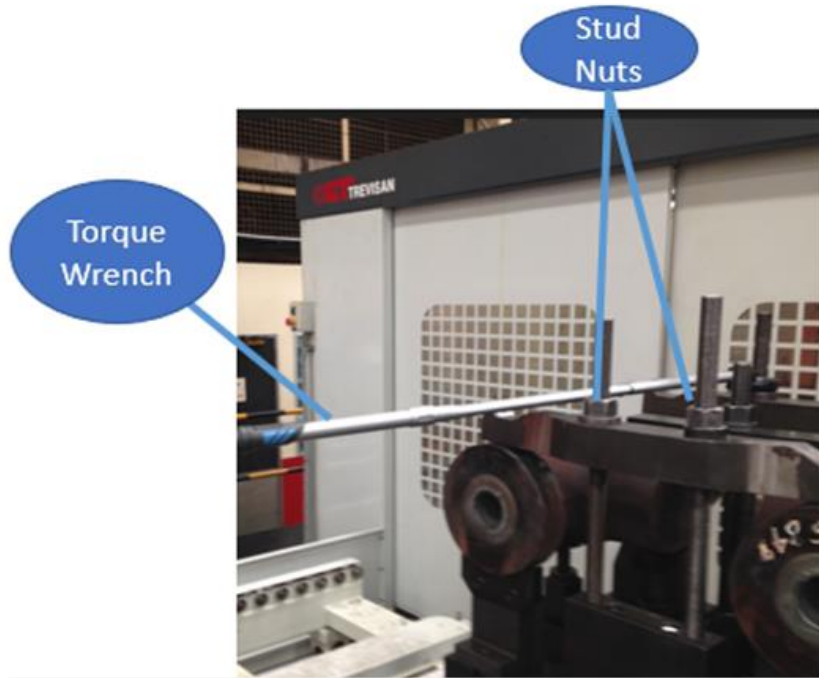
Where there is a risk of exposure to hazardous energy which can cause injury, the risk of harm must be controlled or eliminated.



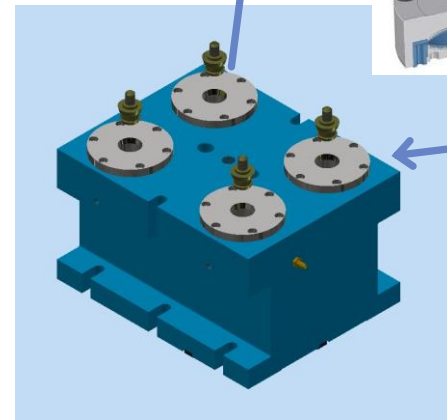
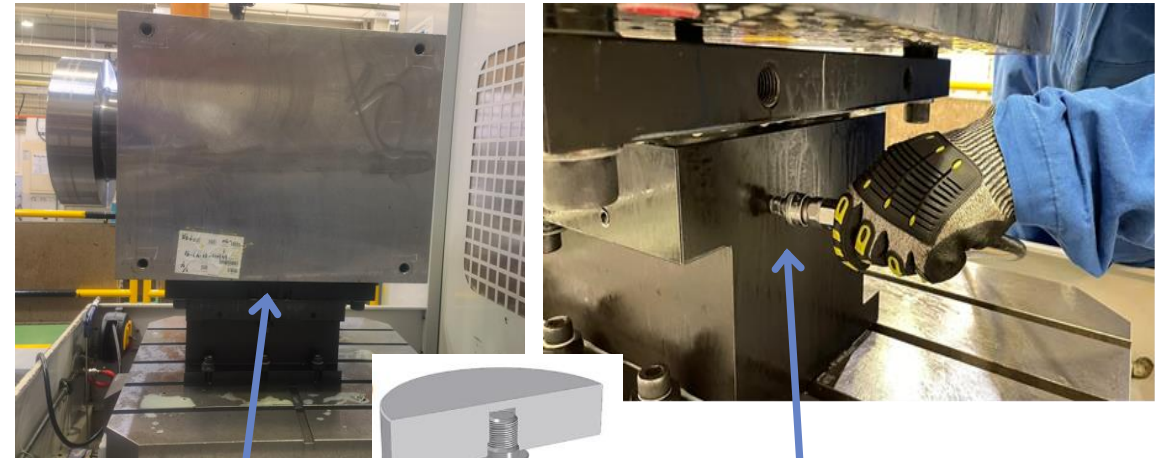
Controls – Interlocking System, Guard & Shield



Controls – Pneumatic auto-center clamping system



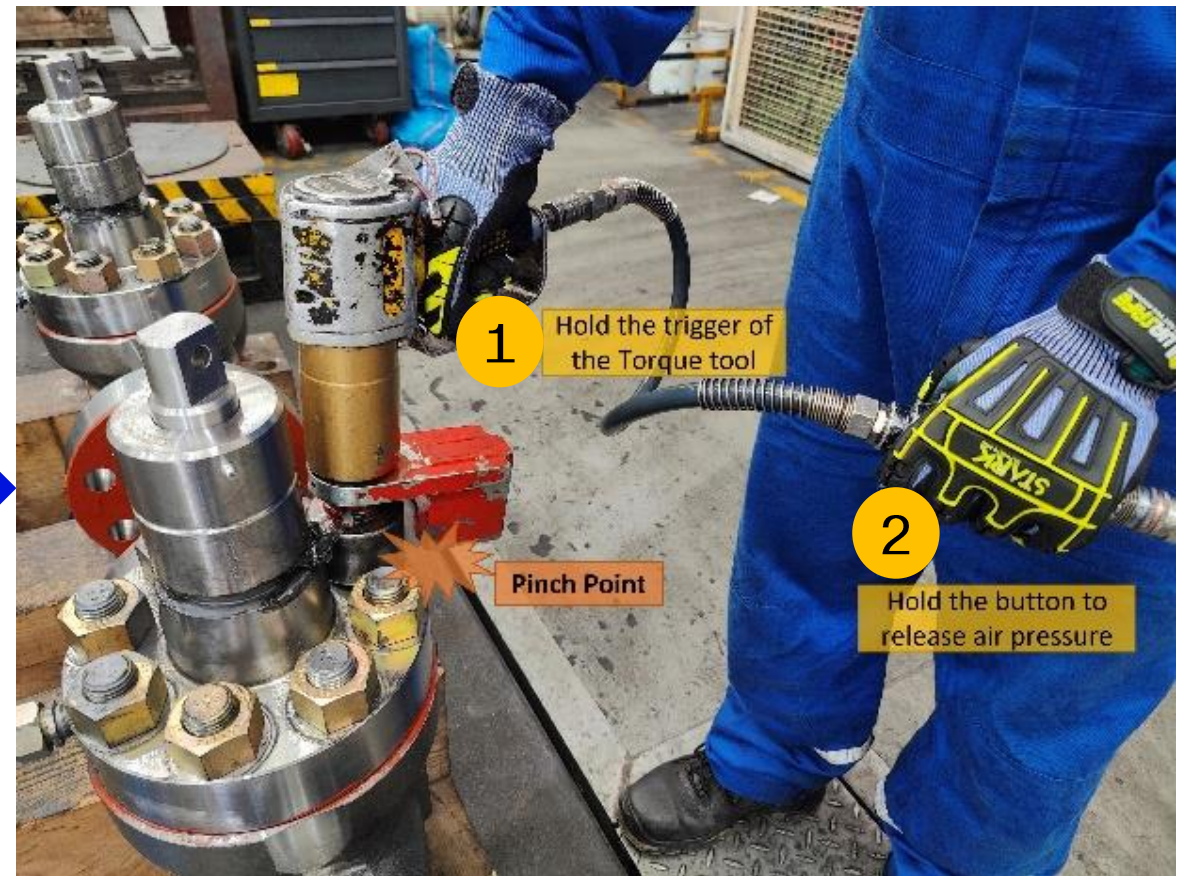
Potential Risks: Hand & fingers injuries (caught in-between, cut by sharp object) poor ergonomic due to repetitive clamping motion and improper length of the hand tool use



Advantages: Eliminate manual tightening using torque tool, reduce Hand & fingers injuries, reduce component set up time and improve consistency.



Controls – Torque tool safety feature

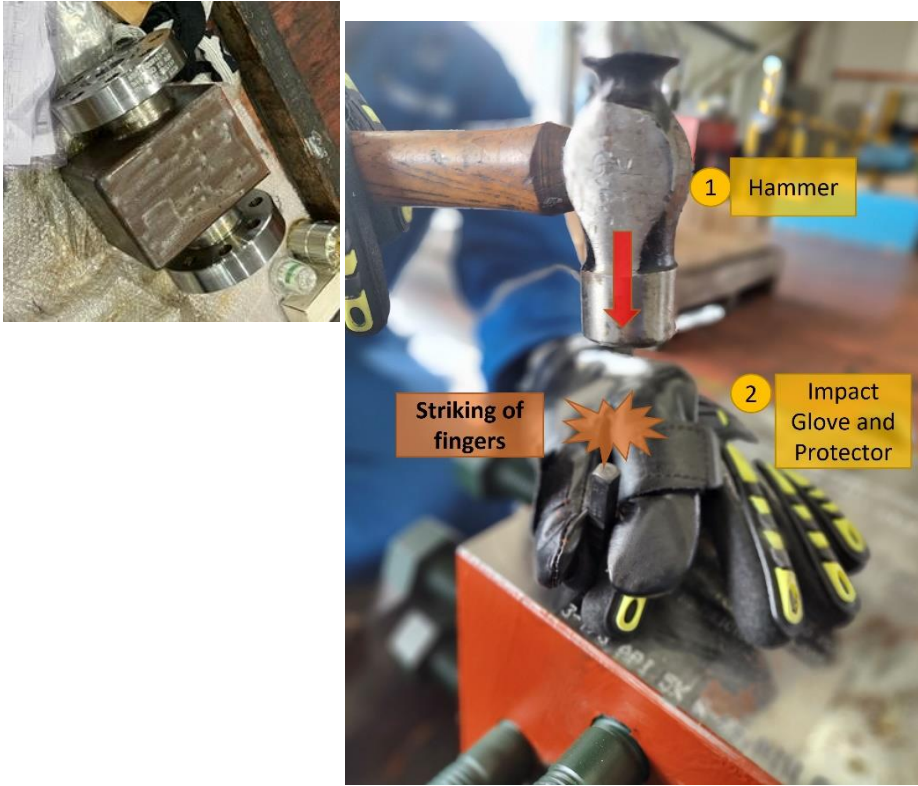


Potential Risks: Pinch point and cut to non-dominant hand & fingers.

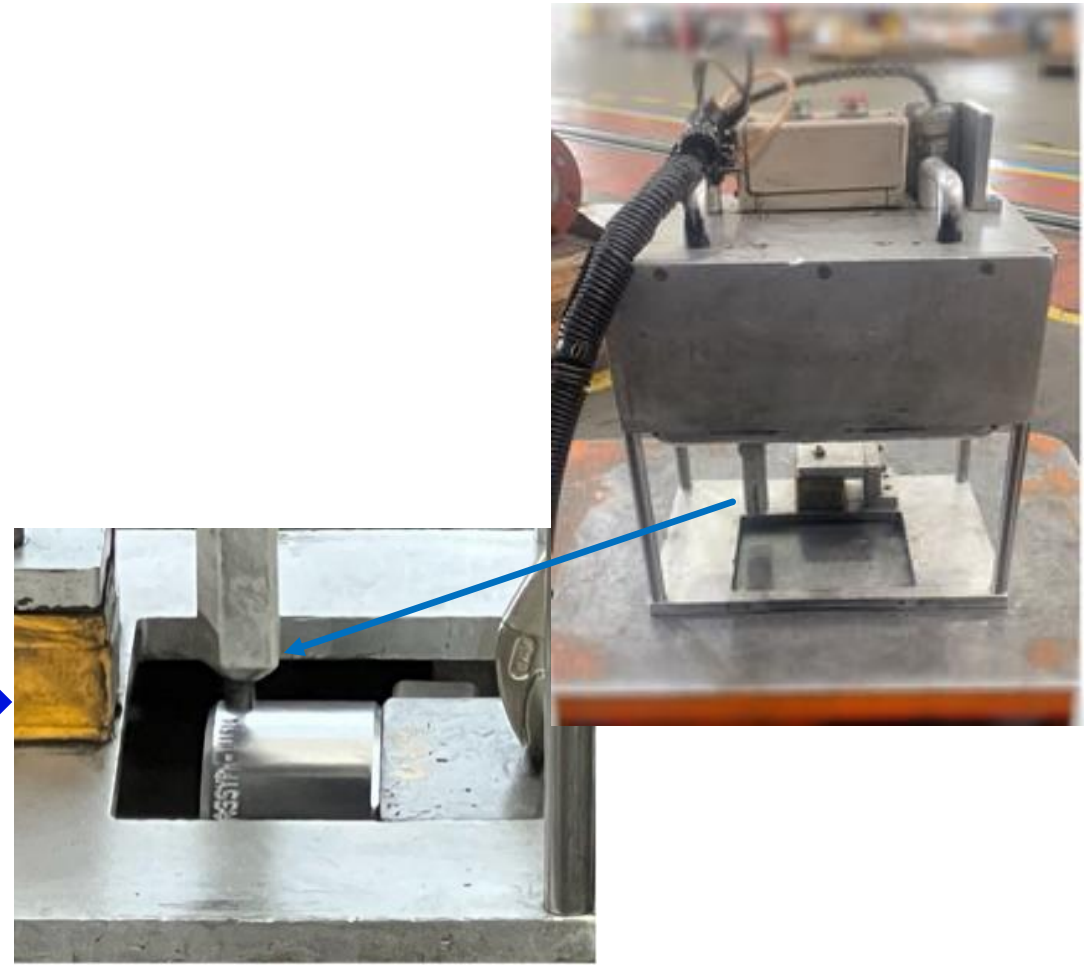
Advantages: Eliminate injury to non-dominant hand and fingers.



Controls – Deep Stamping Machine



Potential Risks: Hand & Fingers injuries, flying metal chips from the hammer or puncher, noise and body ergonomics.



Controls – Administrative & PPE

VISUAL HARC FOR: [A&T] Assembly Process

Schlumberger

STOP THE JOB IF YOU FEEL IT IS UNSAFE TO PROCEED OR WILL CAUSE INJURY

Common control measures that are required for this activity:

- Assembly preparations- Cleaning
 - Visual inspect work piece and tools before use
 - Buff away any sharp edges
 - Practice SIPP techniques
 - Use proper container to hold chemicals
 - No incompatible work allowed
- Assembly preparations- One-Coat System Application
 - Maximum 9-hour continuous exposure a day
 - Wear the ear-plugs and gloves with vibration damping pads
 - Ensure stable and secured job placement on pallet and in work area
- Assembly preparations- Stamping
 - Ensure stable and secured job placement on pallet and in work area
 - Wear the ear-plugs and gloves with vibration damping pads
- Operation of scissor lift table
 - Use of skids to ensure job placement on table is secured
 - Ensure rubber mat on scissor lift table is in good condition
 - Table to be flushed to the ground when not in use
- Manual Assembly
 - During torque tightening process, utilize the following:
 - Torque tool handle
 - Magnetic back-up wrench to hold nut
 - Two-hand operation
 - Hands-off before power on
 - Avoid high risk zone colouring on torque tools
 - Apply correct tightening torque method
 - Visual inspect work piece and tools before use
 - Buff away any sharp edges
 - Use pneumatic impact gun to install dowel pin
 - Use additional stud to secure upper spring retainer during actuator assembly
 - Practice SIPP techniques

Potential Risk for each activity step:

- Insignificant
- Low
- Medium
- High
- Extreme

HARC No.: 20210827021543 Submitted by: Tay Weiting Approved by: Teo Beng Hock Release version and release date: V1.0 / 01-Sep-2021 Schlumberger-Private

LIFTING PLAN (LP)

Project: Cameron Singapore Surface LP Owner/Department: Gate Valve Cell Revision: 01
LP Plan No: LP-GV (06.20-01) Weight of L.C.: Max 1000 KG Issue Date: 01-09-19
Task applicable: One Man Lifting Operation Two Man Lifting Operation
Before commencing lift off: Check all equipment before use Release Lifting Plan Assessment

@slb.com) is signed in

Hands - off Tool Fish Line Hook Tool

SAFETY NOTE – Check the weight of the component and ensure proper lifting technique using building where necessary

Personal Protective Equipment (PPE): Coveralls, Safety boots, Safety glasses and Impact/Cut resistant gloves

- Ensure lifting equipment (i.e. webbing slings, shackles, magnets, hooks, etc.) are inspected and certified, within 6-months of validity and is visually in good condition.
- Ensure selected lifting gears have appropriate Working Load Limit (WLL) or Safe Working Load (SWL) label. Note: The safe working load (SWL) of the slings will vary depending on the slinging method.
- Visually inspect lifting gears in good condition, free from obviously visible damage mark and other defects.
- Ensure slings are spaced evenly to form the lifting safety.
- Set up the crane and lifting gear at a safe level, authorised personnel entering the lifting zone.
- Use proper Hoist Manual Lifting Procedure:
 - 1) Low the load and ensure ground is stable for the load to be rested, prep wooden planks or wedges if necessary.
 - 2) Rest load on pad/wooden planks pad, stop, check stability.
 - 3) When the load is firmly rested, slings are then attached to the load.

Procedure

1 Step 1
Wrap the chain around (Reeved chain) on Gate valve Flange mark. Do not use the hand.
Note: Use the Fish Line Hook tool to rest the Gate valve Flange mark. Do not use the hand.

2 Step 2
Lock both grab hook to chain parallel.

Photo

Photo

Photo

Document Ref. (if any): Page No.: 1 of 3 Schlumberger-Private

GLOVES MATRIX (手套规划)

Department: Well Head & Block cell Machine shop Owner Name: Huang Wenzhe
Revision: 05 Date: 17 Oct 2022

Gloves Type 手套类型	Activities 活动	Description 描述
		Job lifting 吊装工件
		Overhead crane operation 高架吊车的使用
		Job setup 工件设置
		Burnishing (Bonnet) 抛光
		Use Hammer 使用榔头

Document Ref. (if any): Page No.: 1 of 3 Schlumberger-Private



Hands Free Tool



Impact Gloves



Cut Resistant Gloves



Chemical Resistant

2021 Hand Safety Campaign Video by SET

