

# Introduction to PSC Hand Safety

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A practical introduction to engineering hand exposure out of industrial tasks.

# What this guide is for

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## This is not a product catalogue.

It is a short, practical explanation of how we think about hand exposure — written for the engineers, EHS leads, and plant managers who have to decide what actually protects a worker's hands, and what only feels like it does.

Over the next pages, we walk through:

- why hand injuries remain common even in well-equipped plants
- where, specifically, the hand enters a hazardous task
- why engineering controls have to come before personal protective equipment, not alongside it
- the families of tools PSC builds and supplies around that thinking
- how we map a real application on your site
- what a sensible first step looks like — and what it doesn't

### WHO THIS IS FOR

Plant safety officers, process and maintenance engineers, procurement teams evaluating no-touch tooling, and anyone deciding whether a task genuinely needs hands on it at all.

# Why hand injuries still happen

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**Hands are the most exposed and least protected part of the industrial body.**

They are the part of a worker closest to the work itself — closest to the load being guided, the pipe being aligned, the wrench being struck, the tagline being retrieved. Every other part of the body can usually be kept clear of a hazard. The hand, by the nature of manual tasks, often cannot.

This is not a training failure or a discipline problem, even though it is frequently treated as one. It is a structural feature of how many tasks are still designed: a job that requires manual contact with a load, a tool, or a moving part will keep producing hand injuries no matter how careful, experienced, or well-equipped the worker is.

## Three things make the hand different

**It has to be close.** Most manual tasks cannot be performed at a distance with the hand alone — positioning, guiding, retrieving, and striking all require proximity to the hazard by definition.

**It depends on reflex, not protection.** Gloves reduce the severity of contact. They do not prevent contact. A worker's hand can still be pinched, crushed, or struck while wearing the correct PPE — the injury is simply softer, not absent.

**It is rarely engineered around.** Many tasks are designed around getting the job done, with hand safety addressed afterward through PPE and procedure — rather than the task itself being redesigned so the hand is not required to enter the hazard at all.

### THE CORE IDEA

If a hand is required to complete a task safely, the task has not yet been engineered. It has been made survivable.

That distinction — **survivable** versus **engineered** — is the starting point for everything PSC builds.

# Where the hand enters the task

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Every hand injury has a precise location and a precise moment. Finding both is the first real step toward removing them.

Before any tool, glove, or procedure is chosen, the more useful question is simpler: at what point in this task does a hand actually need to be near the hazard — and for how long?

We call this exposure mapping. It is the practice of tracing a task step by step and marking exactly where the hand crosses into a hazard zone, rather than treating the whole task as generally risky.

## Seven recurring exposure patterns

Across steel, aluminium, oil & gas, marine, foundry, and heavy engineering sites, the same patterns repeat:

PINCH

CRUSH

CUT

BURN / IMPACT

LINE OF FIRE

CAUGHT-BETWEEN

SUSPENDED LOAD

Almost all of them share one feature: the injury happens within roughly the last arm's length of the task — the final positioning, the final guide, the final release. We refer to this zone as the **last 300 mm**: the closing distance where the hand stops directing the work from a distance and starts touching it directly.

### WHY THIS MATTERS

Most safety effort is spent on the whole task. Most injuries happen in its final 300 mm. Controls that close that specific distance — rather than generally improve the task — are where the real reduction in injury comes from.

# Engineering controls before PPE

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**PPE is the last line of defence. It should never be the first.**

Safety professionals have long worked with a hierarchy of controls: eliminate the hazard if possible; if not, engineer it away from the worker; if not, guard against it; train and procedurise around what remains; and only then, rely on personal protective equipment to absorb whatever risk is left.

In practice, many hand-safety programmes invert this order. Gloves are issued first. Procedures are written second. Engineering the hand out of the task — the step with by far the greatest effect — often isn't considered at all, because it isn't always obvious that it's available.

## What a glove can and cannot do

A well-chosen glove is genuinely useful. It reduces cut depth, spreads impact load, and improves grip. It is a real control, not a placebo.

But a glove does not change the worker's position relative to the hazard. It does not lengthen the distance between a hand and a moving load. It does not remove the need for the hand to be in the line of fire at all. It changes what happens **if** contact occurs — not whether contact occurs.

This is the limit that engineering controls are designed to address. A push-pull tool, a tagline retriever, or a magnetic positioning aid does not make contact safer. It removes the need for contact in the first place.

### THE DISTINCTION IN ONE LINE

PPE protects the hand that is still in the hazard. Engineering controls keep the hand from needing to be there.

## Distance is the simplest control there is

Most of what PSC builds reduces to one mechanical idea: increase the distance between the hand and the hazard, without slowing the task down.

A push-pull pole extends a worker's reach so a load can be guided from outside the pinch zone. A tagline retriever recovers a line without a worker walking underneath a suspended load. A magnetic hands-off tool repositions a steel part without a hand ever touching its edge.

None of these require the worker to be more careful. They require the hazard to be further away — which is a far more reliable form of safety, because it doesn't depend on attention, fatigue, or experience holding up on a difficult day.



## PSC tool families at a glance

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We organise our range by the moment in the task it protects — not by catalogue category.

Every family below exists to close a specific distance in a specific task. The right starting point is never "which tool do you sell" — it's "where exactly does the hand currently go, and what would keep it from going there."



### **PUSH & PULL TOOLS**

Extend a worker's reach for guiding, spotting, and landing suspended loads, and for maneuvering pipe and tubulars on racks or platforms — without hands entering the load path.

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### **TAGLINES & ANTI-TANGLE LINES**

Guide ropes engineered to resist tangling, so a load can be steadied and directed without a worker standing closer than necessary to manage a snagged line.

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### **TAGLINE RETRIEVER TOOLS**

Recover a tagline from a safe standing distance, removing the need to walk underneath or alongside a suspended load to retrieve a dropped or snagged line.

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### **HANDS-OFF & IMPACT TOOLS**

Keep hands clear of impact zones during hammering, striking, or slogging-wrench operations, and away from pinch and crush points when moving or lifting small loads.



### **MAGNETIC NO-TOUCH TOOLS**

Reposition ferrous loads, parts, and debris using magnetic heads rather than direct grip — widely used in steel handling, where the highest hand risk occurs during final positioning, not lifting.

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### **MANUAL LIFTING AIDS**

Purpose-built handles and grips for manually lifting pipes, valves, and equipment, reducing pinch points and strain compared to bare-hand handling.

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### **TASK-SPECIFIC IMPACT GLOVES**

Where the hand genuinely must remain in the task, residual protection rated to the specific impact and cut hazard involved — the last layer, used deliberately rather than by default.

#### **A NOTE ON SPECIFICATION**

This guide intentionally does not list individual models, sizes, or part numbers. The right specification depends on your task, distance, and load — which is the subject of the next section.

## PSC / HSF knowledge ecosystem

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PSC and Hand Safety First® maintain a growing technical knowledge base across several sites — reports, SOPs, whitepapers, audits, industry guides, and product resources. Each site has a distinct purpose. This page is a map, not a directory of links to browse casually.

### **[pschandsafety.com](https://pschandsafety.com)**

PSC hand safety, PPE, impact gloves, and product support.

### **[pschandsfree.com](https://pschandsfree.com)**

Hands-free tools, no-touch load control, push/pull tools, taglines, and load guidance.

### **[pschandsafetyindia.com](https://pschandsafetyindia.com)**

India-focused PSC hand safety tools, the Adamar partnership, and a company and product gateway.

### **[handsafetyfirst.com](https://handsafetyfirst.com)**

HSF whitepapers, technical articles, and residual protection education.

### **[handsafetyfirst.in](https://handsafetyfirst.in)**

HSF India doctrine, exposure mapping, audits, webinars, frameworks, and resources.

#### HOW TO USE THIS MAP

If you already know what you're looking for — a product, a whitepaper, an industry guide — this tells you which site to start on. Your PSC contact can also send the specific material directly, which is usually faster.

## What PSC can help you with

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Beyond supplying a tool, PSC supports the work around it. In practice, that support looks like this:

- **Task-photo review** — a first read on what's happening in a task you send us
- **Hand exposure mapping** — tracing where, specifically, the hand enters the hazard
- **Tool-family recommendation** — matched to the task, not a catalogue browse
- **Paid controlled trial planning** — a defined order and success criteria, agreed up front
- **SOP support** — helping build or adapt a standard operating procedure around the control
- **Training and webinar support** — for your EHS team or work crews
- **Resource sharing** — whitepapers, guides, and reference material relevant to your industry
- **Wider rollout support** — once a trial validates the approach, scaling it across a site or group

## How PSC maps a customer application

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We don't start by recommending a tool. We start by looking at the task.

Every plant's version of "guiding a load" or "retrieving a tagline" looks slightly different — different geometry, different access, different existing equipment. A tool recommendation made without seeing the actual task is a guess. Our process is built to remove that guesswork before any tool is proposed.

## Four steps, in order

### 1

#### SHARE THE TASK

Send a short photo or video of the actual task being performed, along with the plant or location it happens at. This is the single most useful thing a customer can provide — far more useful than a written description alone.

### 2

#### WE MAP THE EXPOSURE

We trace the task step by step and identify exactly where the hand enters the hazard zone, what type of hazard it is, and how close the contact point is.

### 3

#### WE MATCH HAZARD TO CONTROL

Based on that mapping, we identify which tool family addresses that specific exposure point — not a generic recommendation, but one matched to the distance, load, and access involved.

### 4

#### WE RECOMMEND, SPECIFICALLY

We come back with a specific tool, size, and quantity suited to the task — not a catalogue page.

## What's most useful to share with us

- A short video or a few photos of the task as it's actually performed on site
- The plant, unit, or location where the task takes place
- The load, material, or part being handled, and its approximate size or weight
- Any existing tools or methods currently used for the task
- The specific concern — a near miss, a recurring injury type, or a new task being planned

### WHY A PHOTO OR VIDEO, SPECIFICALLY

Written descriptions tend to describe what a task is supposed to look like. A photo or video shows what it actually looks like — including the small deviations, workarounds, and access constraints that usually determine which tool will actually work.

Once we've reviewed the task, we'll respond with our reading of the exposure and a specific recommendation.

PART EIGHT

# Typical applications

These are common tasks across the industries we serve, with the likely control family for each. The right specification still depends on your actual task — this is a starting reference, not a substitute for application mapping.

| TASK                               | LIKELY CONTROL FAMILY                      |
|------------------------------------|--------------------------------------------|
| Suspended load guiding             | Push/pull tools, taglines                  |
| Load landing                       | Push/pull tools, taglines                  |
| Tagline retrieval                  | Tagline retriever tools                    |
| Pipe and tubular handling          | Push/pull tools, pipe-handling attachments |
| Steel plate positioning            | Magnetic no-touch tools                    |
| Coil handling                      | Magnetic no-touch tools, push/pull tools   |
| Mould box / foundry positioning    | Push/pull tools, hands-off attachments     |
| Shackle and sling handling         | Hands-off attachments, riggermate hooks    |
| Hammering / chisel / punch tasks   | Hands-off impact tools                     |
| Gas cylinder handling              | Manual lifting aids                        |
| Maintenance and shutdown alignment | Push/pull tools, pipe stabbing guides      |

# What a paid controlled trial looks like

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The honest next step after mapping is a real trial — not a sample.

Once we've mapped the application and proposed a specific tool, size, and quantity, the next step is a defined trial order that your own team can validate on the actual task, under your own conditions.

## Why this is a paid trial order, not a free sample

It's tempting to assume a free unit is the lower-risk way to start. In practice, it tends to produce a weaker result for everyone involved.

A tool that costs nothing is rarely tested with the same rigor as one that's been specified, ordered, and paid for. It often ends up trialled informally, by whoever happens to pick it up, rather than evaluated against the task it was actually meant for.

A paid trial order, by contrast, tends to involve the right people: the engineer who specified it, the safety officer who'll sign off on it, and the workers who'll actually use it — because there's a real decision riding on whether it performs.

### IN SHORT

A defined, paid controlled trial is how we measure real intent and real fit. It is also how your team generates a real, internally credible application validation — rather than an anecdote about a tool nobody formally evaluated.

## What we propose, in practice

Following application mapping, our recommendation will name:

- the specific tool or tools suited to the task
- a defined trial quantity — enough to run a genuine controlled trial on the actual task, not a single demonstration unit
- what successful internal validation would look like operationally, agreed with your team in advance

Your team places the trial order, runs it against the task it was specified for, and judges the result against criteria you've set — reduced hand proximity, faster task completion, fewer near misses, or whatever matters most on your site.

From there, wider rollout — or adjusting the specification — is a straightforward conversation, grounded in a result your own team generated.

# Who PSC Hand Safety is

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PSC Hand Safety has worked in industrial hand safety since bringing impact gloves to the Indian market in 2009, and introduced its hands-free, no-touch tool range in 2014.

We supply hand protection and no-touch tooling to the oil & gas, steel, aluminium, power, marine, and heavy engineering sectors, and work directly with plant engineers and EHS teams to map exposure before recommending a tool.

Hand Safety First® (HSF) is our dedicated platform for exposure mapping, doctrine, and engineering-controls education — built on the same thinking set out in this guide, in considerably more depth.

# Our brands

Each PSC brand exists for a specific point of exposure — not as a separate product line, but as a named answer to a particular task.

|                    |                         |
|--------------------|-------------------------|
| HAND SAFETY FIRST® | RIGGERSAFE®             |
| LOADGUIDER™        | SAFEGUIDER™             |
| GUIDE-IT™          | LOAD-IT™                |
| TUBULAR GUIDER™    | TAGLINE RETRIEVER TOOL™ |
| LIFT ASSIST™       | EZYLIFT™                |
| HANDLE-TECH™       | FINGERSAVER™            |

Your PSC contact can tell you which brand and tool best fits the task you're looking to solve — that's exactly what application mapping, covered earlier in this guide, is for.

# What we can share next

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This guide is deliberately short. What sits behind it is not.

PSC and Hand Safety First® maintain a deeper library of doctrine, field references, and standard operating procedures — built for teams who want to go further than this overview into the specifics of their own site, industry, or task.

# Resource categories available on request

## GLOBAL HAND SAFETY REPORT

Country and sector intelligence on hand exposure trends and control adoption.

## HAND EXPOSURE CONTROL ENCYCLOPEDIA™

A structured reference covering exposure terminology, mechanisms, and controls in depth.

## SOP LIBRARY

Task-specific procedures built around engineering controls, not just procedure and PPE.

## WHITEPAPERS

In-depth papers on specific hazards, tool engineering, and exposure reduction frameworks.

## INDUSTRY GUIDES

Sector-specific hazard and control guidance: steel, aluminium, foundry, oil & gas, marine, cement, mining, ports.

## AUDIT FRAMEWORKS

Structured self-assessment tools for benchmarking hand exposure maturity on site.

## TOOL SELECTION GUIDES

Reference material to help narrow down which control family fits a given task.

## TRAINING MATERIALS & FIELD CHECKLISTS

Toolbox-talk content and short, practical checklists for spotting exposure in routine tasks.

### JUST ASK

Let your PSC contact know which industry, hazard, or resource category you'd like to go deeper on, and we'll share the relevant materials directly.

## NEXT STEP

# Send us the task. We'll send back the map.

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If a task on your site puts a hand somewhere it shouldn't have to be, send us a photo or short video along with your plant or location. We'll come back with our reading of the exposure and a specific recommendation.

## EMAIL

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## PHONE

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**ENGINEER THE HAND OUT OF HAZARD™**

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