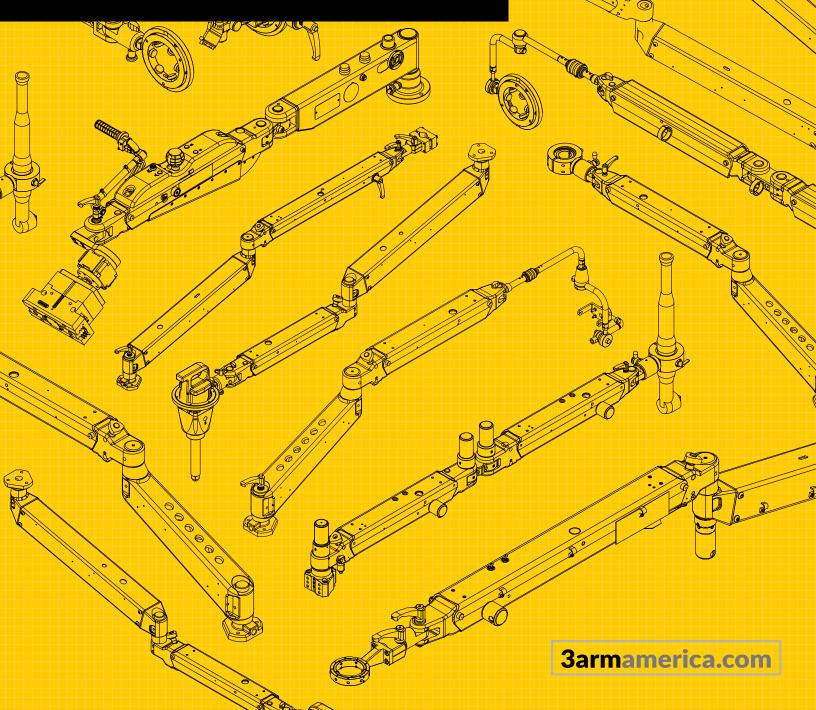


## **Ergonomic Lift Assist Devices**





## Quick Start

WHAT TOOL DO YOU WANT TO HOLD?

TYPE:

MAKE:

MODEL:

**ORIENTATION:** 

WEIGHT:

3D DRAWING OF THE TOOL (STP file):

### WHAT ARE YOUR APPLICATION REQUIREMENTS?

HORIZONTAL REACH:

VERTICAL REACH:

MOUNTING ORIENTATION:

□BOTTOM □TOP □WALL

#### MOUNTING SOLUTIONS:

			-
□ RAIL	□ MAGNET	BALUSTRADE	
🗆 BEAM	□ COLUMN	□ SWING	
□ TABLE	ELEVATOR	🗆 CLAMP	

BRAKES:

 INONE
 IMANUAL BASE LOCK

 IMANUAL
 IMANUAL BASE + ARM

 IMANUAL
 Imanual Base + ARM

 Imanual
 Imanual Base + ARM

#### TORQUE REQUIREMENTS:

NOTES:

Build Your Arm online at 3armamerica.com

2 740-392-1549

Sarm<sup>®</sup> was designed by the Tecnospiro Machine Tool Company and are manufactured in a state-of-the-art facility about 40 miles west of Barcelona, Spain. The dynamic engineering staff continues to develop innovative manufacturing solutions. 3arm<sup>®</sup> ergonomic lift assist devices are the strongest, most dependable product of its kind available in the world marketplace today. 3arm<sup>®</sup> can be used for assistance in assembly, deburring, off-line machining, and all types of lifting operations. Any situation in which productivity, quality, or operator fatigue and employee safety are of concern, 3arm<sup>®</sup> has a solution. IPT America has been the North American representative and importer since 2006.



Operations Center: 106 W. Ohio Avenue Mt .Vernon, OH 43050 phone (740) 392-1549 fax (740) 392-0230

iptamerica.com

**Each 3arm® is customized** for your tool and application. We optimize the arm for your process so it's ready to work, right out of the box.

### **Head Member Configuration**

Determine the tools you need to use with your 3arm<sup>®</sup>. This will also help you select a head member based on the type of application and neccessary orientations. To ensure proper fit a 3D STP file of the tool is required.

### **Balanced Design**

Tool weight is key to determining which arm will suit your application. All of our arms are precision calibrated at the factory to balance the weight of the tool.

### **Great Reach**

A 3arm<sup>®</sup> can be bottom mounted, top mounted or wall mounted. You can easily add precision reach by applying a rail, make it mobile with a trolley or add vertical reach with a mounting column. See more on page 24.

### **Integrated Braking**

Tool trigger braking of the arm is available. Effortlessly position your tool, stop it in place, release trigger and float it to the next job. (Brakes are necessary for certain applications)

### Handling Force

The durable closed-case design of 3arm<sup>®</sup> is able to absorb considerable force. Knowing your requirements for torque can help us determine the best 3arm<sup>®</sup> configuration.

**SAFETY WARNING** 3arm-America® products are engineered and manufactured with safety in mind. The heat treat specifications exceed or meet all standards. All of the products manufactured by 3arm-America® are designed to perform without any undue safety issues when caution, common sense and proper safety practices are followed. The use of cutting tools and toolholders is safe when proper application and protection guidelines are observed. Even when these proper precautions are taken, it is possible that fragments of a cutting tool, cutting material, or holding device may be thrown at a very high rate of speed and have potential to cause severe bodily harm. It is imperative that general safety precautions and safety glasses be used at all times. WARRANTY 3arm-America® arms carry a full one year warranty of the arm against manufacturer defects. The warranty does not cover any damage caused by overloads, improper use and handling, and using the arm for anything other than its intended use. Our warranty covers labor and parts during the one year period.

- 4 Markets and Applications
- A Versatile Ergonomic Solution

## SERIES O

## SERIES 1

## SERIES 2

12 SERIES 3

## 14 <u>SERIES 4</u>

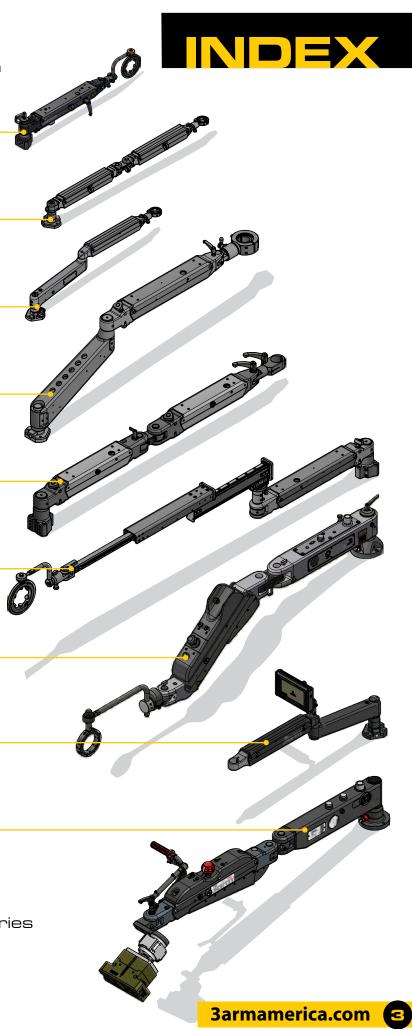
16 <u>SERIES 6</u>



## **ENCODER**

## 22 MANIPULATOR

24	Head Members + Brakes
26	Mounting Solutions + Accessor
28	The Facts About Worker Injury
29	Ergonomic Safety
30	The Costs of Worker Injury



## INDUSTRIES SERVE





**Machine Shops** 

Fabrication



Welding



Automotive



Assembly



Aerospace



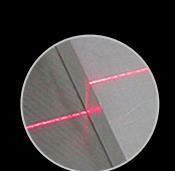
Medical



Mechanical



Chemical



Metrology



Painting



Construction



Food Processing



Marine

## **Versatility and Productivity**

3arm® has been designed to keep weightless any tool and device, including more than 30 head systems. Allowing the tool to be fixed in any position according to its accessories. We have more than 1 million configurations available to suit any application.

## **Ergonomic Safety**

The weightlessness and strength to absorb considerable tool torque reaction, and the option to lock the arm in any position and movement, helps prevent operator fatigue and injury, giving them high work sensitivity and increased productivity.

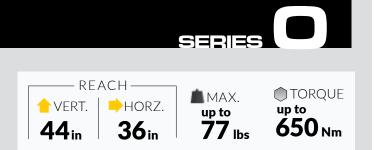
## The **3arm** Solution

- Allows the full range of motion required to complete any task efficiently and safely.
- Permits use of heavy tools more accurately.
- Eliminates tool weight, providing not only an ergonomic benefit, but also increased productivity and precision.
- Reduces operator fatigue and the chance of injury due to strain.
- Holds any tool up to 132 lbs, keeping the tool weightless, while eliminating possible damage caused by dropping the tool.
- A Simple Ergonomic Solution

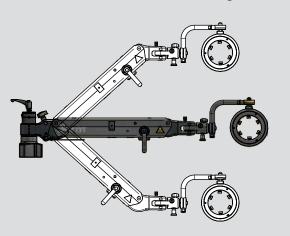








A single tilting arm for the most simple applications. Three different arm lengths with all brake and headmembers offering available.



### STARTING AT:

\$3,740

ARM BOTTOM MOUNT		VERT	ACH — Horz	MAX LBS
SNDS	Extra Short Tilting	19.8	20	65
SNBS	Short Tilting	26.3	24.3	77
SNBM	Long Tilting	44.5	36.4	41
ТОР МО	UNT			
STDS	Extra Short Tilting	19.8	20	65
STBS	Short Tilting	26.3	24.3	77
STBM	Long Tilting	44.5	36.4	41

COMPATIBLE HEAD MEMBERS

See Headmembers,

All

pg 24

### **BRAKE OPTIONS** LOO No brakes L11 Manual L22 Pneumatic **L50** Manual Locking Base

L92 Tool Trigger Activated See Brakes, pg 24

### 3arm Solutions

A Series 0 arm configured with a balustrade support for lifters is a perfect solution for construction and electrical applications.



GETAN

ARMI





		Max.	Torque
Work	Head Member	Nm	ft-lbs
	VERTICAL		
	B0: Stationary Flat with Ring	650	479
Ŷ	E0: Flat Articulated with Ring	120	88
ĝ <u>ar nom</u> ĝ	R0: Revolving	300	221
T	HORIZONTAL		
	B0: Stationary Flat with Ring	250	184
	E0: Flat Articulated with Ring	120	88
@ <u></u>	R0: Revolving	250	184
15-18	ANY ANGLE		
CIT III	E0: Flat Articulated with Ring	120	88
GILL	R0: Revolving	200	147



STARTING AT: \$5,814

ARM EDP	ORIENTATION
1SN1DS	Bottom Mounted
1AM1DS	Top Mounted

### COMPATIBLE HEAD MEMBERS

B, BA, C, E, EA, F, G, K, L, LB, N, T, U, Q, Z See Headmembers, pg 24

**BRAKE OPTIONS** 

LOO None **L50** Manual Locking Base See Brakes, pg 24

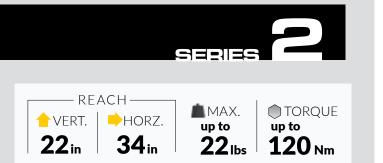
for your application and add even more vertical reach at the same time.



COMEATIT







A combination radial arm and tilting arm, each capable of 360° rotation. Two arms of different length give you the ability to reach separate working areas. A range of headmembers options offer solutions for a wide variety of tools and devices.

# Elevating Base (Optional)

### STARTING AT: \$2,900

ARM EDP	BASE
BB	Bottom Mountee
BE	Elevating Base
BA	Top Mounted
BX	Top Mount w/ Elevating base

COMPATIBLE HEAD MEMBERS

B, BA, C, E, EA, F, G, H, K, L, LB, N, T, U, Q, Z See Headmembers, pg 24

### **BRAKE OPTIONS**

LOO None **L50** Manual Locking Base See Brakes, pg 24

# THE PERFECT BALANCE IN YOUR WORK

The perfect

solution for

small work

areas



3arm°







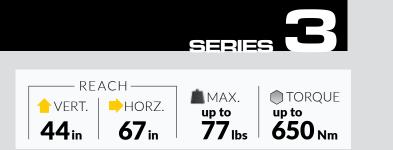
A compact multi-purpose arm for use when brakes are not required



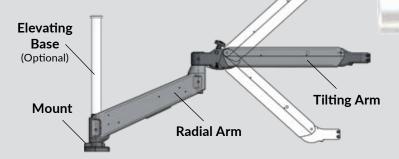
#### **TORQUE RECOMMENDATIONS**

		MAX. T	ORQUE
Work	Head Member	Nm	ft-lbs
	VERTICAL		
<u>ں</u>	<b>B2:</b> Stationary Flat with Ring	120	88
çarına Ç	<b>E2:</b> Flat Articulated with Ring	60	44
	HORIZONTAL		
	B2: Stationary Flat with Ring	90	66
	<b>E2:</b> Flat Articulated with Ring	60	44
all Istan	ANY ANGLE		
GILLI	<b>E2:</b> Articulated Flat + Ring	60	44





The most popular 3arm® due to versatility. Features "turning & tilting" brake locking systems (pneumatic or manual) allowing the operator to immobilize the arm, in a fixed position, on all axes simultaneously or separately.



## **STARTING AT:** \$5.400

− REACH − N			MAX	
ARM	BOTTOM MOUNTED		HORZ	LBS
PSBS	Short Radial + Short Tilting	27.8	41.7	77
PSBM	Short Radial + Long Tilting	44.5	53.5	41
PLBS	Long Radial + Short Tilting	27.8	55.9	77
PLBM	Long Radial + Long Tilting	44.5	67.6	41
	TOP MOUNTED			
ASBS	Short Radial + Short Tilting	27.8	41.7	77
ASBM	Short Radial + Long Tilting	44.5	53.5	41
ALBS	Long Radial + Short Tilting	27.8	55.9	77
ALBM	Long Radial + Long Tilting	44.5	67.6	41
	ELEVATING BASE			
PEBS	Elevating Radial + Short Tilting	27.8	43.7	77
PEBM	Elevating Radial + Long Tilting	44.5	55.8	41

COMPATIBLE
HEAD MEMBERS

- **ALL** See Headmembers, pg 24
- BRAKE OPTIONS L00 None L11 Manual L22 Pneumatic L50 Manual Locking Base L51 Base & Tilting Arm Brakes L92 Tool Trigger Activated See Brakes, pg 24

# THE CAPABILITY TO CARRY TH WEIGHT

Series 3 Pictured: PSBM+U3+L50

## The workhorse of the 3arm<sup>®</sup> series

### **3**arm<sup>®</sup> Solutions

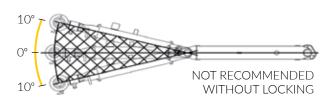








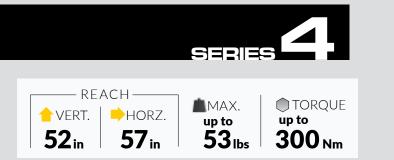
Long reach and the ability to carry the heaviest loads



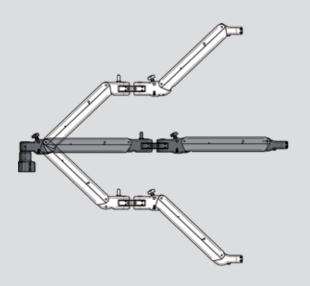
#### TORQUE RECOMMENDATIONS

	MAX. TORQUE		ORQUE
Work	Head Member	Nm	ft-lbs
1 11	VERTICAL		
( <b>)</b>	B3: Stationary Flat with Ring	650	479
Ť	E3: Flat Articulated with Ring	120	88
Garan A	R3: Revolving	300	221
HORIZONTAL			
- C	B3: Stationary Flat with Ring	250	184
	E3: Flat Articulated with Ring	120	88
©⊐[_][_])==1 (©	R3: Revolving	250	184
12-38	ANY ANGLE	~	
G THE	E3: Flat Articulated with Ring	120	88
BIT	R3: Revolving	200	147

\*Series 3 - LOCKING RECOMMENDED



The innovative connections between the parts of the arm allow completely free movement - up, down and sideways. Capable of reaching the most difficult positions or work with weightless precision.



### STARTING AT: \$8,159

		REA	сн —— <b>Horz</b>	MAX
ARM ED	P DESCRIPTION	VERT	HORZ	LBS
DS	Bottom Mount, Short Arm	40	48	43
DM	Bottom Mount, Long Arm	52	57.5	53
ADS	Top Mount, Short Arm	40	48	43
ADM	Top Mount, Long Arm	52	57.5	53

COMPATIBLE
<b>HEAD MEMBERS</b>

ALL See Headmembers, pg 24

BRAK	(E OPTIONS
L00	None
L11	Manual
L22	Pneumatic
L50	Manual Locking Base
L92	Tool Trigger Activate
See Br	akes ng 24



THE RIGHT

740-392-1549

Air Compressor

See More Solutions, pg 24





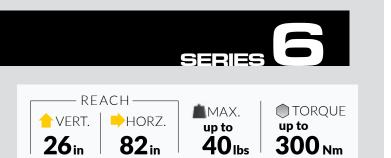
Extended vertical reach with uncomprimised strength

### **TORQUE RECOMMENDATIONS**

		MAX.1	TORQUE
Work	Head Member	Nm	ft-lbs
1	VERTICAL		
	B4: Stationary Flat with Ring	300	221
Ť	E4: Flat Articulated with Ring	120	88
Garan A	R4: Revolving	300	221
Π	HORIZONTAL		
	<b>B4:</b> Stationary Flat with Ring	250	184
	E4: Flat Articulated with Ring	120	88
© ©	R4: Revolving	250	184
TT I	ANY ANGLE		
G DL D	E4: Flat Articulated with Ring	120	88
GIL	R4: Revolving	200	147

\*Series 4 - LOCKING REQUIRED

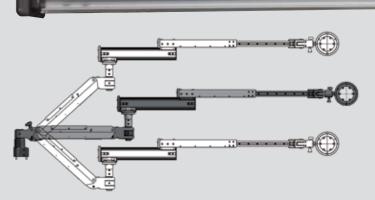




An extendable arm with ball linear guideways attached to a pendulum base arm, both capable of 360° rotation. A compact arm that offers versatility for any type of tool. The telescopic arm allows the user to work on hard to reach areas comfortably, quickly and safely. Built for a wide variety of applications.

# EVERYTHING $H \vdash \Delta$

Get your tool into tight spaces safely



### STARTING AT:

\$9,656

		VERT	АСН ——	MAX
ARM EDP		VERT	HORZ	LBS
BPRASC	Short	26	68	40
BPRASM	Long	26	82	22

COMPATIBLE
HEAD MEMBERS

ALL

See Headmembers, pg 24

LOO None L22 Pneumatic L92 Tool Trigger Activated See Brakes, pg 24

**BRAKE OPTIONS** 

Series 6 Pictured: BPRASM+T6+L00

JOAND.







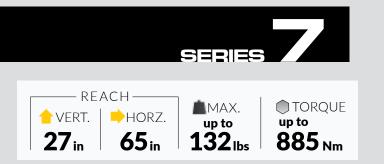


Extended horizontal reach

### TORQUE RECOMMENDATIONS

		Max.	Torque
Work	Head Member	Nm	ft-lbs
1	VERTICAL		
	<b>B6:</b> Stationary Flat with Ring	300	221
T E	<b>E6</b> Flat Articulated with Ring	120	88
ç <del>alına</del> (	R6: Revolving	300	221
1	HORIZONTAL		
	<b>B6:</b> Stationary Flat with Ring	250	184
	E6: Flat Articulated with Ring	120	88
@ <u></u>	R6: Revolving	250	184
12-12	ANY ANGLE		
G TILL	E6: Flat Articulated with Ring	120	88
BILL	R6: Revolving	200	147

\*Series 6 - LOCKING REQUIRED



Ergonomic and optimized arm for the most heavy duty power tools in the market. Features brake locking system and a range of headmembers that offer solutions for a wide variety of applications.

**S**7

# HEAVY BALANCING LIFTING POW

Series 7 Pictured: 7PS+U7+L11

For the heaviest and most demanding tools



Compact arm for big solutions

## STARTING AT: \$18,748

### ORIENTATION

7PS	Floor Mounted
7AS	<b>Ceiling Mounted</b>

### COMPATIBLE HEAD MEMBERS

B, BA, E, EA, J, L, LB, K, Q, U, Z

See Headmembers, pg 24

### **BRAKE OPTIONS**

L50	Manual Locking base
L11	Manual
L22	Pneumatic
L92	Tool Trigger Activated

See Brakes, pg 24







# ENCODER

Precision programming of jobs that define fastening position and sequence.

## **SmartControl**

Encoder SmartControl system integration available on Series 2 and 3 3arm<sup>®</sup>



# **STARTING AT:** \$9,396

### **ARM STYLE**

BB2L+L80	Series 2 Base
PSBS+L80	Series 3, Short + Short
PSBM+L80	Series 3, Short + Long
PLBS+L80	Series 3, Long + Short
PLBM+L80	Series 3, Long + Long

COMPATIBLE HEADMEMBERS

A, B, BA, C, E, EA

See Headmembers, pg 24

## Versatile

 Additional programs previously created to add or modify fastening positions and modify the precision parameters and programming of torque (the fastening sequence cannot be edited)

Possibility of working with up to
 7 different fastening programs in
 the same job

Communication with the tool controller to select the different fastening programs (I/O)

Communication with the tool controller to enable or block the functioning of the tool (I/O)

Communication with the tool controller to receive the correct/ incorrect fastening signal (I/O)

 Counting of parts remaining to complete the current job and parts completed

Configuration in 3 languages (Spanish, English and French)

Possibility of password protection for the system

 Possibility of inlaying a representative BMP image into the jobs

Identifier (overprinted message) of jobs finished correctly





# Quickly and easily create new sequences

Increase productivity and safety

Adaptable headmember for a wide variety of tools

Encoder Pictured: BB2L+L80

# MANIPULATOR



# PICK & PLACE

The Manipulator can be equipped with a variety of specialty gripping tools. It is engineered to manually handle, center and set loads of up to 110 lbs in a weightless condition, in any direction. The Manipulator aids the operator in precise ergonomic work handling, effortlessly and safely.

	e Vertical
GRIPPING SYSTEM BRAKES	
<b>GG</b> Gripper <b>L00</b> None	
ng <b>GM</b> Magnet <b>LM5</b> Pneumatic	
GV Vacuum Brakes	20 No no no
GC Custom	
ng	Basic
	Double Handlebar
<b>STARTING AT:</b> \$24,111	Manipulator Pictured: PB3BS3+MHB5+HV5+GG+LM5
tiı	ing GG Gripper GW Magnet GV Vacuum GC Custom

MOUNT

Тор

Base

HANDLE

 $\bigcirc$ 

Handlebar



Build Your Arm online at 3armamerica.com

# **HEAD MEMBERS**

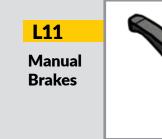




BRAKES



Brakes are not required and may not be recommended in some applications.



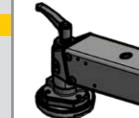
Manually set and release brakes by turning a handle.



Brakes are set and released using a toggle switch.



Manual Locking Base



Manually set and release brake by turning a handle at base only.

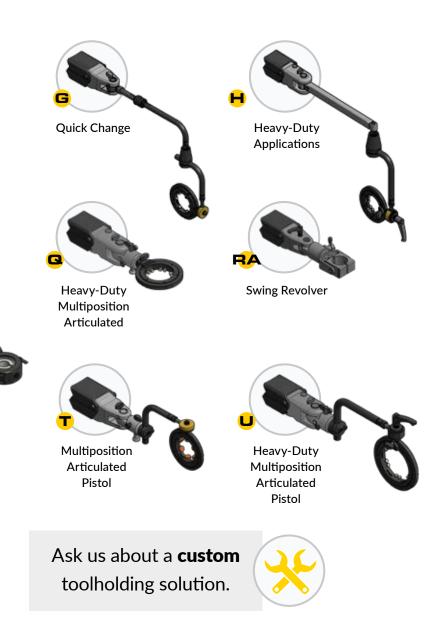
## L51

**Base Brake** & Tilting Arm Brake

tilting arm.









Manually set and release brakes by turning separate handles at the base and



Pneumatic brakes that are activated by using the tool trigger. (Compatible DC Tool required)

# MOUNTING SOLUTIONS



for your application

Our experts will ensure your 3arm<sup>®</sup> build is properly balanced with your accessory.

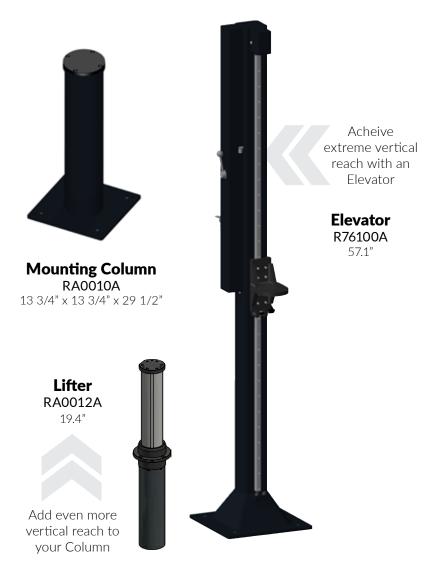
## Mobile Work Space

Additonal sizes available

Vertical Reach









Large Table RA0006A 43 5/16" x 33 7/16" x 33 7/16"



# Manufacturing Industry Worker SOURCE: U.S. BUREAU OF LABOR STATISTICS

### MOST COMMON **Type of Injury**



Sprains & Strains

Cuts & Lacerations



Fractures

## MOST COMMON **Cause of Injury**



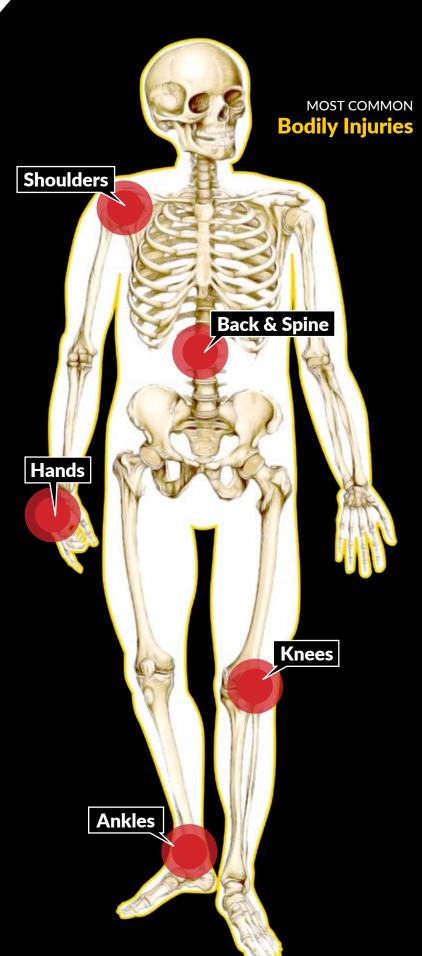
Overexertion



740-392-1549

Repetitive Motions

Struck, Cut or Caught by Equipment



IF INJURY NECESSITATES **Missed Work** 

> 25% MISS **OR MORE**





## THE COST of Worker Injury

**EMPLOYERS SPEND MORE THAN** ANNUALLY PER EMPLOYEE

**MORE THAN** % **OF WORKER INJURY IS POTENTIALLY** PREVENTABLE

Are you dealing with a shortage of skilled labor? Like many manufacturers you probably have a highly skilled but older workforce, so it's imperative to keep those workers happy, healthy and operational as long as possible. Injuries can sideline an effective worker, slow down production, affect product quality and hinder the transfer of knowledge to the next generation.

Injuries on the job cost businesses and their employees a significant amount of money, even if the injury doesn't seem serious, such as a strain, sprain, soreness and general pain. According to the U.S. Bureau of Labor Statistics (BLS), private industry employers reported 2.8 million nonfatal workplace injuries and illnesses in 2019. Of those, manufacturing accounted for 15 percent of all private industry nonfatal injuries and illnesses.

Industrial lift assist solutions by 3arm America can help increase safety and productivity in manufacturing workplaces by preventing injuries and increasing employee well-being, and thereby positively impacting your bottom line.

## The Most Common Types of Injuries

The BLS reports over 50 percent of non-fatal occupational injuries resulting in missed work are caused by musculoskeletal disorders (MSDs), sometimes called "ergonomic injuries," and cuts, lacerations and fractures caused by accidents. The most common areas affected by these injuries are the shoulders, back, hands, knees and ankles.

Routine tasks performed over time can create pain and injury. In fact, overexertion and repetitive motion are the primary causes of MSDs. These injuries occur when the workers use muscles, tendons and ligaments to perform tasks with heavy tools or in awkward positions. Repeatedly lifting a heavy tool can also cause accidents, such as contusions or fractures.

Examples of a MSD may include pinched nerves, carpal or tarsal tunnel syndrome, sprains, strains and other connective tissue disorders, resulting from overexertion or bodily reaction. Using an ergonomic solution like a 3arm lift assist device, which renders tools weightless, can prevent many of these injuries from occurring.

## The Cost of Musculoskeletal Disorders in the US

The statistics can be surprising when looking at the days employees miss from work due to MSDs. In 2018, of all the cases of Davs Away From Work due to injuries, approximately 30 percent were due to MSDs. However, over 60 percent of worker injuries are potentially preventable.

That's a significant percentage that can potentially be prevented with targeted solutions such as ergonomic equipment and tools.



### The Cost of Workplace Injuries in Manufacturing

## SAVEAN ARM AND A LEG

An investment in an ergonomic lift assist device may seem hefty until you calculate the cost of an injury to just one of your employees. The US Department of Labor provides an online calculator through their OSHA "\$afety Pays" program. Employers can use the calculator to assess the impact of occupational injuries and illnesses on their profitability. Using the company's profit margin, the average costs of an injury or illness, and an indirect cost multiplier, the calculator projects the amount of sales a company would need to generate to cover those costs.

### Total Costs for Injury for a company with a 3% Net Profit Margin

We'll use examples of the direct and indirect costs of two scenarios on a company with a 3% profit margin:

#### **1** A repetitive motion injury such as carpal tunnel

### 2 An accident that causes a fracture

As you can see, the combined costs are hefty and the sales to cover total costs are staggering.

	CARPAL TUNNEL	FRACTURE
Estimated Direct Costs	\$30,963.00	\$54,856.00
Estimated Indirect Costs	\$34,923.00	\$6,341.00
Combined Total Cost of Injury	\$65,886.00	\$115,197.00
Combined Total Cost of Injury Additional Sales to cover Indirect Costs	\$65,886.00 \$1,134,100.00	<b>\$115,197.00</b> \$2,011,386.00

OSHA estimates that just one carpal tunnel claim can cost a company almost thirty-one thousand dollars in direct expenses and another thirty-four thousand in indirect expenses. That's an easy justification for investing in an industrial lift assist device by 3arm.

### Working Without Industrial Lift Assist Equipment Can Be Harmful

Performing any type of work with heavy tools, conducting tasks in awkward positions, or doing repetitive tasks without ergonomic aid has many negative ramifications on employee safety:

SOURCES: Occupational injuries and illnesses resulting in musculoskeletal disorders (MSDs) (bls. gov), https://www.bls.gov/iif/soii-charts-2018.pdf, https://www.bls.gov/news.release/pdf/osh.pdf

**Reduced Safety** Operator fatigue can result in accidents and injuries to employees. Inattention to tool placement or misplacement of tools can result in damage to expensive tools and the products they are working on.

**Long-term Injuries** Operators can develop physical damage over time due to the repetitive motions and the possible associated torque from using tools such as pneumatic impact wrenches.

Increased Costs Employee injuries, damaged tools and products, inconsistent quality and inefficient processes result in additional workers' compensation claims, as well as increased scrap, takt time and expenses.

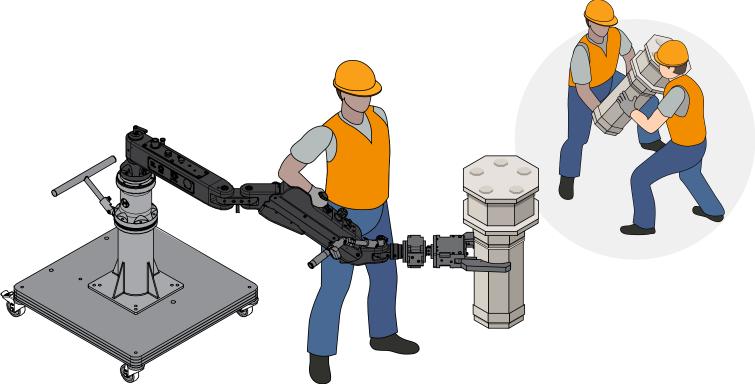
**Employee Turnover** Employees who are exposed to injuries and safety issues will eventually leave to find better employment, taking industry knowledge with them.

**Recruitment** Potential new employees will take note of the physical demand required. They are more likely to take a position that includes the aid of an ergonomic lift assistance device like 3arm.

Team Morale You know how important your team's morale is for productivity. So it's easy to see how the assistance of 3arm can also lift morale providing a quick boost to productivity and job satisfaction.

The social distancing solution for industry. We can help you keep your team safe.

# **3arm's are better than 4.**



### APPLYING **Ergonomics**



Weightload is taken off of the worker



Worker can be more productive with less strain



Eliminate the most common causes of worker injury









Worker's limbs are kept at a safe distance from hazards



Get the tool into tight spaces, while keeping workers safe.



Eliminate the high costs of worker injury



## **3armamerica.com**

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## Our Customer Commitment

To work hard everyday to be regarded in the marketplace as a supplier that is friendly, helpful and easy to do business with - EVERY DAY, EVERY TIME. To offer innovative high quality solutions at a competitive price. To be receptive & proactive in identifying solutions for our customer's needs & requirements.



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