

**14K
SCISSOR
LIFT
OPEN FRONT
AND REAR**



Who We Are

Snap-on Incorporated is a leading global innovator, manufacturer and marketer of:

- TOOLS
- EQUIPMENT
- DIAGNOSTICS
- REPAIR INFORMATION AND SYSTEMS SOLUTIONS



for professional users performing critical tasks where
SECOND BEST IS NOT AN OPTION

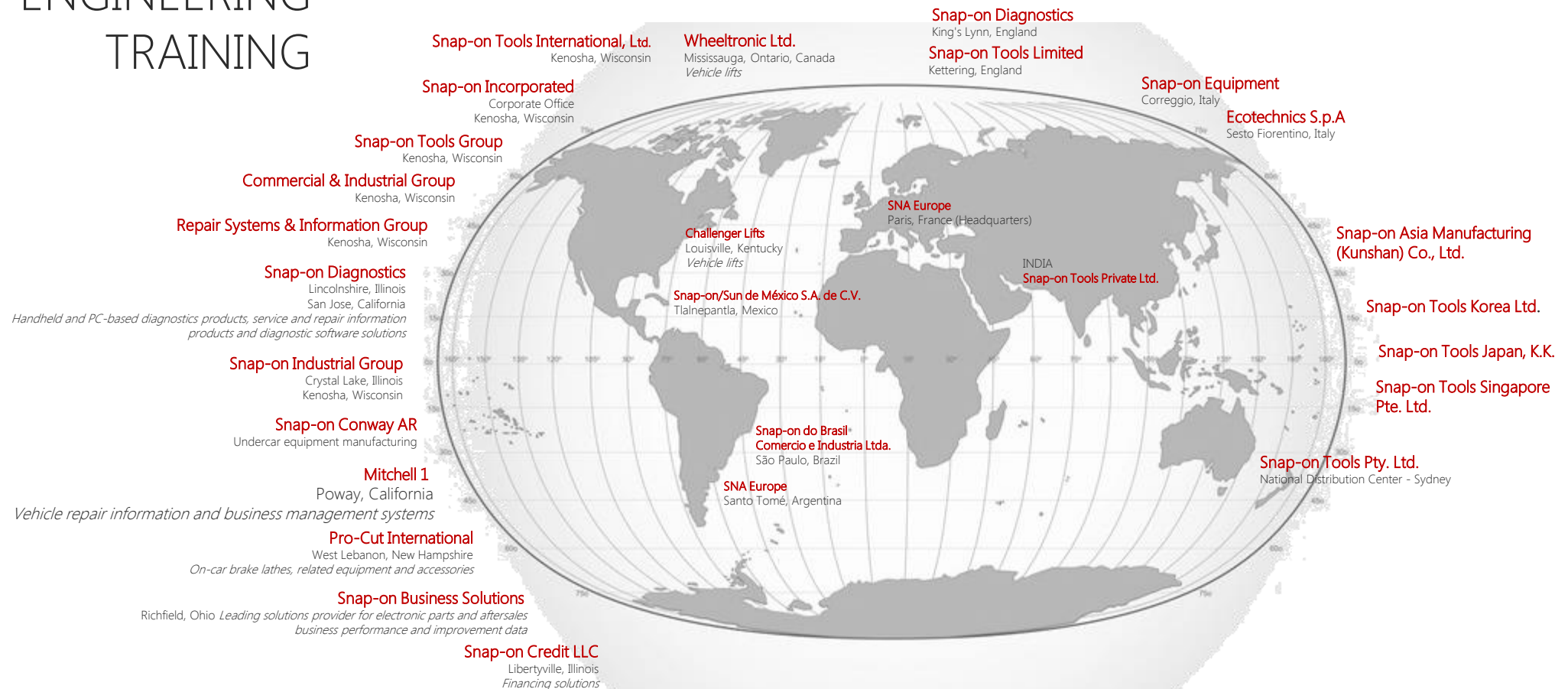
What we make

Products and services include:

- HAND AND POWER TOOLS
- TOOL STORAGE
- DIAGNOSTICS SOFTWARE
- INFORMATION AND MANAGEMENT SYSTEMS
- SHOP EQUIPMENT

PRODUCT MANUFACTURING
PRODUCT DEVELOPMENT
DISTRIBUTION
ENGINEERING
TRAINING

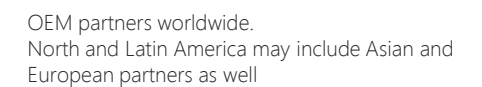
GLOBAL



A black and white photograph of a workshop or garage. In the foreground, there are several Snap-on toolboxes on wheels. In the background, there is a chalkboard with the words "CERTIFICATION CENTER" written on it, and some papers hanging on the wall.

SNAP-ON IS THE LARGEST AUTOMOTIVE EQUIPMENT MANUFACTURER IN THE WORLD

We help more people daily, with critical task solutions worldwide, than
any other automotive service equipment company





Patents

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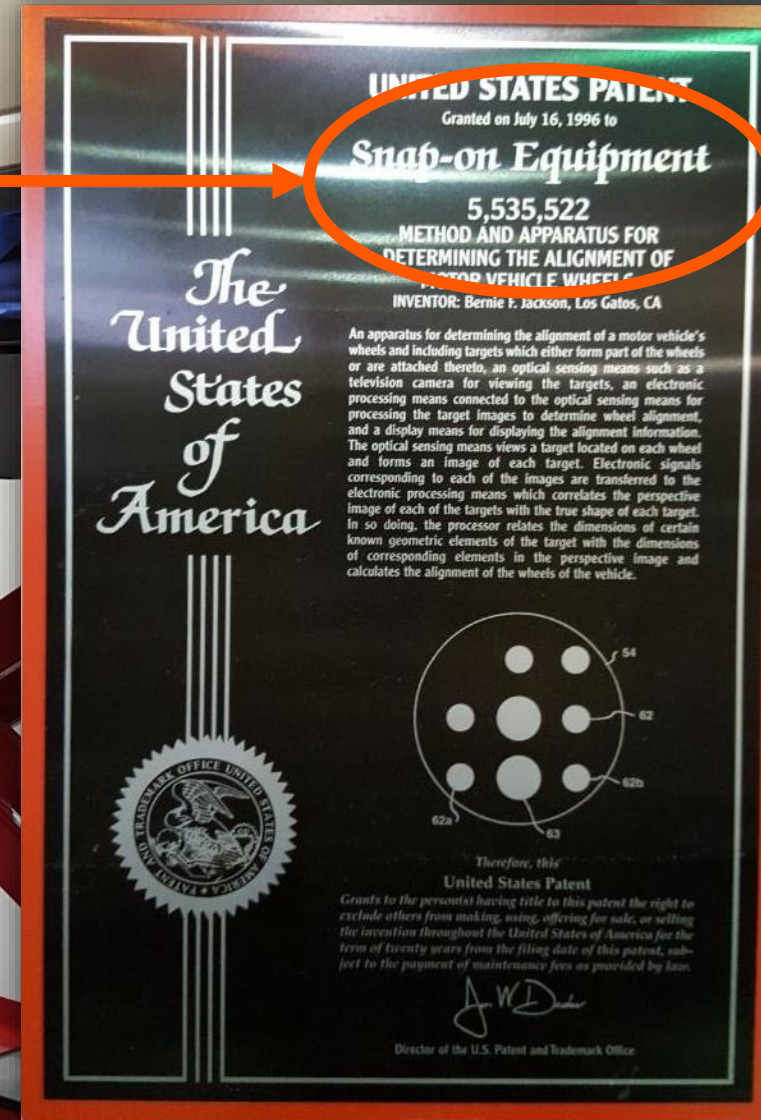
Method and apparatus for determining the alignment of motor vehicle wheels



US 5535522 A



ABSTRACT

An apparatus for determining the alignment of a motor vehicle's wheels and including targets (22L, 22R, 24L, 24R) which either form part of the wheels or are attached thereto, an optical sensing means such as a television camera (30) for viewing the targets, an electronic processing means (32) connected to the optical sensing means for processing the target images to determine wheel alignment, and a display means (34, 36) for displaying the alignment information. The optical sensing means (30) views a target located on each wheel and forms an image of each target. Electronic signals corresponding to each of the images are transferred to the electronic processing means (32) which correlates the perspective image of each of the targets with the true shape of each target. In so doing, the processor (32) relates the dimensions of certain known geometric elements (62, 63) of the target with the dimensions of corresponding elements in the perspective image and calculates the alignment of the wheels of the vehicle.

Publication number	US5535522 A
Publication type	Grant
Application number	US 08/122,550
PCT number	PCT/US1993/008333
Publication date	Jul 16, 1996
Filing date	Sep 3, 1993
Priority date	Sep 4, 1992
Fee status	Paid
Also published as	CA2143844A1 , 7 More »
Inventors	Bernie F. Jackson
Original Assignee	Jackson; Bernie F.
Export Citation	BiBTeX , EndNote , RefMan
Patent Citations	(3), Referenced by (146), Classifications (11), Legal Events (6)
External Links:	USPTO , USPTO Assignment , Espacenet



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Application number US 08/122,550
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Inventors [Bernie F. Jackson](#)
Original Assignee [Jackson; Bernie F.](#)
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[Patent Citations](#) (3), [Referenced by](#) (146), [Classifications](#) (11), [Legal Events](#) (6)
External Links: [USPTO](#), [USPTO Assignment](#), [Espacenet](#)

Publication number US5724743 A
Publication type Grant
Application number US 08/544,378
Publication date Mar 10, 1998
Filing date Oct 10, 1995
Priority date  Sep 4, 1992
Fee status  Paid
Also published as [CA2232534A1](#), [10 More »](#)
Inventors [Bernie Fergus Jackson](#)
Original Assignee [Snap-On Technologies, Inc.](#)
Export Citation [BiBTeX](#), [EndNote](#), [RefMan](#)
[Patent Citations](#) (17), [Referenced by](#) (152), [Classifications](#) (10), [Legal Events](#) (6)
External Links: [USPTO](#), [USPTO Assignment](#), [Espacenet](#)



THIS PRODUCT COVERED BY THE FOLLOWING U.S.
FOREIGN EQUIVALENTS:

5,375,335	5,598,357	6,064,750	6,263,322	6,684,516	7,040,029
5,388,057	5,675,515	6,064,927	6,298,284	6,754,562	7,043,396
5,488,471	5,724,128	6,134,792	6,427,346	6,796,036	7,100,289
5,513,439	5,774,361	6,178,658	6,442,460	6,799,376	7,136,728
5,528,496	5,870,315	6,215,134	6,498,959	6,917,417	7,289,020
5,553,389	5,937,365	6,252,973	6,556,904	7,000,326	7,382,913

THIS PRODUCT MAY BE LICENSED UNDER U.S. PATENT NUMBERS:

5,535,522 5,724,743

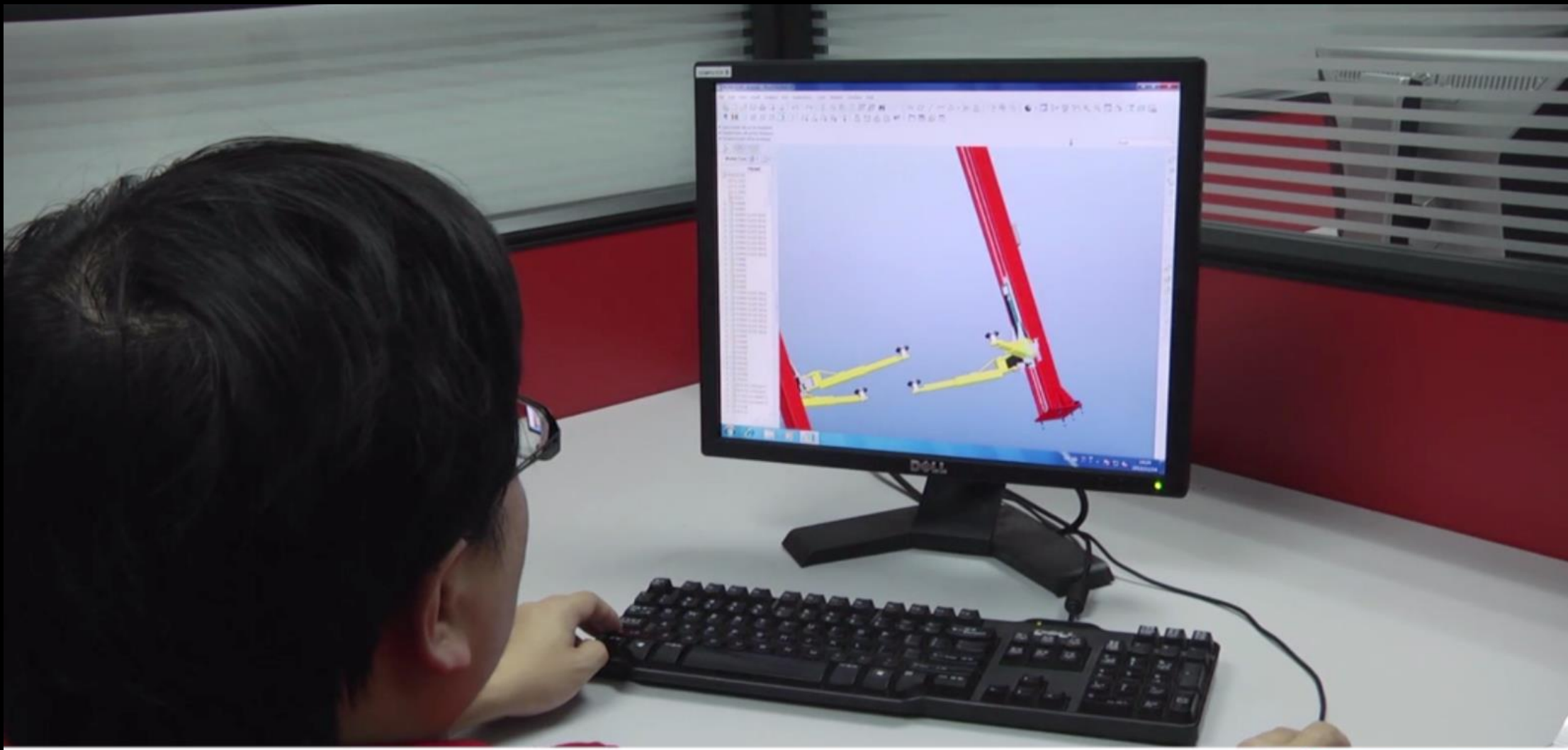


**STATE OF ART
HEAVY STEEL
MANUFACTURING**



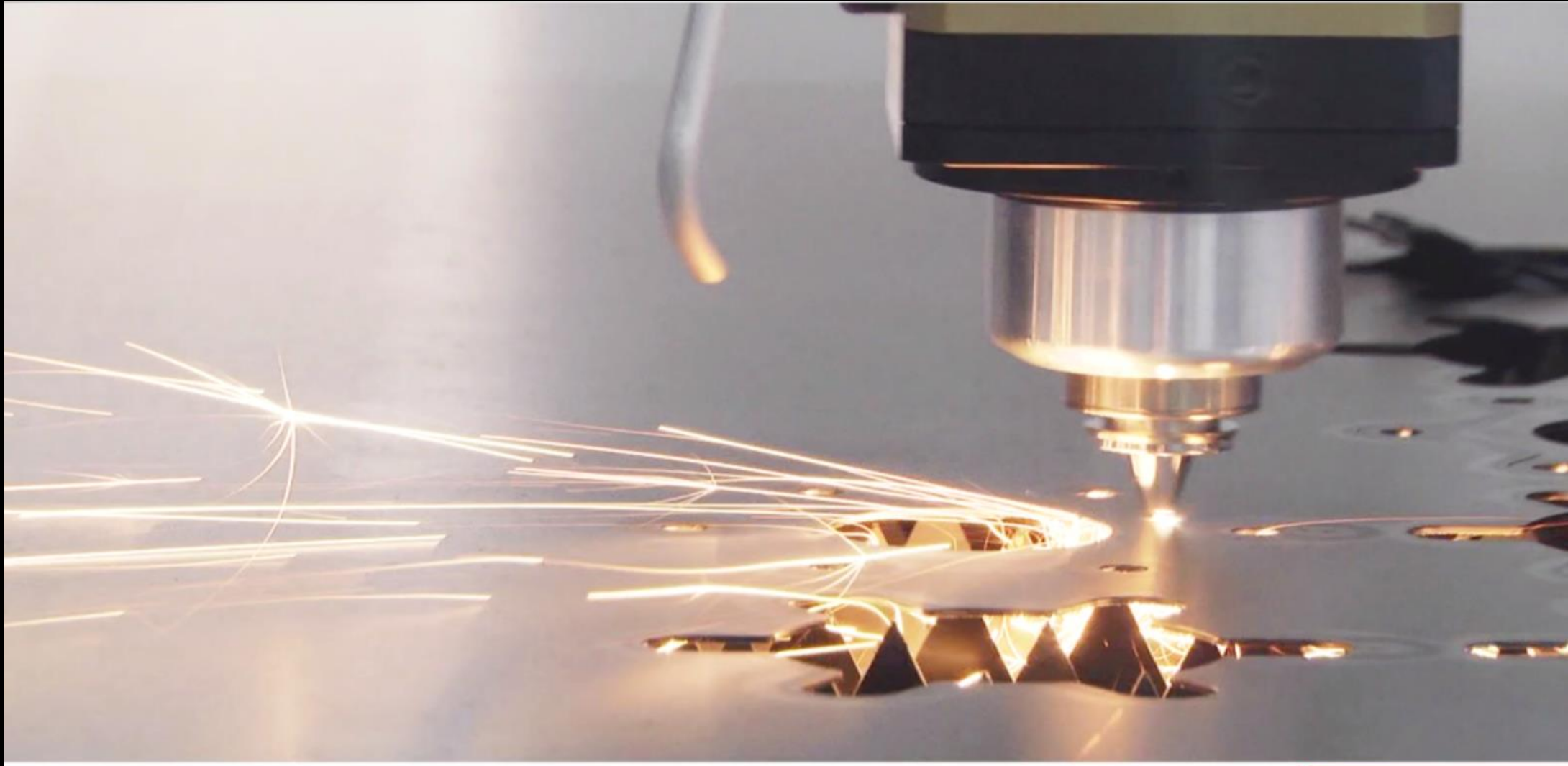
Construction (Date: September 2012)

Snap-on



Engineering Department

Snap-on



High-Tech Laser Cutting

Snap-on



Bending Machine

Snap-on



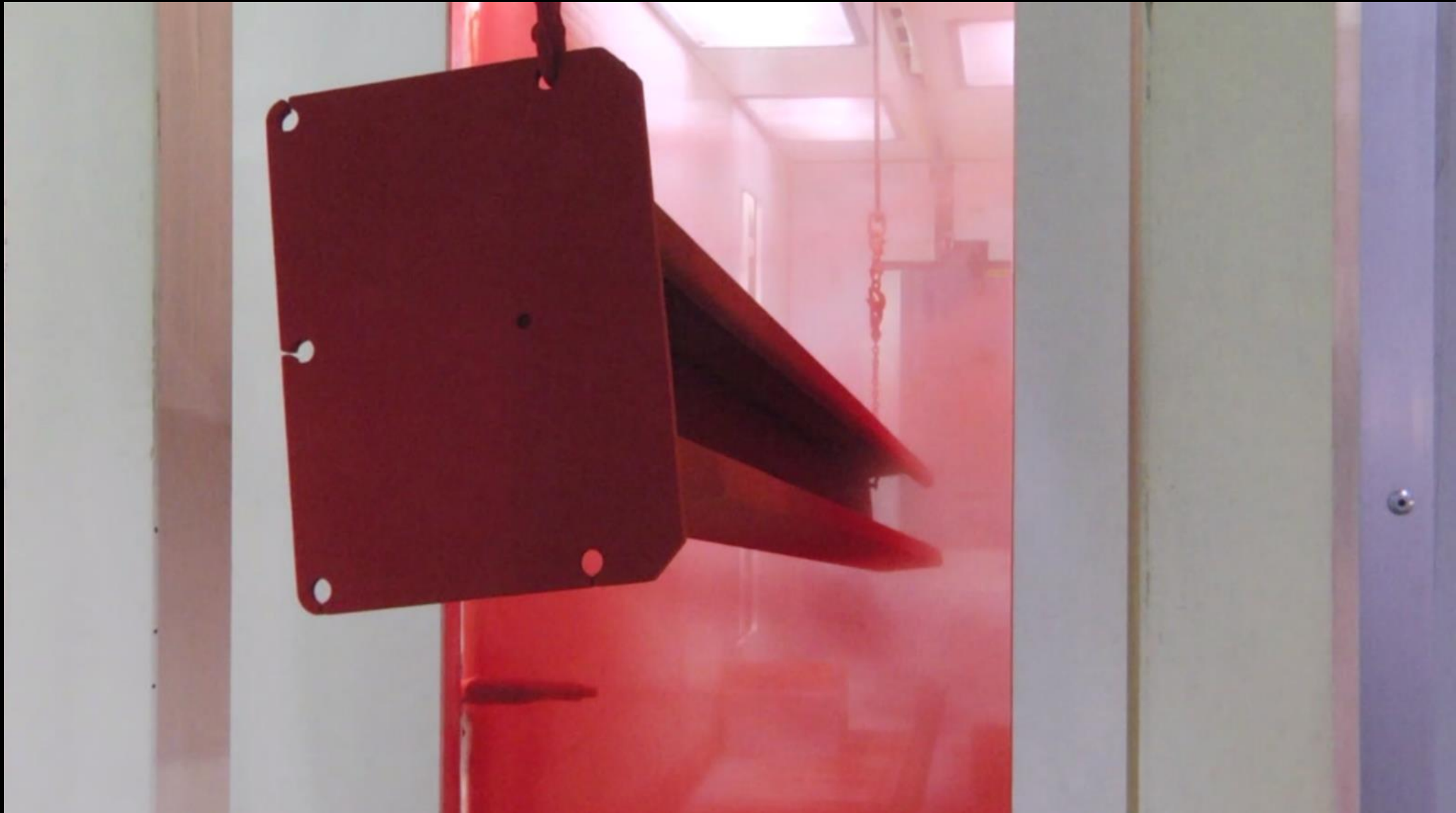
Highly Precise Robotic Welding

Snap-on



Pre-treatment

Snap-on





Testing To Snap-on's Product Specification

Snap-on

14 K SCISSOR CLASS

ALIGNMENT RACK

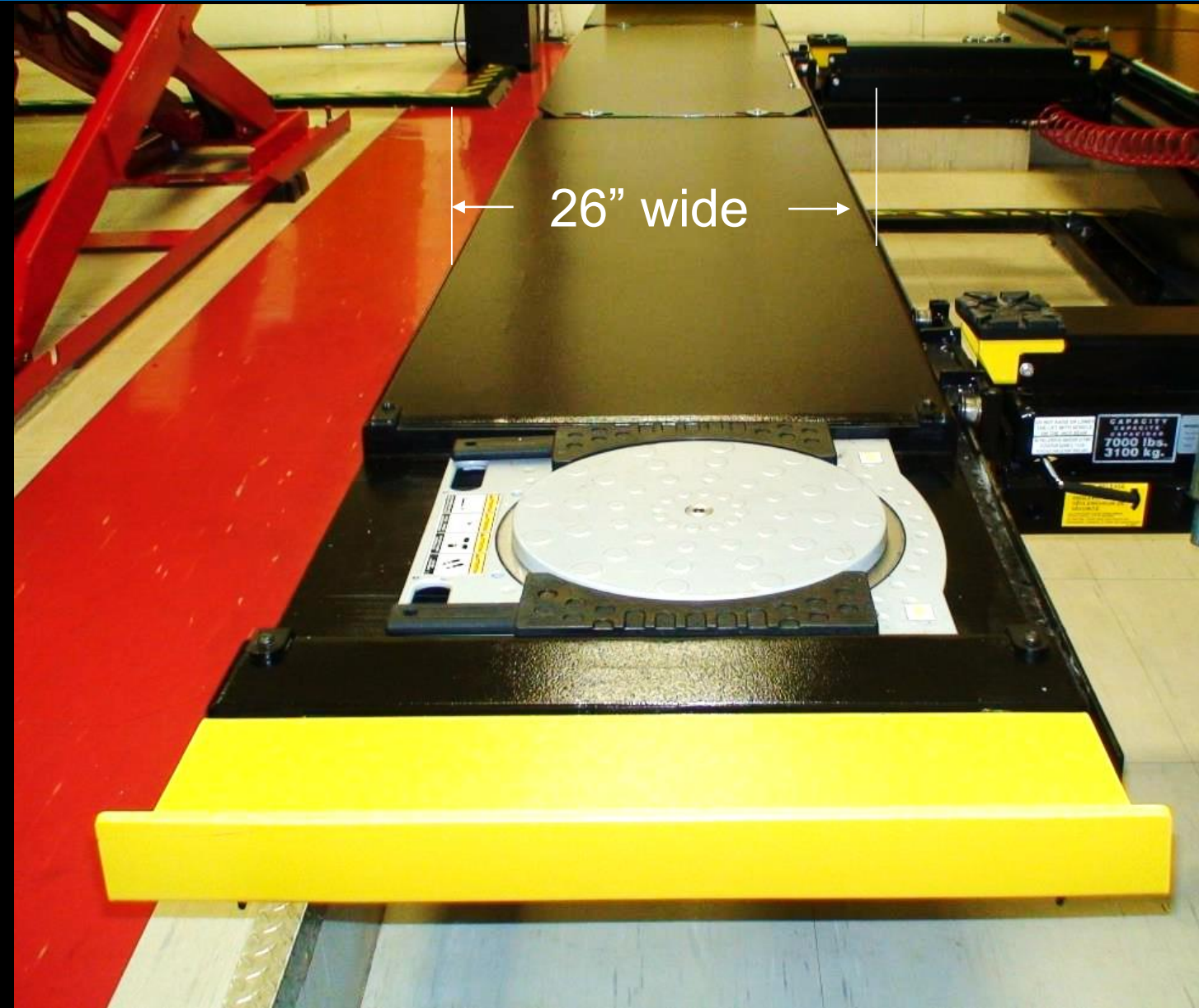


PREMIUM FEATURE SET

- ✓ 14,000 LBS CAPACITY For standard production passenger cars and pick up trucks
- ✓ Open front and rear end For ease of access for adjustments
 - ✓ Low profile height Lowered vehicles
 - ✓ Wide runways Easier, faster, and safer vehicle positioning
- ✓ Recessed front turn plate pockets Keeps the surface flat
- ✓ Recessed rear slip plate pockets Keeps the rear surface flat for less roll back effort
 - ✓ Reinforced scissor For longevity
 - ✓ Multi-position work steps Easy access
 - ✓ 4 hydraulic cylinders Improved synchronization and equalization
- ✓ Steel reinforced glide blocks Longer life cycle reduced maintenance
 - ✓ Lock and lights Time saving one button operation locks, bright LED lighting

RUNWAY STRUCTURE

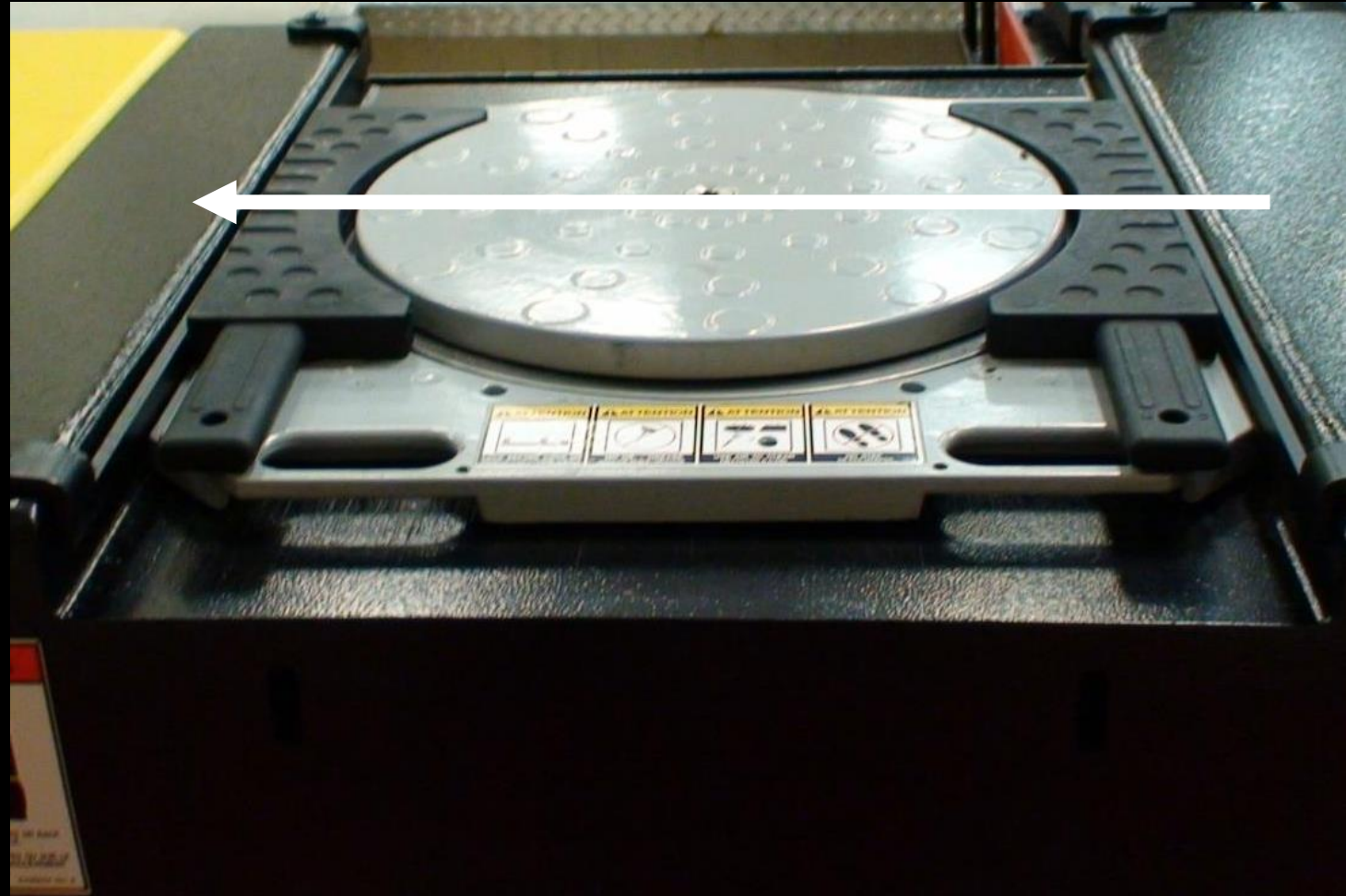
26" wide runways that allows ease of drive-on with dual-axle trucks and allowing wheels to remain on the surface of platform with no over-hang



FRONT POCKETS

Recessed front pocket to allow turn plate (standard and lights and locks) for a flush mount surface

- Nice even transition area
- Requires minimum effort to roll the vehicle on the turn plates



REAR SLIP PLATES

RECESSED REAR POCKET

- Allow for flush mount rear slip plates with a 72" long plate
- Accommodate multiple length wheel bases
- Slide and rotate to minimize traction and improve adjustment



ENCLOSED ROLLER BEARINGS

35 enclosed roller bearings per slip plate that keep dirt away from the rolling surface for ease of movement

BENEFIT

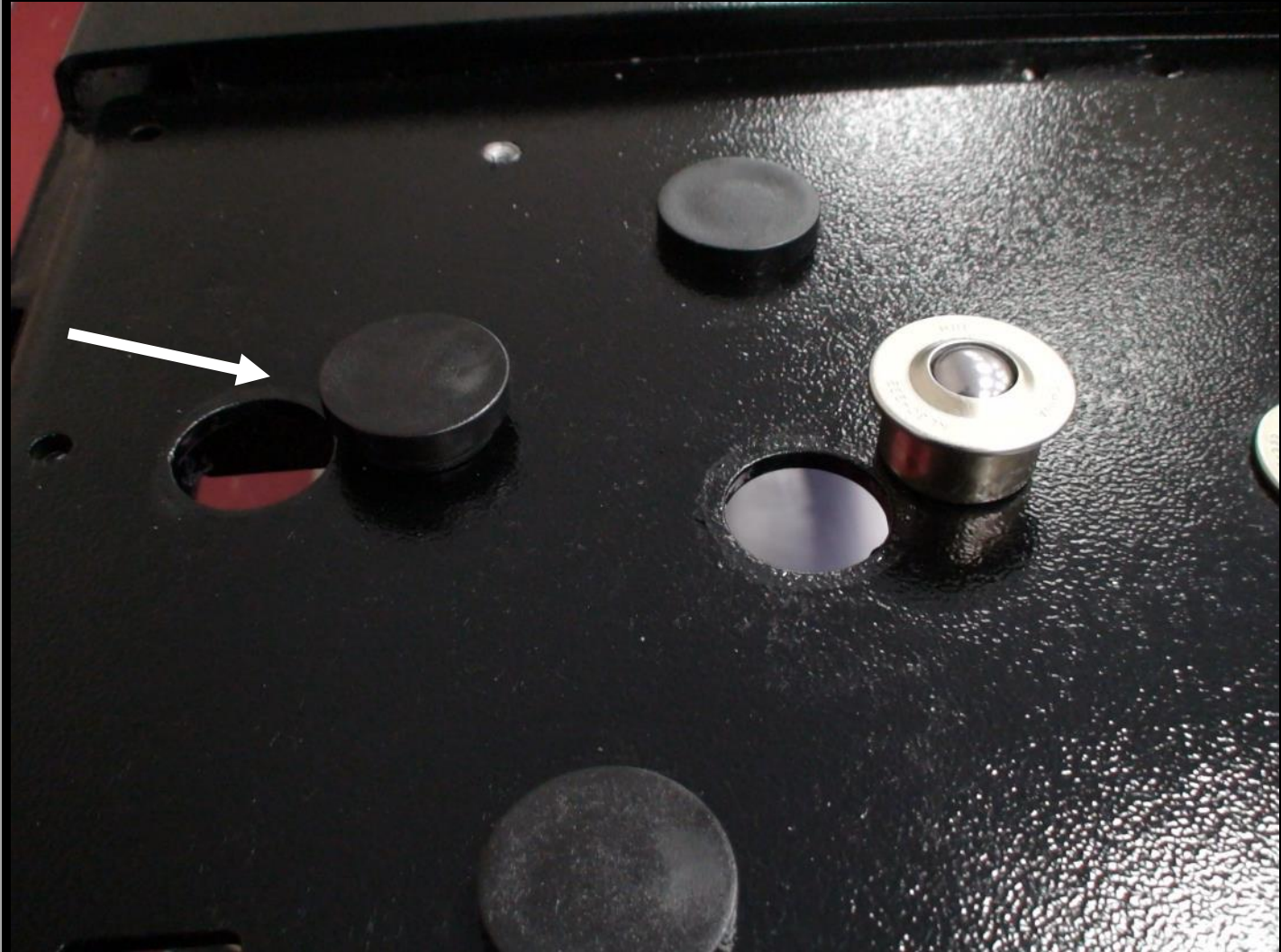
- Low friction for ease movement
- Low maintenance
- Ease of replacement



PLASTIC INSERT

19 plastic inserts in each slip plate in addition to rollers to distribute heavier loads evenly

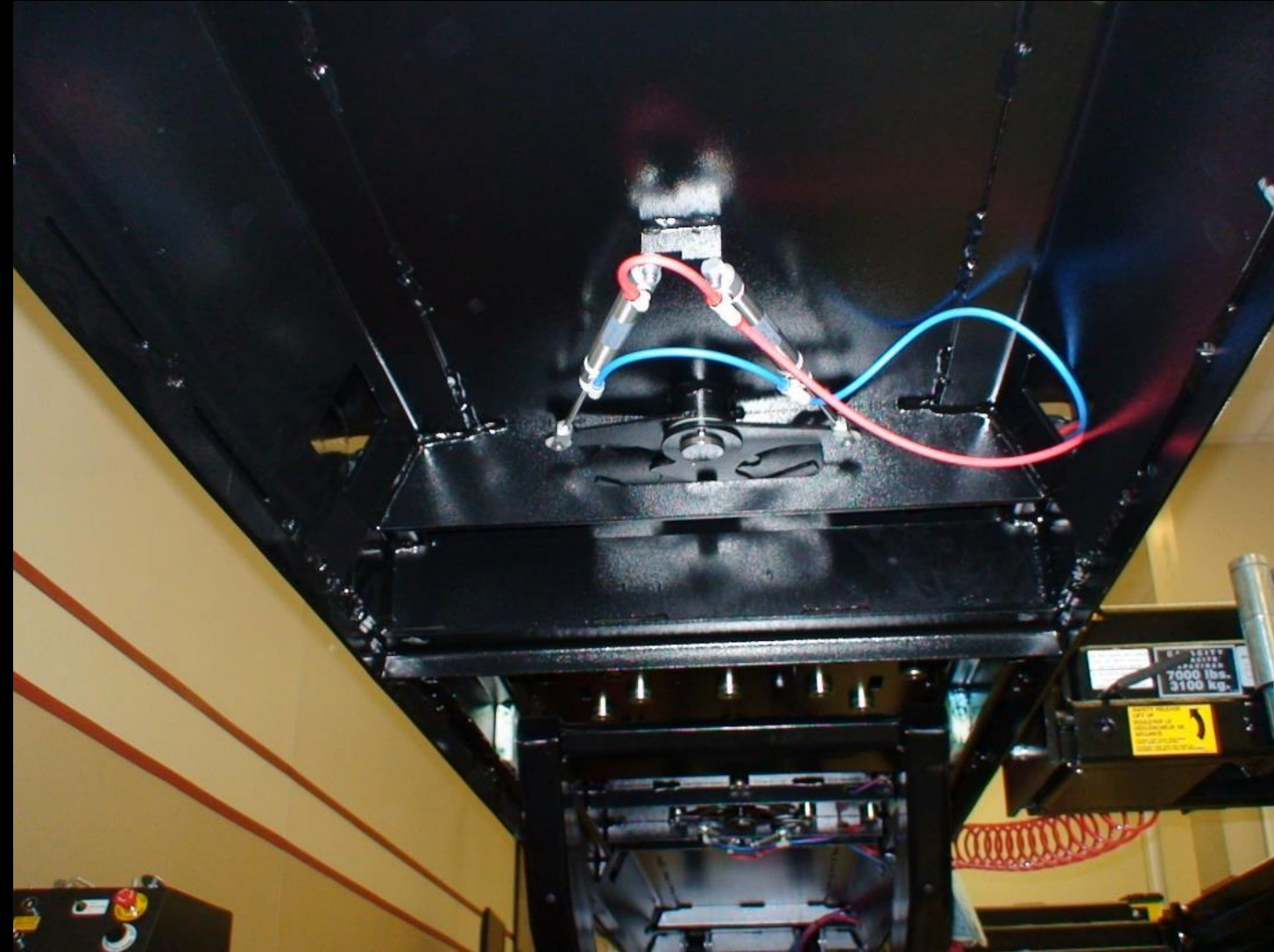
- Easily removable for replacement or service



RUNWAYS

Heavy duty constructed runways with added gussets welded to the under side to transfer loads from the outer side of runways to the centre and flatter surface

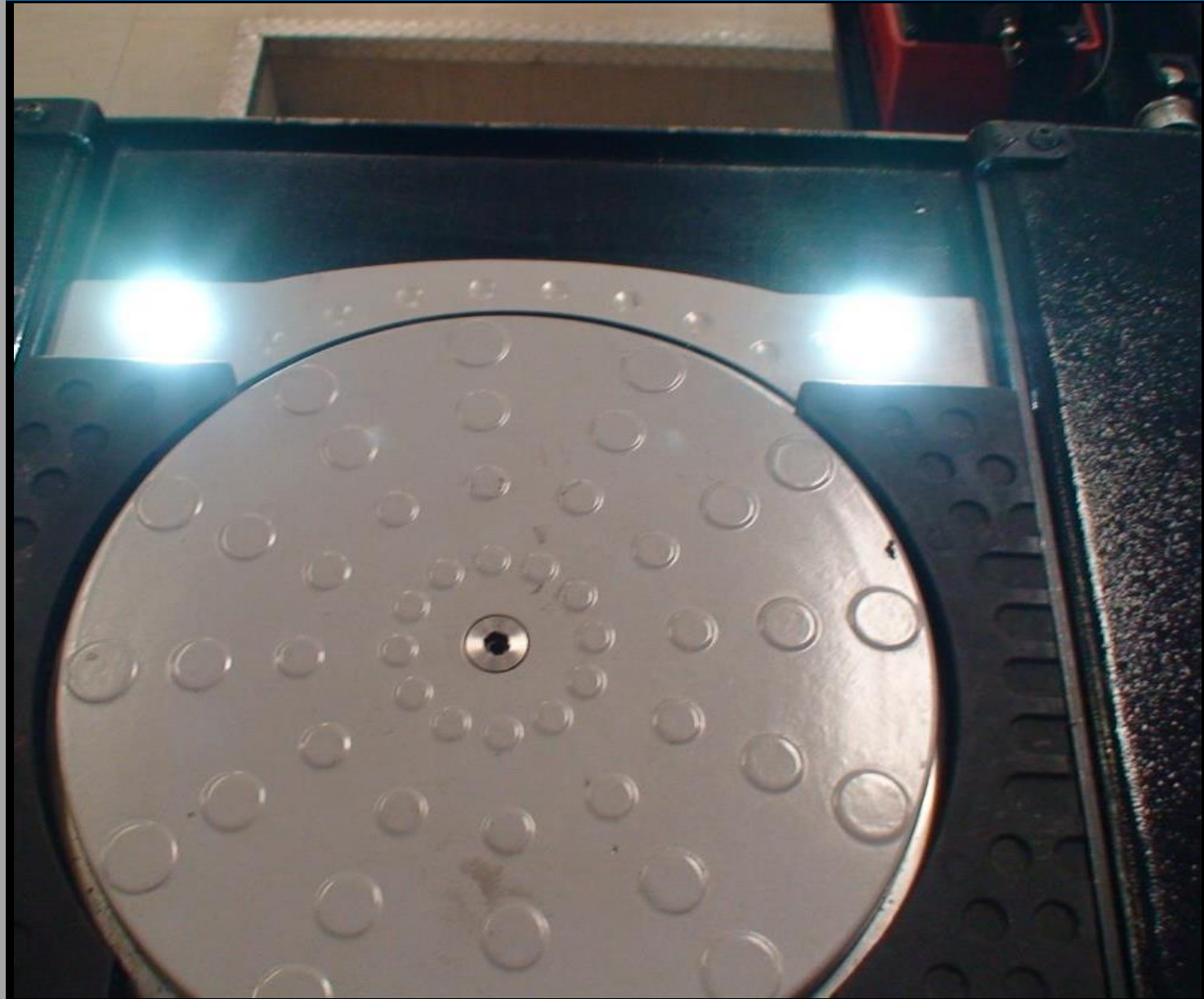
- Improve flatness of the deck
- Reduce torsional stress
- Minimize deck deflection under heavy loads



LIGHTS AND AUTO LOCKS

Patented Lights and Locks models incorporate flush mounted lights in the front turn plates

- The lights are always properly positioned for optimal lighting
- Safer and brighter than an incandescent light at a lower voltage
- The lights come on and off automatically at a pre-determined height



LIGHTS AND AUTO LOCKS

Patented Lights and Locks models incorporate convenient and adjustable undercar lighting in the rear slip plates

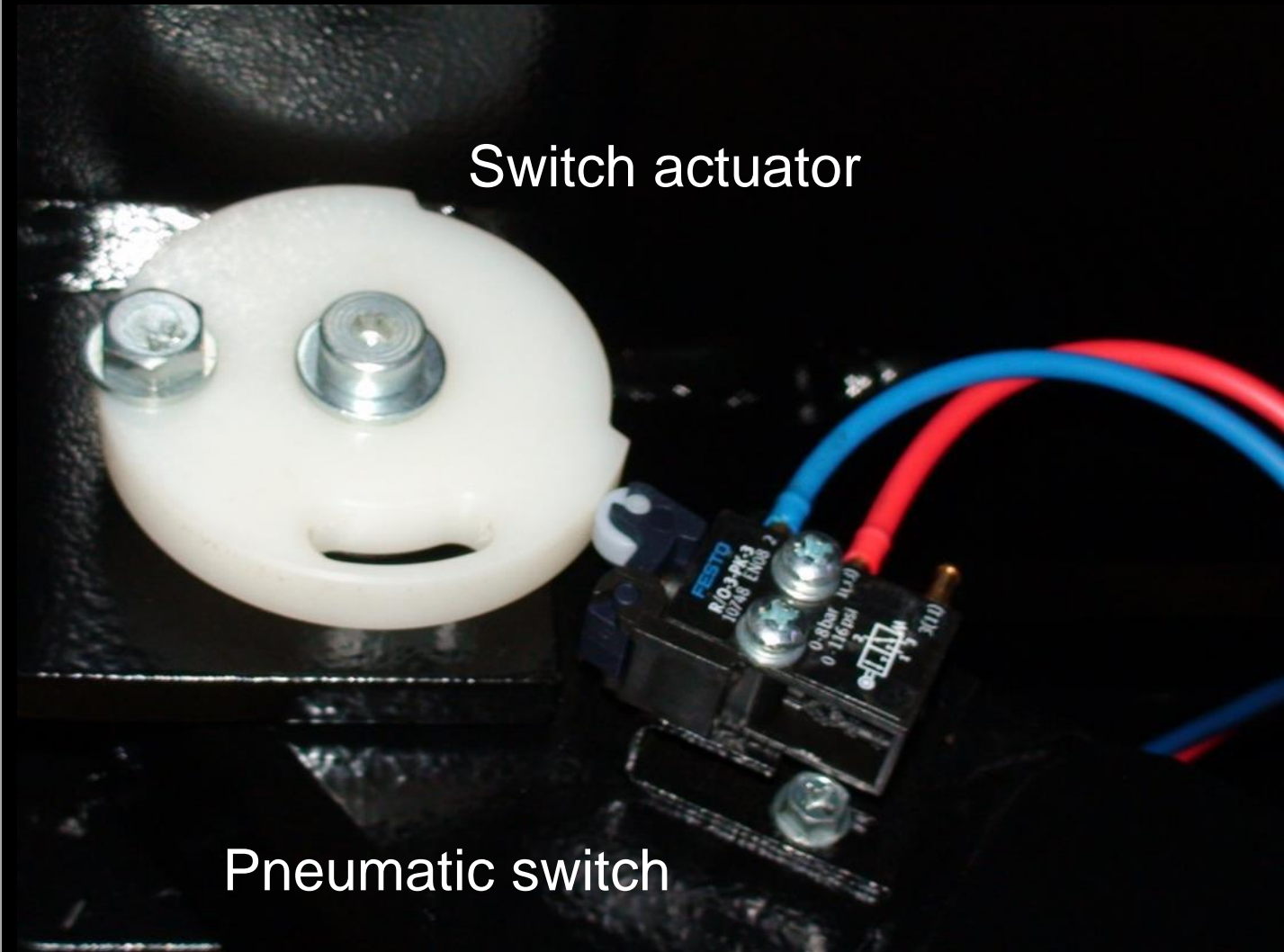
- Adjustable for optimal lighting
- Illuminate the undercarriage of the vehicle
- Safer than an incandescent light
- Very low heat signature
- Comes on and off at a pre-determined height



PNEUMATIC SWITCH

A pneumatic switch mounted to structure controls power to lights only above “Hazardous Zone”

- The switch actuator rotates with the lift as it goes up
- Safety feature, no electrical components under the runways



OPERATING HEIGHTS

- Maximum lifting height of 72"
Adjustable pneumatic switch for lowered ceiling heights or for dedicated operating alignment heights and can be set to as low as 45"



APPROACH ANGLE

The approach angle is greatly reduced to 11 degrees thanks to a 52" long approach ramp

Provides additional ground clearance for vehicles with lower ride heights or low clearances due to aero packages for example



RUNWAY HEIGHT

Superior engineering and advanced manufacturing processes along with exclusive hydraulics for a lower deck height

The runway height is approximately 10 inches when fully collapsed



WORK STEPS

Work steps that can be moved (8 positions) along side of runways

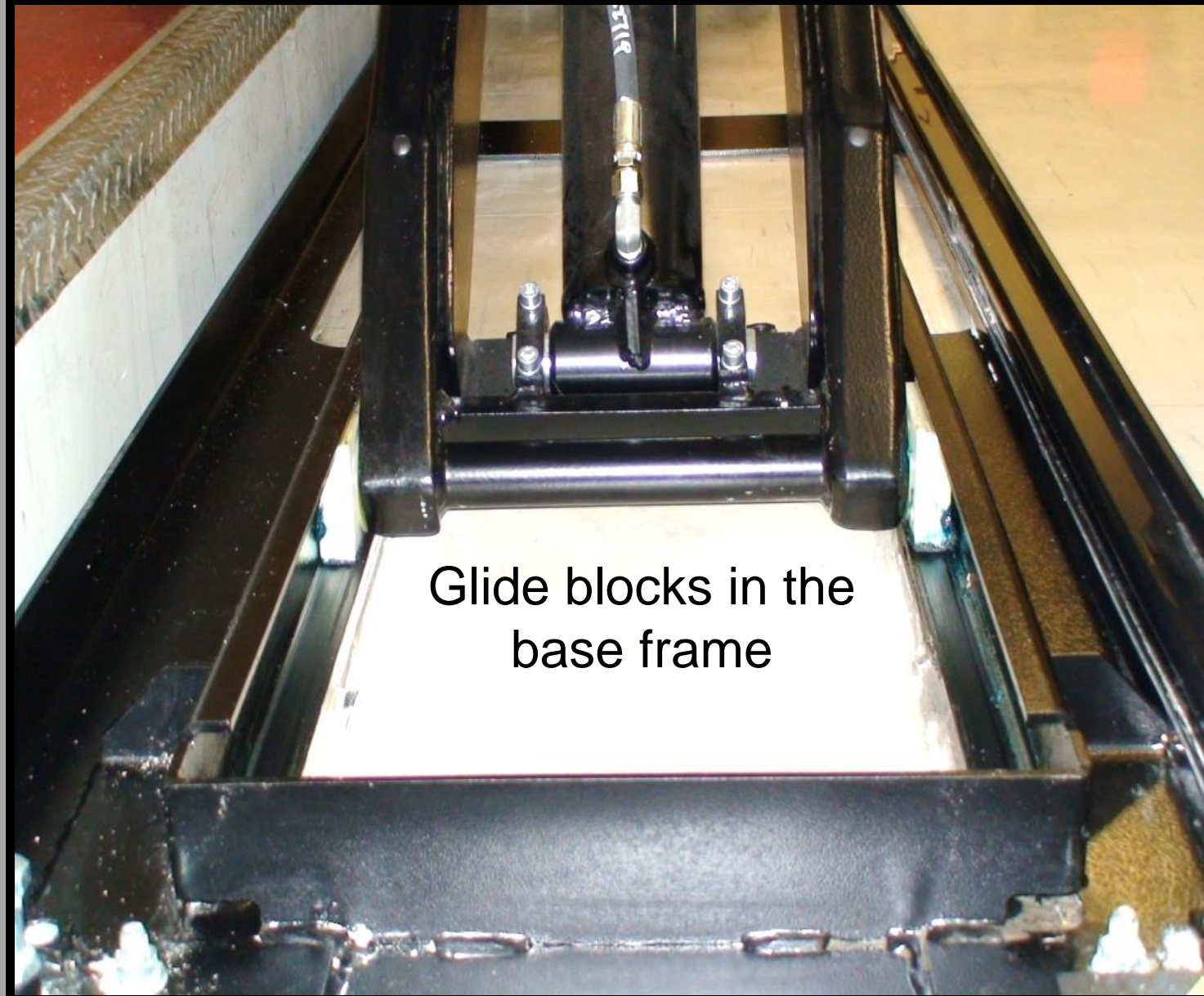
- Conveniently allows access for under hood or entry in to the vehicle with ease and without having to lower vehicle all the way down
- Can be removed when not in use and stored under the front of the rack



GLIDE BLOCKS

Contained glide block tracks, on the base frame

- Containing the glide blocks reduces contaminant intrusion behind the block, reduces wear and tear
- The U shape channels limit the block's tilting action. The block remains flat and distribute the load evenly along its gliding surface



Glide blocks in the
base frame

GLIDE BLOCKS

Contained glide block tracks, on the runway

- Increased bearing support area
- Linear glide movement
- Longer life cycle



GLIDE BLOCKS

Cutaway view of the glide block. Notice the steel reinforcement

- Reduces torsional load effect
- Minimizes radial stress
- Prolonged life cycle | reduced maintenance
- Superior than non-reinforced glide blocks



PIVOT PINS

Chrome plated pins on all pivot points that run on fiber wound self lubricated bushings

CHROME SURFACE

- Last longer than other materials
- Does not produce noise under loads
- Requires no maintenance



HYDRAULICS

Two (2) high quality lifting cylinders are located in each scissor assembly four total

The lift has 4 cylinders, 2 masters and 2 slaves for better synchronization and equalization



SAFETY LOCKS

Safety lock mechanism improved with a 22mm thick both top and bottom lock bars from original 19mm and has 18 secure lock positions through full lift height

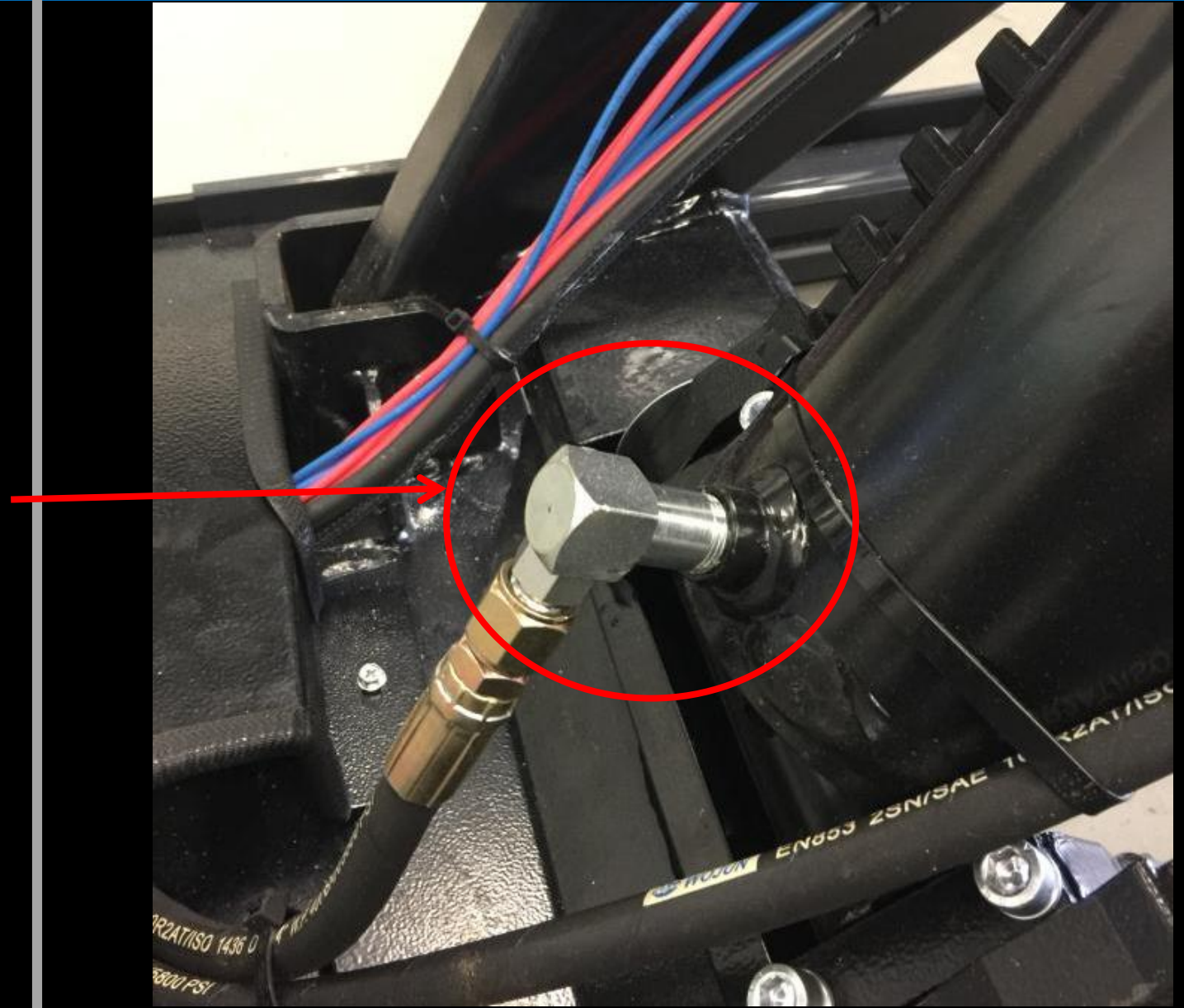
Laser cut and side-to-side matched locks, ensure a level platform at all heights



SAFETY VALVE

Hydraulic safety valves (velocity fuses) installed on both primary cylinders allowing added safety in the event of a leaking hydraulic hose (burst)

The safety valve prevents the lift from rapidly descending in the case of a catastrophic failure or human error



SURFACE FINISH

Structure has a durable powder coat finish capable of withstanding the elements for many years



CONTROLS ON CONSOLE

Safety release button, raise/lower buttons

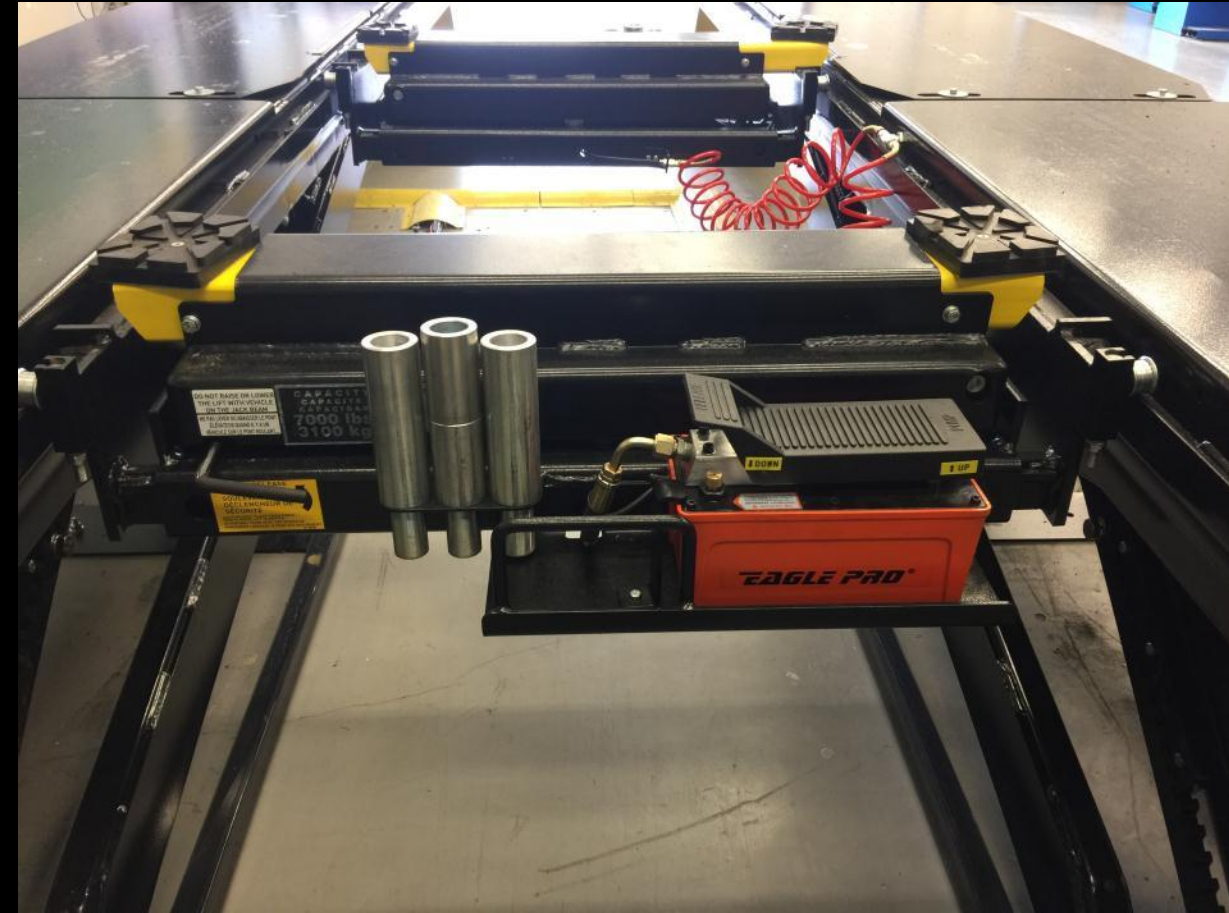
'E' stop and if equipped with Lights and Locks, lock/unlock switch for locking mechanism on turn plates and slip plates

All mounted so the operator has a safe position to view lift function

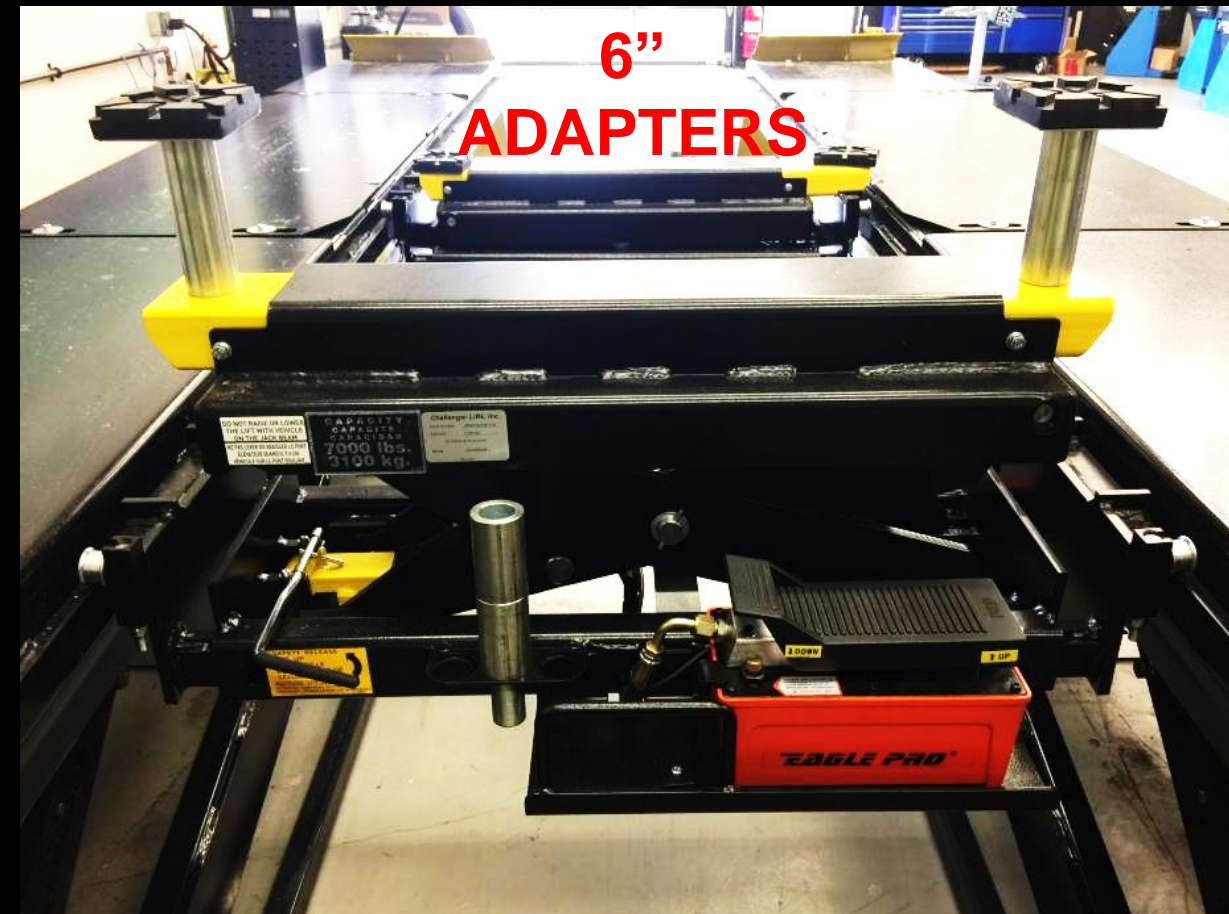
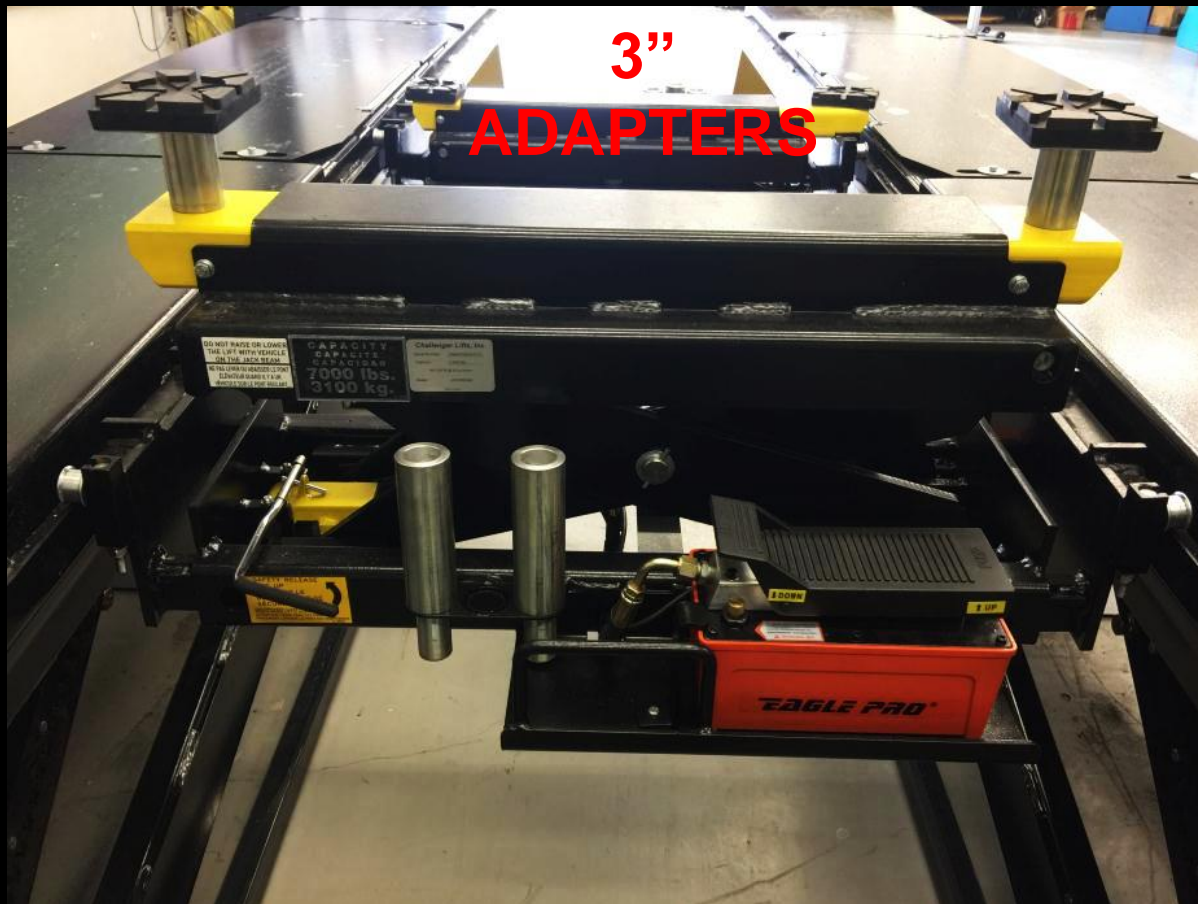


7K ROLLING JACK BEAM

- Rolling jacks glide on rails via four rollers
- Air over hydraulic ensure a smooth and fast action
- Lower to deck height, providing ample vehicle clearance even for those lowered vehicles
- One front and one rear jack
- Two position locks



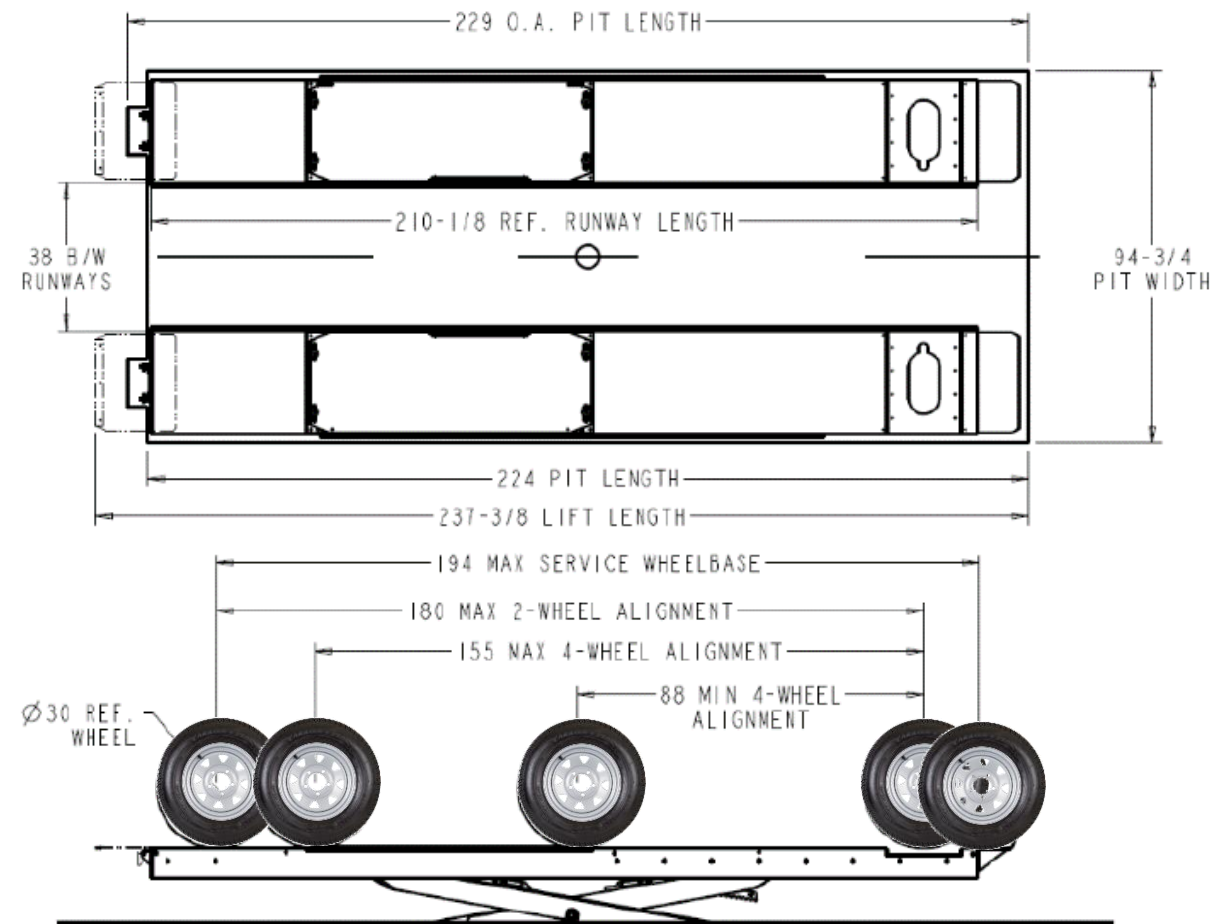
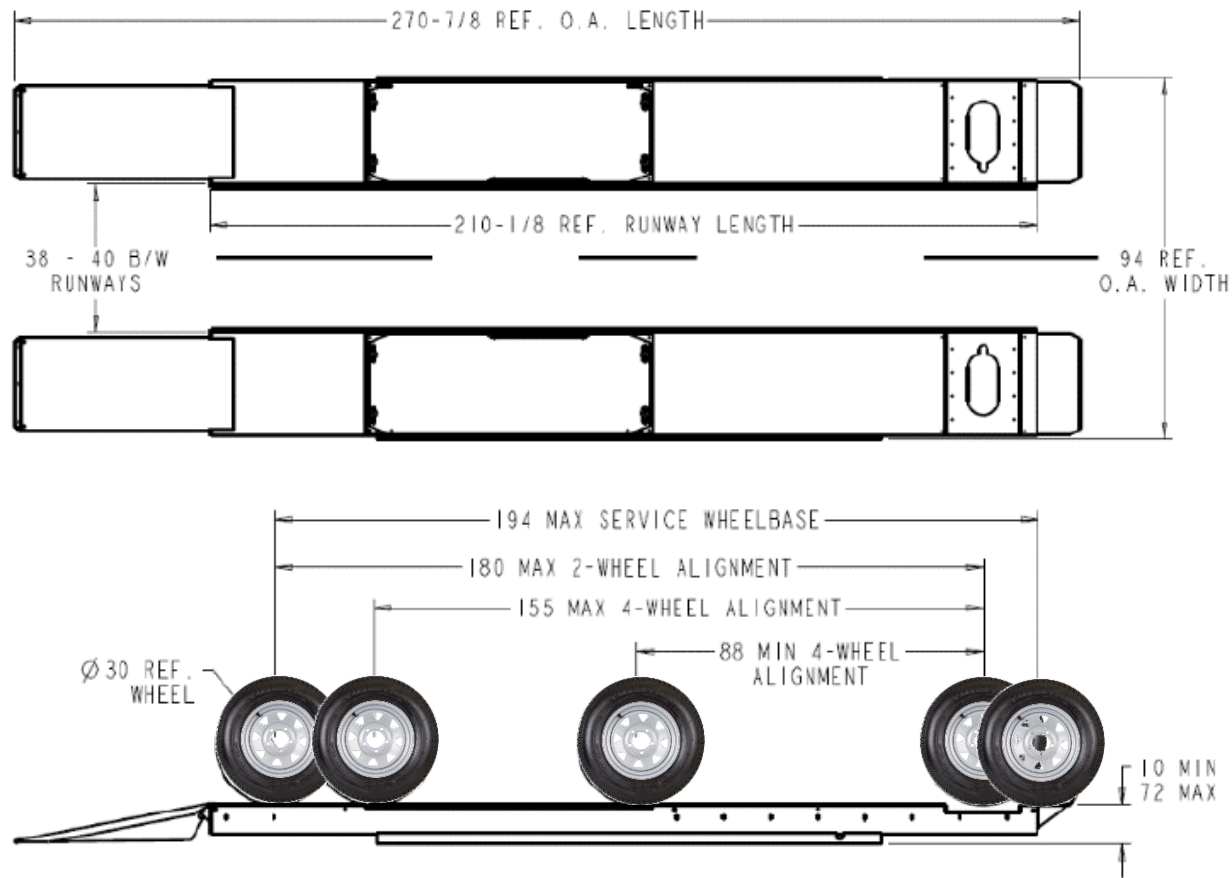
7K ROLLING JACK BEAM WITH 3" AND 6" ADAPTERS



Short Bay, Surface Mount Part Number	EELR783A
Short Bay, Flush Mount Part Number	EELR784A
Standard Bay, Surface Mount with Locks & Lights Part Number	EELR789A
Standard Bay, Flush Mount with Locks & Lights Part Number	EELR790A

Maximum Capacity:		14 000 lbs	6363 kg
Overall Width (min-max):		92½" – 94½" Inches	2350-2400 mm
Overall Length:	Long (SM):	270-7/8 Inches	6880 mm
	Short (SM):	256-3/16" Inches	6507 mm
Maximum Raised Height:		72 Inches	1829 mm
Minimum Lowered Height:		10 Inches	254 mm
Runway Width		26 Inches	660 mm
Max 4-Wheel Alignment	All:	155 Inches	3937 mm
Min 4-Wheel Alignment	All:	88 Inches	2235 mm
Max 2-Wheel Alignment	Long:	180 Inches	4572 mm
	Short:	165 Inches	4191 mm
Max General Service	Long:	194 Inches	4928 mm
	Short:	179 Inches	4547 mm
Lifting Time (approx.):		75 - 85 Seconds: depending on load	
Power Ratings:		230V, 1 Ph, 60Hz, 20A	
Maximum Operating Pressure @ Rated Load:		4600 PSI	
Air Supply requirements:		90 to 120 PSI	
Pneumatic Filtration Oil Type:		Snap-On #IM6 or Equivalent	
Hydraulic Oil Capacity:		Tank size: 4.0 gal	Lift capacity: 6.0 gal
Hydraulic Oil Type:		ISO 32 (10 weight) hydraulic oil	
Shipping Weight:		5490 lbs	2490 kg

Surface / Flush Wheel Base Layouts



For more product information visit us at
<http://www.hofmann-usa.com>