geoliner 320

IMAGING ALIGNER

BREAK THE SPACE BARRIER

MOBILE, FLEXIBLE

- ✓ Short bays
- ✓ Body Shops
- ✓ Gas stations

Snap-on Incorporated

Who We Are

OUR MISSION

The most valued productivity solutions in the world

BELIEFS

We deeply believe in:

- Non-negotiable Product and Workplace Safety
- Uncompromising Quality
- Passionate Customer Care
- Fearless Innovation
- Rapid Continuous Improvement

VALUES

Our behaviors define our success:

- We demonstrate Integrity.
- We tell the Truth.
- We respect the Individual.
- We promote Teamwork.
- We Listen.

VISION

To be acknowledged as the:

- Brands of Choice
- Employer of Choice
- Franchisor of Choice
- Business Partner of Choice
- Investment of Choice

WHAT WE MAKE

Products and services include:

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

OUR WORLDWIDE FOOTPRINT

PRODUCT MANUFACTURING
PRODUCT DEVELOPMENT
DISTRIBUTION
ENGINEERING
TRAINING

Commercial & Industrial Group
Kenosha, Wisconsin

Repair Systems & Information Group
Kenosha, Wisconsin

Snap-on Diagnostics
Lincolnshire, Illinois
San Jose, California
Handheld and PC-based diagnostics products, service and repair information products and diagnostic software solutions

Snap-on Industrial Group
Crystal Lake, Illinois
Kenosha, Wisconsin

Snap-on Conway AR
Undercar equipment manufacturing

Mitchell 1
Poway, California
Vehicle repair information and business management systems

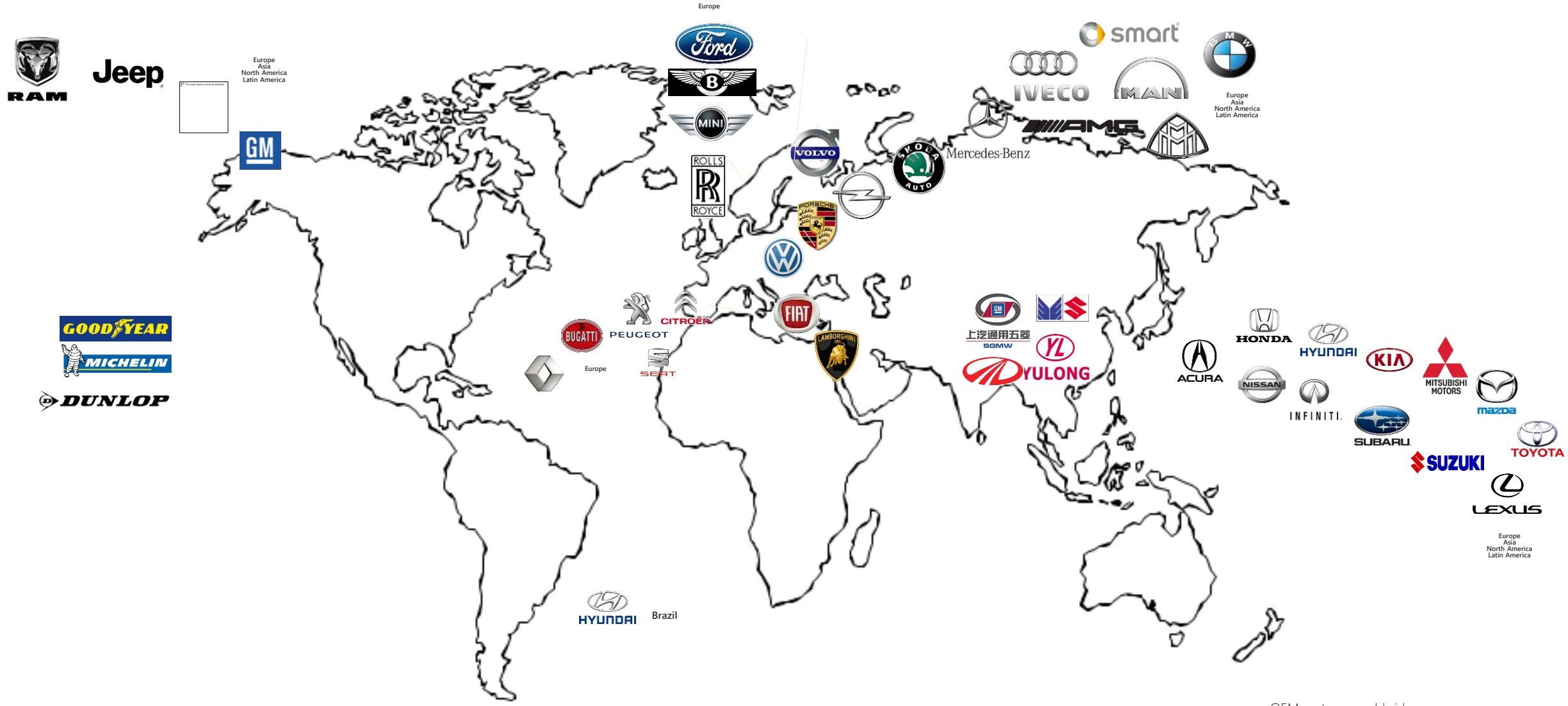
Pro-Cut International
West Lebanon, New Hampshire
On-car brake lathes, related equipment and accessories

Snap-on Business Solutions
Richfield, Ohio *Leading solutions provider for electronic parts and aftersales business performance and improvement data*

Snap-on Credit LLC
Libertyville, Illinois
Financing solutions

Car-O-Liner
Wixom Michigan

OUR PARTNERS WORLDWIDE



OEM partners worldwide.
North and Latin America may include Asian and European partners as well

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

WHO IS HOFMANN ?

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

- IMAGING WHEEL ALIGNMENT EQUIPMENT
- WHEEL BALANCERS
- TIRE CHANGERS
- ALIGNMENT RACKS

for professional users performing critical tasks

WHERE SECOND BEST IS NOT AN OPTION

1931
The company Gebrüder Hofmann OHG is founded by Dyonis and Roman Hofmann in Darmstadt/Germany.

1934
The first balancers for industrial applications are launched into the market. A subsidiary is founded in the United Kingdom.

1949
The first mechanical balancer is developed for garages and work shops.

1961
The ER2 wheel balancer is introduced and manufactured until 1978. Even today those balancers can be found in workshops, fully operational.

1969
Start of automotive lift production.

1971
The geodyna series of wheel balancers are launched into the market. The name consists of geo for geometric wheel data and dyna for dynamic measurement in two planes. Geometric wheel data entry is patented for Hofmann wheel balancers worldwide.

1980
Wheel aligners are introduced to complete the garage equipment range.

1987
The launch of the geodyna 88 sees the introduction of the patented optimization mode on wheel balancers. This mode allows optimization of the tire position relative to the rim.

1997
Hofmann becomes part of the Snap-on Corporation, the world's largest tools and equipment company

1998
The patented Virtual Plane Measurement technique (VPM) is introduced for all wheel balancers. This technique ensures the most accurate balance results and is insensitive to ambient conditions.

2004
The geodyna optima, the first fully automatic wheel balancer with diagnostic capability, is launched at the Frankfurt Automechanika show.

2011
Hofmann celebrates 80 years of quality, expertise and innovation.

SNAP-ON EQUIPMENT

A NEW STANDARD IN AUTOMOTIVE EQUIPMENT SERVICE

Snap-on Equipment has over 300 factory-trained service technicians nationwide with an average of 17 years of experience, representing the industry's largest repair & maintenance organization.

When you need installation, training or service, we'll have the right tools, genuine OEM replacement parts and the knowledge to satisfy your needs.

Your business is servicing automobiles. Keeping your equipment running smoothly and profitably is ours.

Highly skilled technicians equipped with the right tools and latest technology will ensure that repairs are done right, every time.

Snap-on®

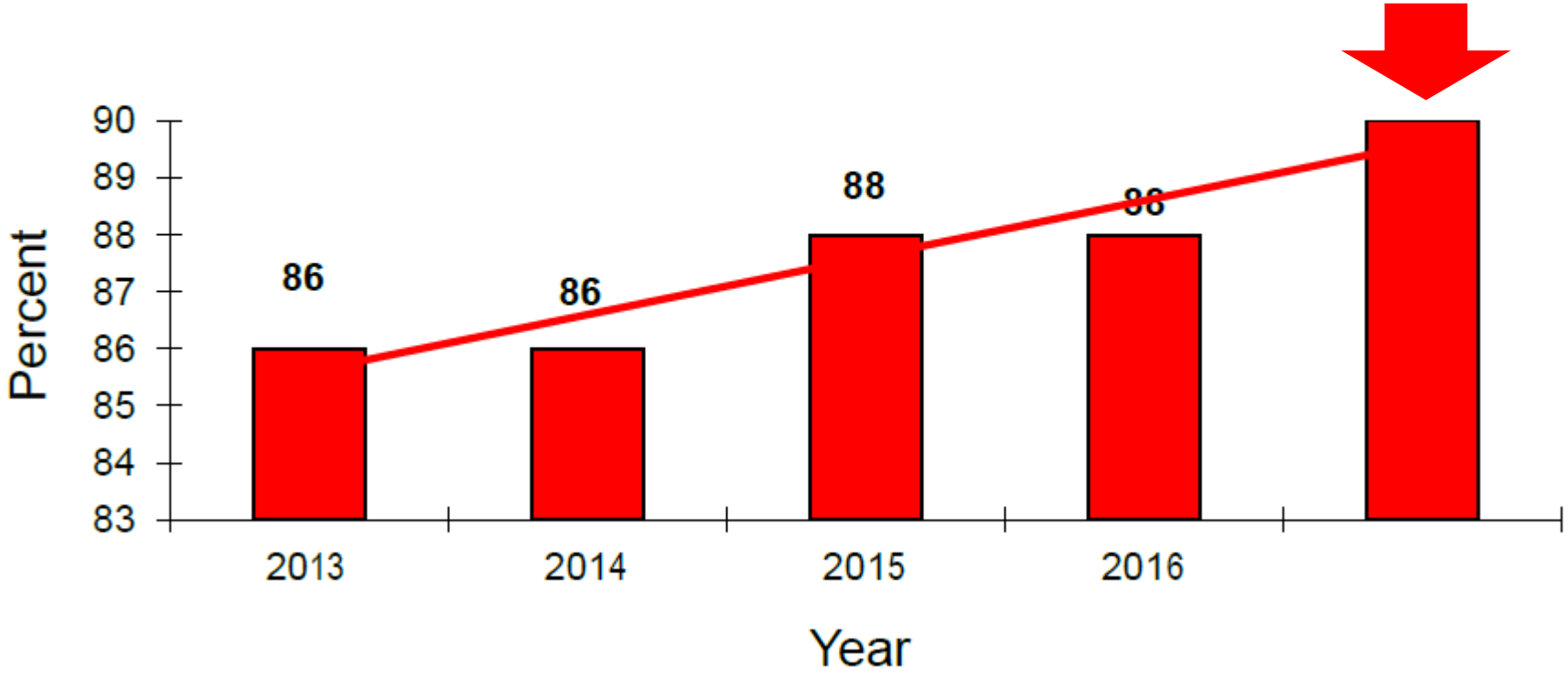
Equipment Service On-Site

SNAP-ON EQUIPMENT KEY PERFORMANCE INDICATOR

The most efficient service repair technicians in the industry

90% OF ALL SERVICE CALLS ARE COMPLETED WITHIN 48 HOURS

Our service technicians carry an array of repair parts on their trucks



BEST IN CLASS TRAINING

TRAINING WHEN YOU NEED IT

- AT YOUR OWN PACE
- CERTIFIED COURSE

- OPTIMIZE YOUR KNOWLEDGE
- MINIMIZE YOUR TRAINING EXPENSE
- INCREASE YOUR SHOP'S PRODUCTIVITY

The Snap-on Training group develops and delivers training for individuals as-well-as for groups.

- Wheel alignment geometry Level 1 and Level 2
- OEM specific wheel alignment training
- Equipment specific training
- Group assessment `

OUR LEGACY

Patents

Find prior art | Discuss th

Method and apparatus for determining the alignment of motor vehicle wheels

US 5535522 A

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

ABSTRACT

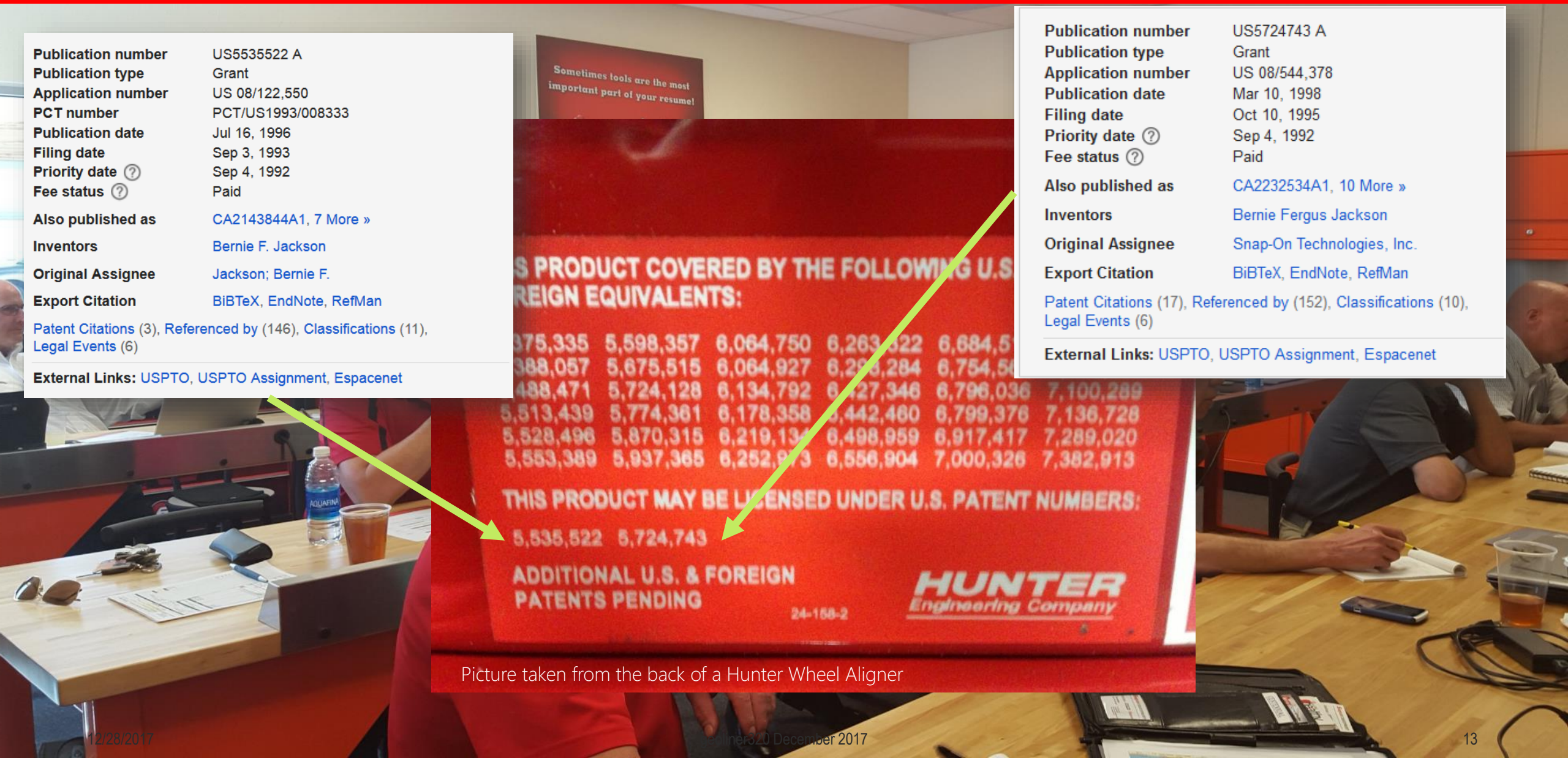
An apparatus for determining the alignment of a motor vehicle's wheels and including targets (22L, 22R, 24L, 24R) which either form part of the wheels or are attached thereto, an optical sensing means such as a television camera (30) for viewing the targets, an electronic processing means (32) connected 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.

OUR COMPETITORS USE OUR TECHNOLOGY

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



Picture taken from the back of a Hunter Wheel Aligner

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

BULT FOR SPEED

geoliner® 320

IMAGING ALIGNER

BUILT FROM THE GROUND UP WITH

Mobility and Floor Space in mind

geoliner® 320

IMAGING ALIGNER

ERGONOMICALLY DESIGNED CABINET

- ✓ Clamp holders
- ✓ Battery chargers
- ✓ Pod holders
- ✓ Reference Pod Storage

Every thing in one place

geoliner® 320

IMAGING ALIGNER

- Solid state design and construction, the geoliner 320 Wheel Alignment System is built for reliability and durability providing many years of service

geoliner® 320

IMAGING ALIGNER

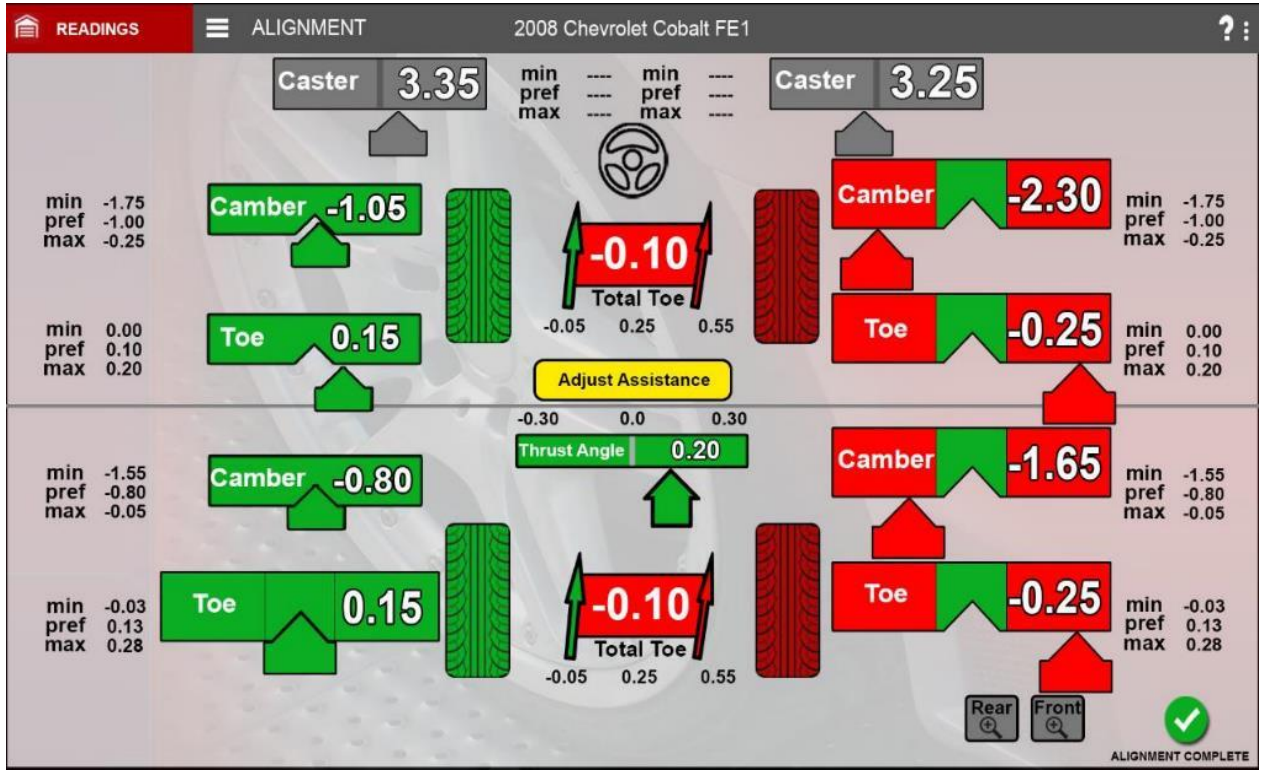
- Rolling compensation
- Fast, easy
- Cuts down on getting measurement from all-wheel-drive vehicles
- Get it in and get it out in less time

geoliner® 320

IMAGING ALIGNER

- Get to the alignment readings quickly
- Determine what needs to be adjusted
- Proceed with the adjustments
- Print the results
- Move on to the next vehicle

The EASIEST way to grow alignment business



geoliner® 320

IMAGING ALIGNER

- Wireless and cordless
- 18 volt Monster batteries with chargers
- Extended usage, last all day
- Hot swappable
- No cables, increased reliability

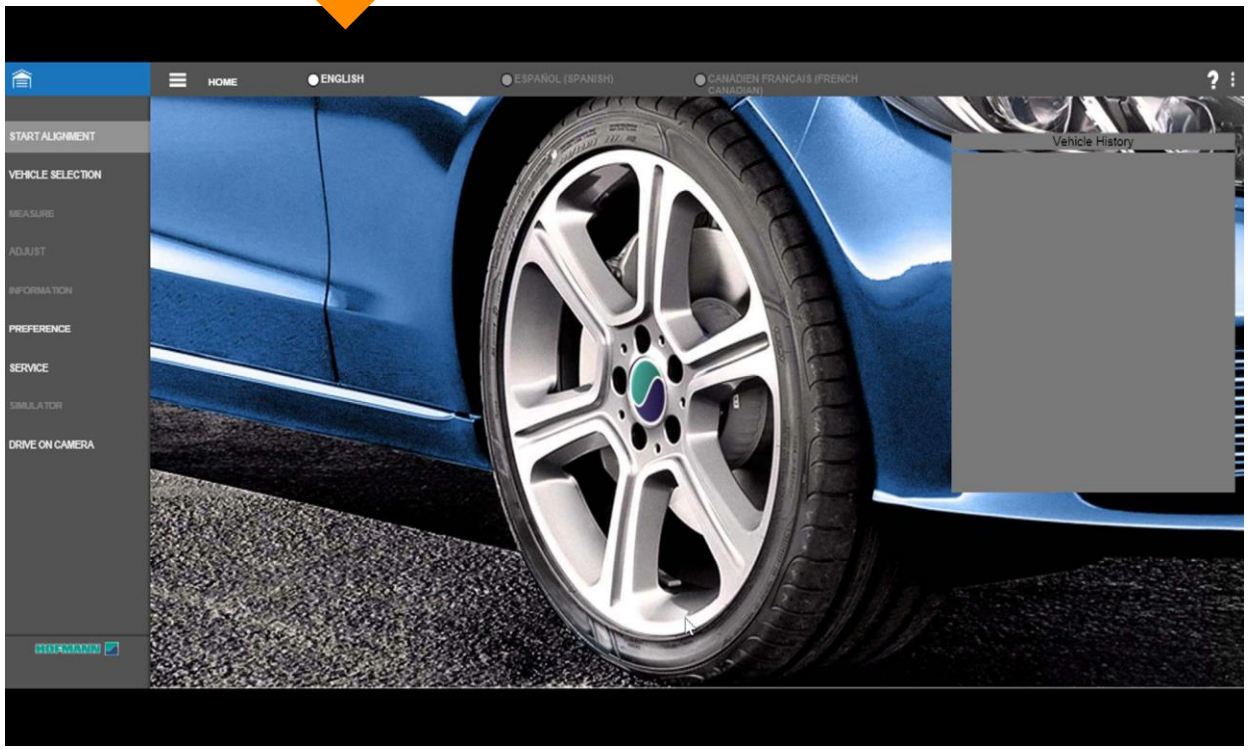
geoliner® 320

IMAGING ALIGNER

- Multiple languages of your choice, are conveniently positioned on the top tool bar for simple and fast selection
- Chose one language for display while using another for printing

LANGUAGES

One on screen language
One print language



geoliner® 320

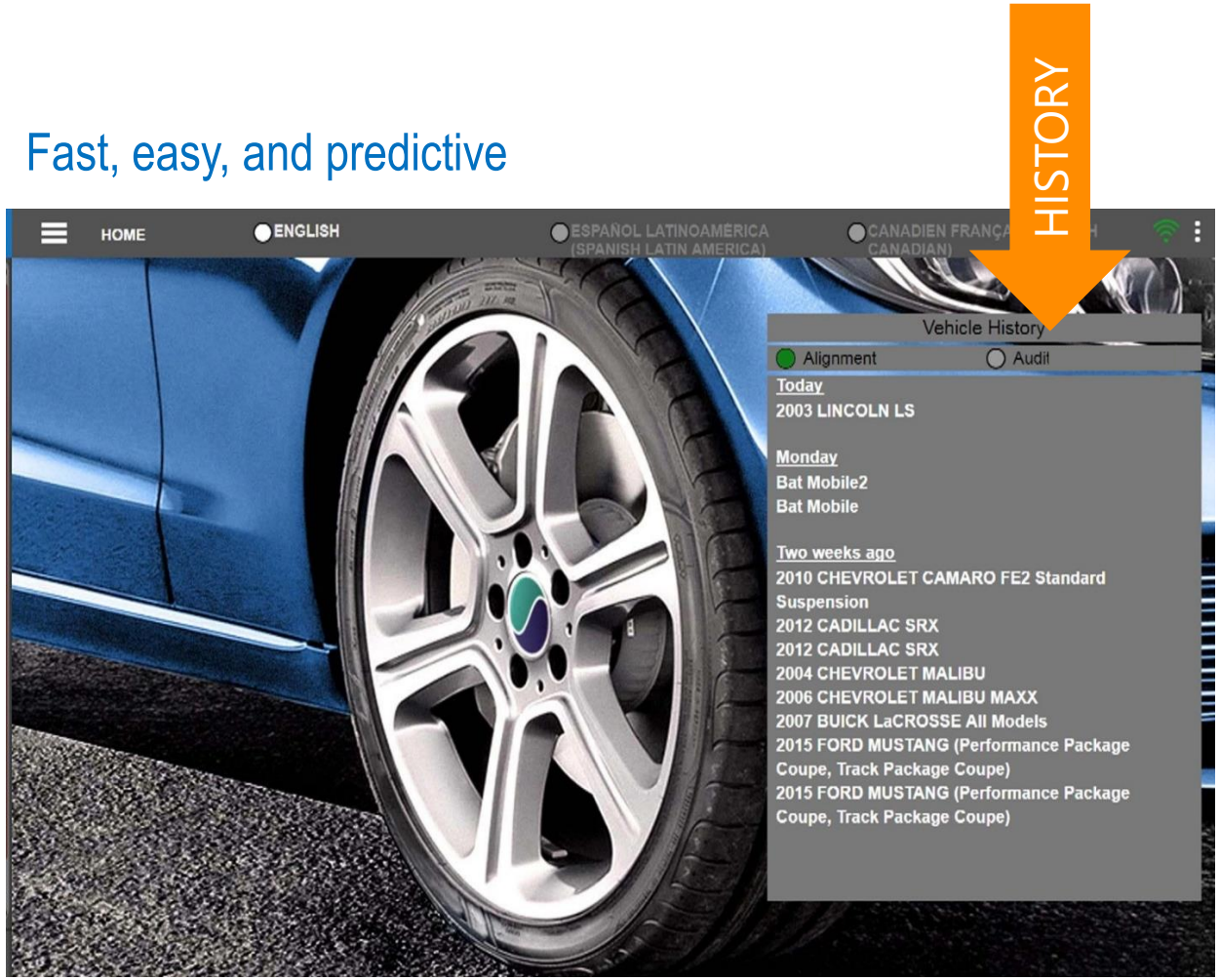
IMAGING ALIGNER

3 methods of selecting the car

1 VIN reader (linear and QR codes)
2 Manual (Make, Model, Model Year)
3 From the vehicle history file

- Faster vehicle selection
- Manual entry has predictable search

Fast, easy, and predictive



geoliner® 320

IMAGING ALIGNER

- Alignment specifications
- TSB' Recalls Info
- Special pre-alignment requirements

geoliner® 320

IMAGING ALIGNER

- Instant software updates
  OVER THE AIR specs
- Vehicle undercar repair information
- Always be up-to-date

geoliner® 320

IMAGING ALIGNER

TECHNICAL SERVICE BULLETINS

Specifications
Torque specs
Suspension information
Steering information
Repair information

ALL WHEEL DRIVE POWER TRANSFER UNIT FAILURE

TECHNICAL SERVICE BULLETIN

Reference Number(s): 21-05-00, Date of Issue: July 28, 2000
Related Ref Number(s): 21-05-00

ARTICLE BEGINNING

ALL WHEEL DRIVE POWER TRANSFER UNIT FAILURE

Model(s): 1996-2000 Chrysler (NS) Town & Country: 1996-2000 Dodge (NS) Caravan: 1996-2000 Plymouth (NS) Voyager: 1996-2000 Chrysler (GS) Voyager (International Markets): 2001 Chrysler (RS) Town & Country: 2001 Dodge (RS) Caravan: 2001 Plymouth (RS) Voyager: 2001 Chrysler (RG) Voyager (International Markets)

Group: Transmission

Bulletin No.: 21-05-00

Date: July 28, 2000

DISCUSSION

The All Wheel Drive (AWD) system used on Minivans uses a Power Transfer Unit (PTU) that connects the front drive components to the rear drive components. The PTU may fail if identical tires are not used on all four wheels. This kind of PTU failure is the result of extreme heat build up caused by a continuous difference of rotation speeds and torque transfer between the front and rear drive components when different size tires are used on the front wheels versus the rear wheels.

A difference in tire circumference measurements as small as 0.5% is enough to cause a PTU failure PTU failures related to mismatched tires are not warrantable.

Important points to be remembered and to remind AWD minivan vehicle operators:

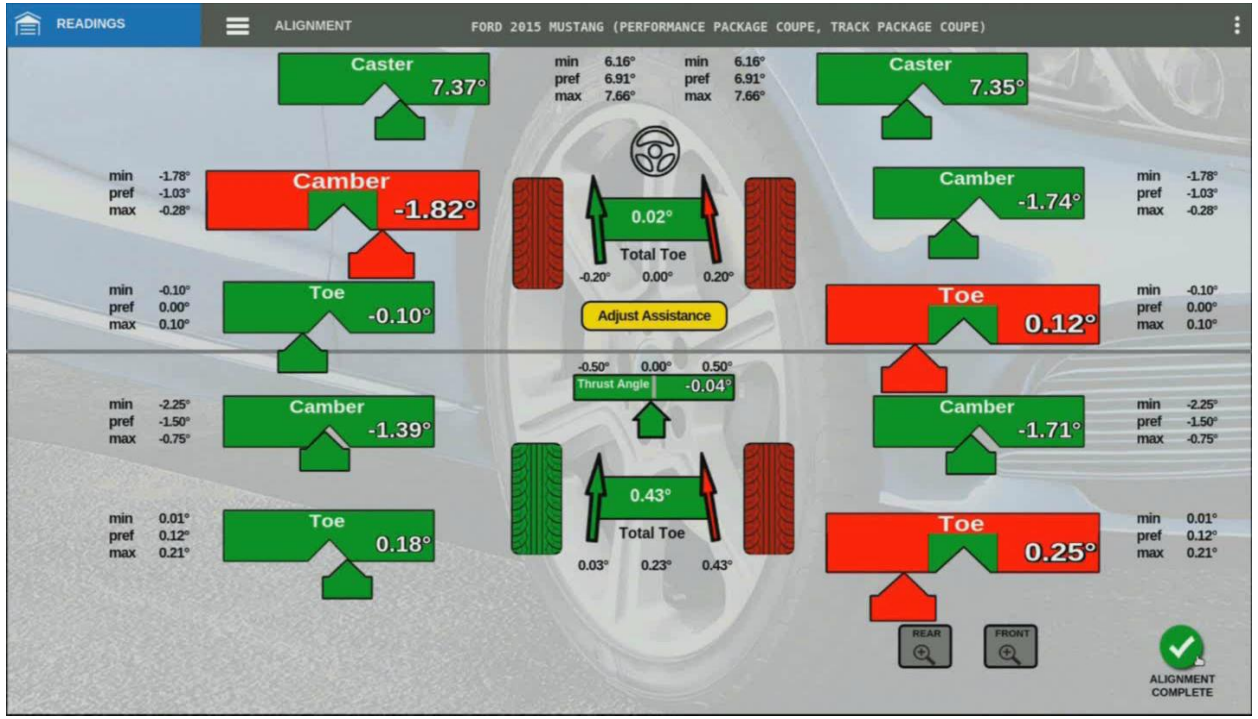
- Tires should be rotated every 7,500 miles or less to maintain even tread wear.
- Correct tire air pressure must be maintained.
- When tire replacement is necessary all 4 tires must be replaced with a matched (same manufacturer, model, and size) set.

geoliner® 320

IMAGING ALIGNER

- Simple meters deliver a powerful visual aid for fast and precise adjustments with real time feel and Dock and Lock feature

DOCK AND LOCK METERS



REAL TIME ACTION

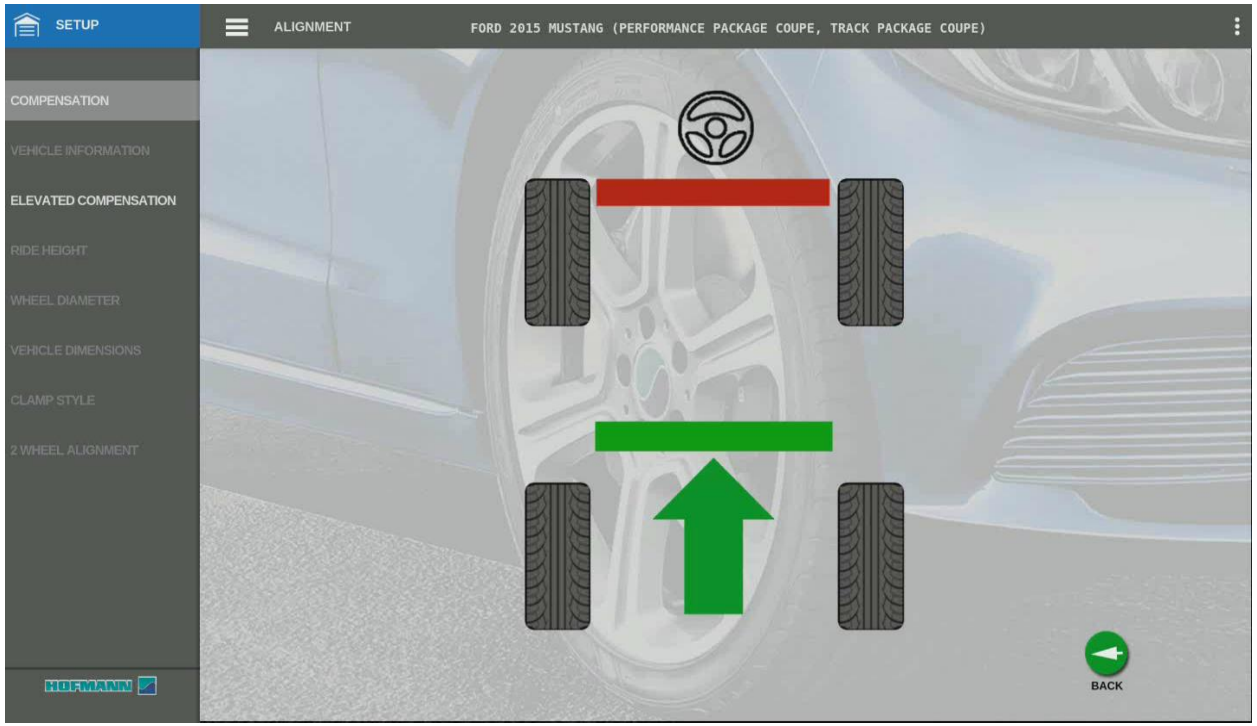
geoliner® 320

IMAGING ALIGNER

HYPER FAST ROLL BACK | NO WAITING

- Fast and no wait vehicle positioning means you get to the numbers in less time
- Start adjusting faster
- Get more alignments out the door

WATCH IT HERE IN REAL TIME



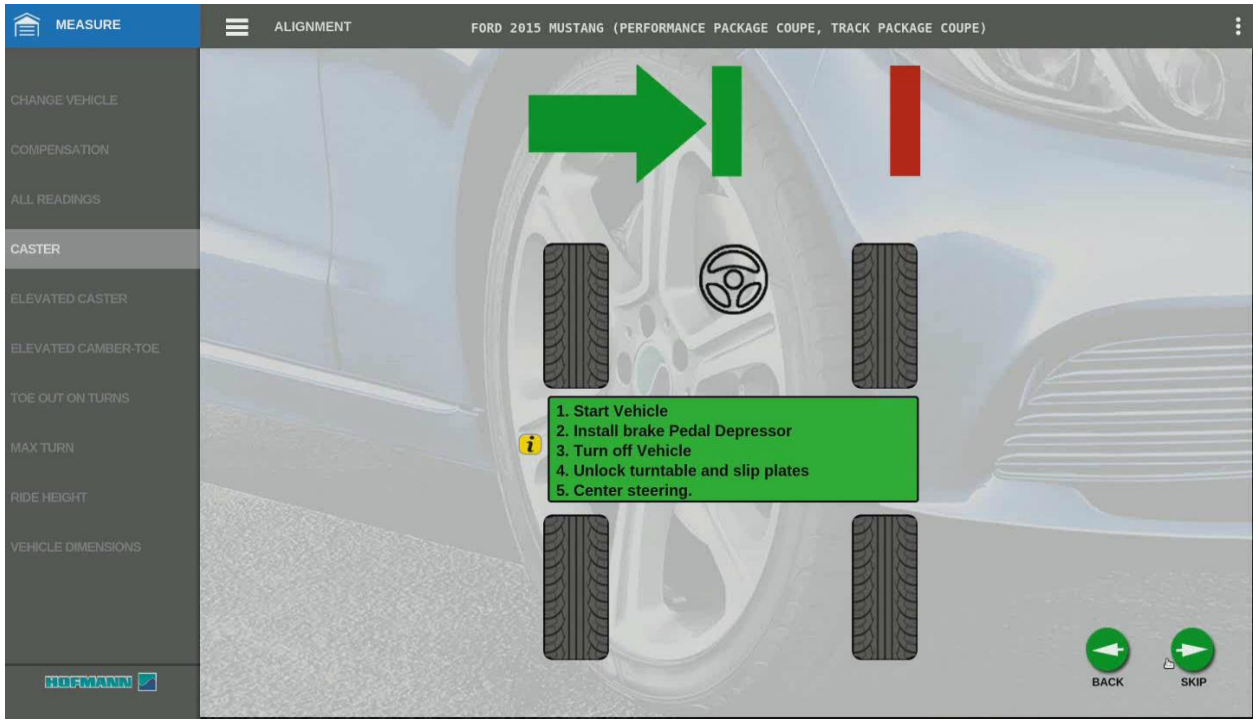
FAST ROLL BACK - NO WAIT

geoliner® 320

IMAGING ALIGNER

- No wait and no stop caster | SAI measurements Continuous uninterrupted measurement
- More speed where it counts

WATCH IT HERE IN REAL TIME



FAST CASTER MEASUREMENT

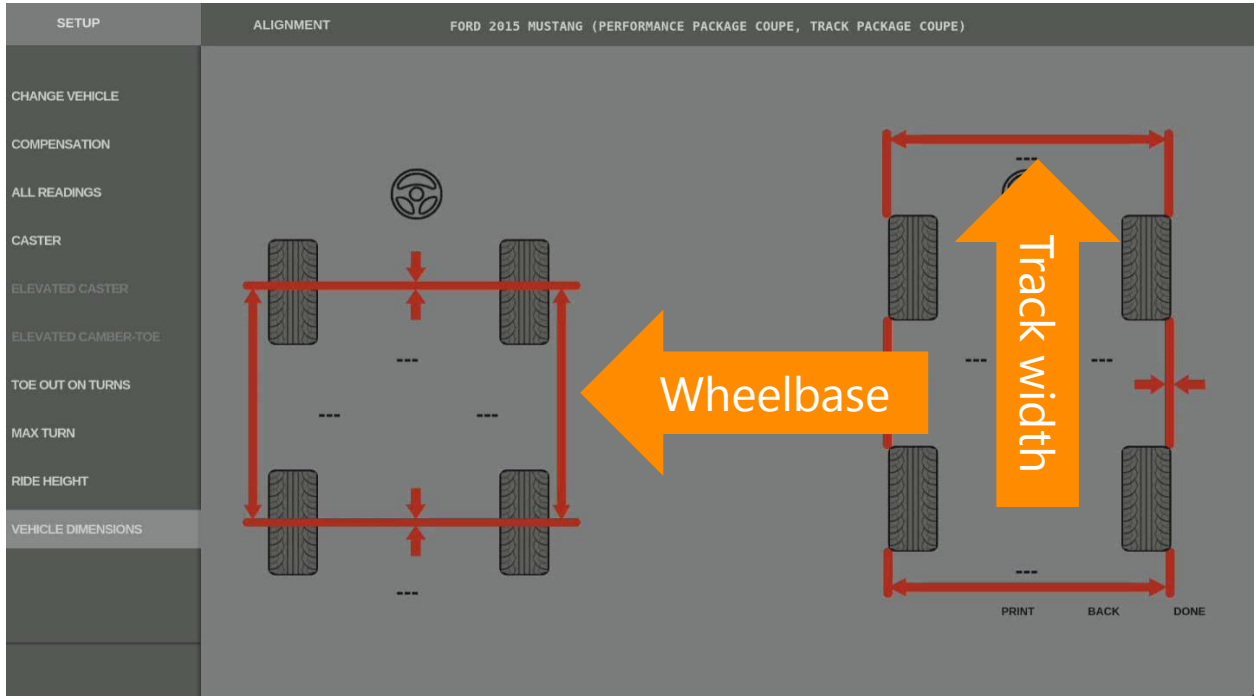
geoliner® 320

IMAGING ALIGNER

Intelligent application, screen only displays if there is a reason for it

- Vehicle has been in a crash
  Came from a body shop
  Powerful diagnostic tool

WATCH IT HERE IN REAL TIME



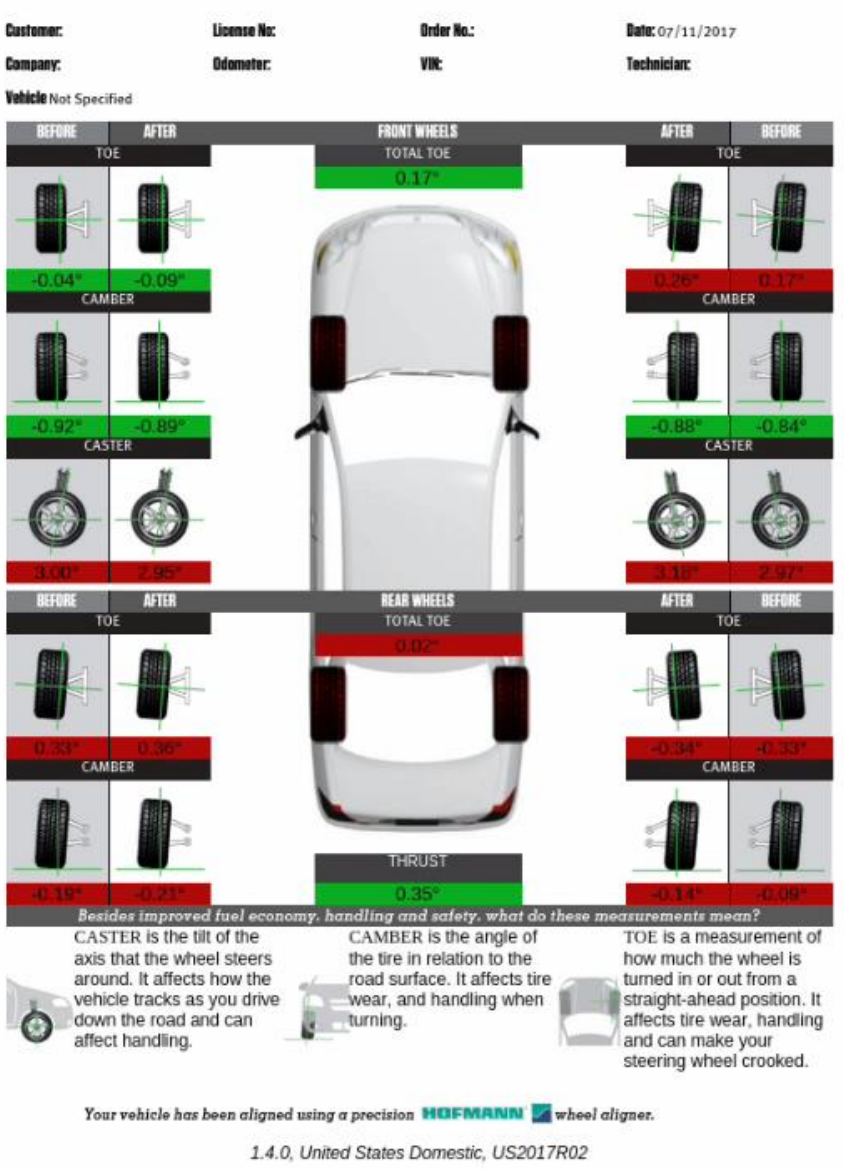
How would you like to know if the know of the vehicle can be adjusted before you start?

geoliner® 320

IMAGING ALIGNER

Selection of various printout options to suite your taste

- Customer friendly before and after print out



geoliner® 320

IMAGING ALIGNER

Selection of various printout options to suite your taste

- Technician's report
- All angles on one easy to read page

Date:07/11/2017
Technician:
Order No.:

Customer:
Company:

License No:
Odometer:

Vehicle Not Specified
VIN:

		LEFT						RIGHT				
		FACTORY SPECIFICATION						FACTORY SPECIFICATION				
		INITIAL	Min	Preferred	Max	FINAL		FINAL	Min	Preferred	Max	INITIAL
FRONT	TOE	-0.04°	-0.10°	0.00°	0.10°	-0.09°		0.26°	-0.10°	0.00°	0.10°	0.17°
	CAMBER	-0.92°	-1.78°	-1.03°	-0.28°	-0.89°		-0.88°	-1.78°	-1.03°	-0.28°	-0.84°
	CASTER	3.00°	6.16°	6.91°	7.66°	2.95°		3.18°	6.16°	6.91°	7.66°	2.97°
REAR	TOE	0.33°	0.01°	0.12°	0.21°	0.36°		-0.34°	0.01°	0.12°	0.21°	-0.33°
	CAMBER	-0.19°	-2.25°	-1.50°	-0.75°	-0.21°		-0.14°	-2.25°	-1.50°	-0.75°	-0.09°
SAI		14.18°	----	----	----	14.18°		14.21°	----	----	----	14.21°
INCLUDED ANGLE		13.26°	----	----	----	13.29°		13.33°	----	----	----	13.37°
TOE OUT ON TURNS		----	----	----	----	----		----	----	----	----	----
MAXIMUM TURNS		----	----	----	----	----		----	----	----	----	----
TOE CURVE CHANGE		----	----	----	----	----		----	----	----	----	----
FRONT RIDE HEIGHT		----	1.45"	1.92"	2.39"	----		----	1.45"	1.92"	2.39"	----
REAR RIDE HEIGHT		----	0.87"	1.26"	1.65"	----		----	0.87"	1.26"	1.65"	----

TOTAL MEASUREMENT					
	INITIAL	Min	Preferred	Max	FINAL
TOTAL FRONT TOE	0.13°	-0.20°	0.00°	0.20°	0.17°
TOTAL REAR TOE	0.00°	0.03°	0.23°	0.43°	0.02°
REAR THRUST	0.33°	-0.50°	0.00°	0.50°	0.35°
FRONT SETBACK	0.37"	----	----	----	0.37"
REAR SETBACK	0.44"	----	----	----	0.46"
TRACK WIDTH DIFF.	1.28"	----	----	----	1.29"
WHEEL BASE DIFF.	0.07"	----	----	----	0.09"
FRAME ANGLE	0.00°	----	----	----	0.00°

Your vehicle has been aligned using a precision HOFMANN wheel aligner.

1.4.0, United States Domestic, US2017R02

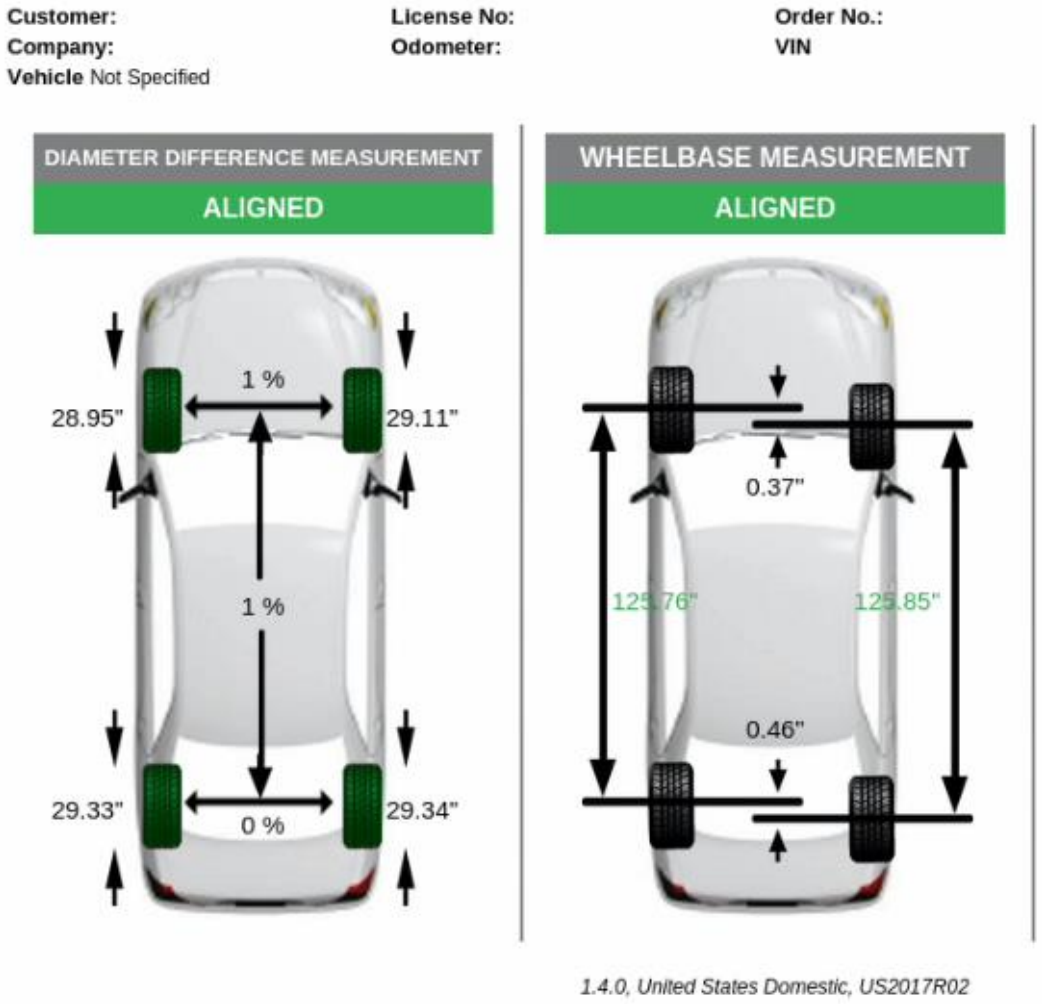
Video should start automatically

geoliner® 320

IMAGING ALIGNER

Selection of various printout options to suite your taste

- Collision blueprint report
- Vehicle dimensioning
- Cross diagonal
- Offset



geoliner® 320

IMAGING ALIGNER

- A unique feature of the geoliner 320, is it's ability to detect circumstances that would lead to a bad alignment

- The three levels of error detection

PRIME FEATURE

COMPENSATE

WARN

ALERT

geoliner® 320

IMAGING ALIGNER

LEVEL 1

ERROR COMPENSATION

The machine has detected a potential error and will compensate or make the necessary corrections

You will have a great alignment

COMPENSATE

Correct do not inform the user

WARN

ALERT

geoliner® 320

IMAGING ALIGNER

LEVEL 2

ERROR COMPENSATION

The machine has detected a potential error and will compensate or make the necessary corrections and is advising you of the condition

You will have a great alignment

COMPENSATE

WARN
Correct and inform user

ALERT

geoliner® 320

IMAGING ALIGNER

LEVEL 3

ERROR COMPENSATION

The machine has detected an issue and is informing you that this may not be a good alignment

Read the error message and rectify the condition causing the error message

COMPENSATE

WARN

ALERT

Inform and notify the user to correct the condition

geoliner® 320

IMAGING ALIGNER

BREAK THE SPACE BARRIER

MOBILE, FLEXIBLE

- ✓ Short bays
- ✓ Body Shops
- ✓ Gas stations

geoliner® 320

IMAGING ALIGNER

Do great wheel alignments
in less time with your
geoliner® 320

Geoliner® 320

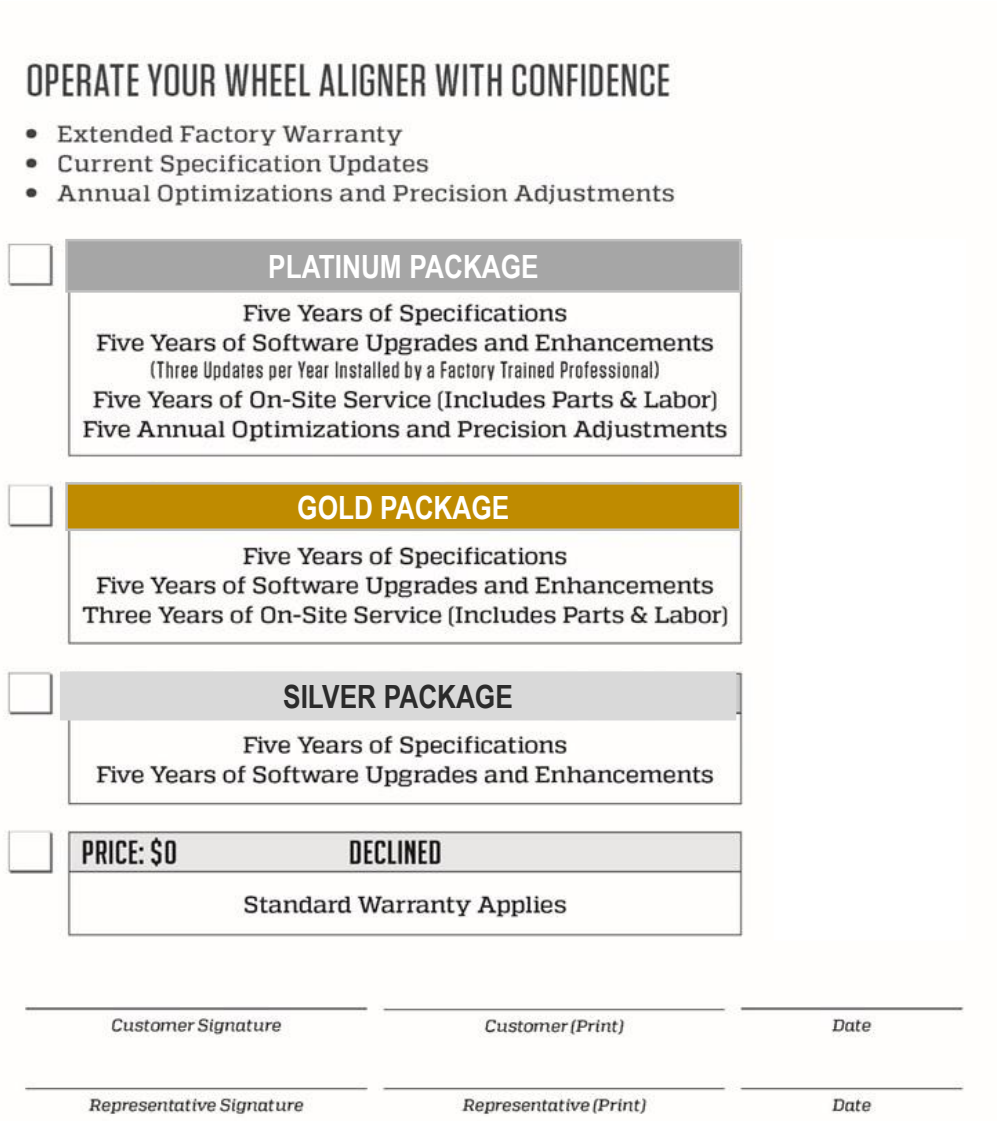
WORKSPACE MONITORING

PUT ONE TO WORK IN YOUR SHOP TODAY

Perfect alignment every time

FIVE YEAR "PEACE OF MIND" WARRANTY

AVAILABLE ON HOFMANN WHEEL ALIGNMENT EQUIPMENT



OPERATE YOUR WHEEL ALIGNER WITH CONFIDENCE

- Extended Factory Warranty
- Current Specification Updates
- Annual Optimizations and Precision Adjustments

☐ **PLATINUM PACKAGE**

Five Years of Specifications
Five Years of Software Upgrades and Enhancements
(Three Updates per Year Installed by a Factory Trained Professional)
Five Years of On-Site Service (Includes Parts & Labor)
Five Annual Optimizations and Precision Adjustments

☐ **GOLD PACKAGE**

Five Years of Specifications
Five Years of Software Upgrades and Enhancements
Three Years of On-Site Service (Includes Parts & Labor)

☐ **SILVER PACKAGE**

Five Years of Specifications
Five Years of Software Upgrades and Enhancements

☐ **PRICE: $0** **DECLINED**

Standard Warranty Applies

Customer Signature	Customer (Print)	Date
Representative Signature	Representative (Print)	Date