

**TREGO**



**Engine  
Rebuilding  
Tools**



A good friend asked me what characterizes a good engine rebuilder and my reply was; "Accuracy and being ingenious, together with having the ability to acquire good and solid tools and machinery adapted to the business. There you have the keys to a successful engine rebuilder."

We at Trego design, build and sell many ingenious machines for engine re-builders and engine builders. If you are thorough and a little clever, we together will find the tools and machines that will make you successful and your work more fun.

# Table of content

<b>About Trego</b>	4
<b>Pneumatic Valve Spring Press</b>	
VFP 1200	6-7
VFP 500, VFP 700 & VFP 900	8-11
Optionals for VFP 500, 700 & 900	12-13
<b>Manual Valve Spring Press</b>	
VFP 50	14-15
VFP50-VFP900 Valve Keepers, Pressure Foots, etc	16-17
<b>MIRA VGX-21 3-angle valve seat cutting</b>	
MIRA VGX-21	18
Trego Centering Equipment & Pneumatic Drive	19
Tools and Pilots	20
<b>WS 900 Work Bench</b>	22-23
<b>VT Vacuumtest, Adapters &amp; Modification Kit</b>	24-25
<b>SM 125 Form Tool Grinder</b>	26-27
<b>Mira BB-86 Counterbore unit</b>	
Mira BB-86	28
Extension Tool	29
Special Tools - Counterbore	30-31
Special Tools - Groove Cutting	32-33
Cutting Tools for MIRA BB-86	34-35
<b>Milling tool for upper cylinder liner guide; Scania D9-D16</b>	
Milling Tool	36
Pneumatic Drive	37
<b>Adjusting tool for lower liner seat inside diameter</b>	38-39
<b>Dowel Pin Pullers</b>	
General and instructions	40-41
Dowel Puller SU2000	42
Dowel Puller XL	43
Sets, Collars & spare parts	44-45
Rental & Repair Service	48-50
Agent for other brands	51
Contact Information	52



*“To make equipment for the rebuilding of engines  
which in their practical form also have a good design.”*

**Trego was founded** in 1972 with the purpose of selling engine rebuilding equipment in Sweden. The first product was, at that time, the quite new Mira valve seat cutter with its three-angle cutting tool system. Trego grew and became resellers for many other international companies with machinery, tools and equipment for engine rebuilding.

In 1993, Trego developed and started production of its first own product, a Valve Spring Press. The VFP500 is a product that have expanded Trego´s customer base to the whole world and has set a new standard for Valve Spring Presses with professional engine builders and rebuilders.

The combination of a very solid product development process and innovative products have led to co-operation with many strong brands within the automotive industry. Specially noteworthy is the close relationships with the two major Swedish truck manufacturers, Scania and Volvo, that have resulted in a number of clever tools.

Trego has over the years developed a range of products and with our highly skilled workforce we constantly strive for improvement and excellence for the benefit of our customers. With an indoors capacity from design in 3D CAD, via online CAM system connected to our high-end CNC machine park, products are assembled in the main workshop located in the middle of Sweden.

In the catalogue you will find Trego´s own product range. Products are normally held in stock and are delivered within days from your order. Some products are produced custom made and a few are only built on request. If you have a special request, please contact us, we will be happy to help.





# TREGO VFP 1200

## Pneumatic Valve Spring Press

There is a long trend of larger diesel engine heads partly due to the use of overhead camshafts. Trego, with a successful line of bench based pneumatic valve spring presses, got some years ago a request from a big truck producer for an extra-large bench. The aim was an easier handling of long and heavy cylinder heads.

The result of this request is the new extra large valve spring press, VFP1200. It handles heads with a cc-distance up to 1,2 meters (46") between the outer valves, without a need to move the head. Once the cylinder head is on the table, there is no need to align the head. This is due to the large and free point of work area.

The VFP1200 comes with a self-centering pressure foot. It makes the disassembly and assembly of valves, valve springs and retainers even faster. If there are reasons, like lack of space, need for another type of pressure foot, the exchange is quick and easy with a 50 mm quick release.

The VFP1200 is designed to work on the big diesel engines cylinder heads, such as CAT, Cummins, Volvo, Pac-Car, SCANIA, John Deere etc. We have found that engine rebuilders having both a VFP and a work bench-based valve spring press, the VFP1200 has become their tool of choice even for smaller engines with non-tilted valves.

Moving big and heavy heads around the workshop is not always easy. The VFP1200 comes with castor wheels as standard, this makes it possible to transport the cylinder heads from one workstation to another or to only use local lifting equipment at the VFP1200 station.

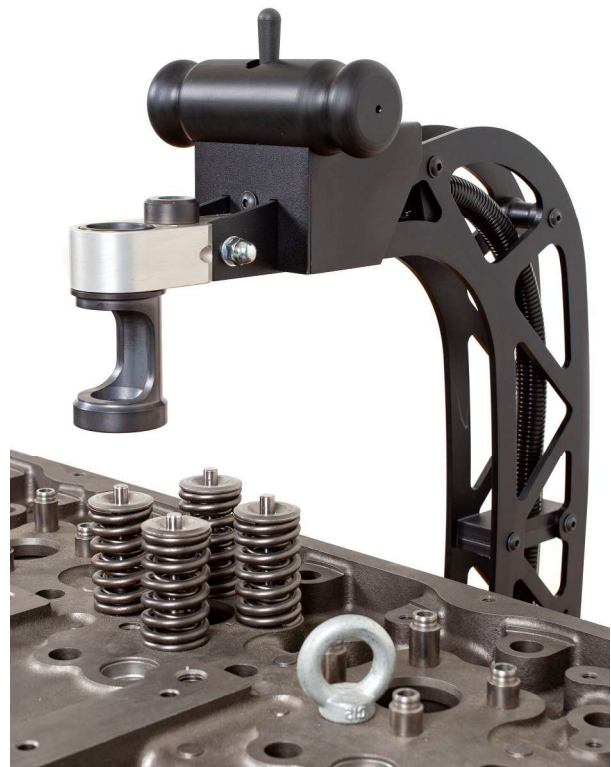
All this together makes the Trego VFP 1200 Valve Spring Press universal, efficient, and easy to use. It is a dream for any professional, especially for those working with large diesel engines.

### *Features*

No need to align the cylinder head due to a free and large movement in X and Y in combination with the easy positioning of the pressure foot

- Quick exchange of pressure foot.
- Shelf for spare parts and accessories.
- Robust construction and easy for in-shop transports.
- Included is a self-pressure foot. Other pressure foots available on request.

The VFP1200 has a smooth and precise movement with only a single hand hold. The double hand design gives both right- and left hand users full control.



### Technical Specifications

Table dimensions (L x W):	1286 × 395 mm (50,6" x 15,5")
Maximum movement:	X: 1184mm Y: 186 mm Z: 125 mm (X: 46,6" Y: 7,3" Z: 4,9")
Maximum valve spring pressure:	300 kg (660 lb) as standard
Air pressure:	6-7 bar (90-100 psi) is recommended
Shipping dimensions (L x W x H):	1400 × 800 × 1000 (mm) (55" x 31,5" x 39,4")
Shipping weight:	160 kg ( 350 lb)



# **TREGO VFP 500**

## **Pneumatic Valve Spring Press**

The pneumatic work bench-based valve spring presses from Trego have over the years become the standard mark for professional engine builders and rebuilders worldwide. The series contains of the VFP 500 with free press arm movement in the X-axis of 500 mm and the extended VFP 700 and VFP 900, with 700 mm respective 900 mm in X-axis movement.

This family of pneumatic valve spring presses are easy to use for disassembly and assembly of valves in different types of cylinder heads. Designed to offer the ultimate performance with unbeatable speed and efficiency. They will accept virtually any size, from small motorcycle heads to one meter plus cylinder heads, and due to an adjustable bed and post, tilted valves will be easily handled as well.

No clamping of the cylinder head is required, and the aligning is easy with the head positioning wheels. Once aligned, all valves in line will quickly be released from keepers and springs in the disassembly process.



The assembly process will be just as easy especially in combination with the Trego Valve Keeper Tools. For even more precise positioning of the pressure foot an optional laser pointer can be installed.

Trego VFP 500 700 and 900 will handle valve springs with a spring force up to 200 kg, at 7 bars air pressure (recommended), and 285 kg at 10 bars (maximum). Normally the valve spring presses are operated via a foot pedal. An optional two-hand-control is available, if required for safety reasons.



*Designed to offer the ultimate performance with unbeatable speed and efficiency.*

The VFP 500, 700 and 900 are delivered fully assembled and almost ready to use. Trego recommend that the VFP is bolted to its work station and connected to the compressed air system before use.

The open design makes operation on valve springs, retainers, and keepers visible. Trego recommends using a Trego Valve Keeper Magnet to remove the keepers and Trego Valve Keeper Tools to mount the keepers. For more information on additional pressure feet and Valve Keeper Tools, please see p. 16-17.



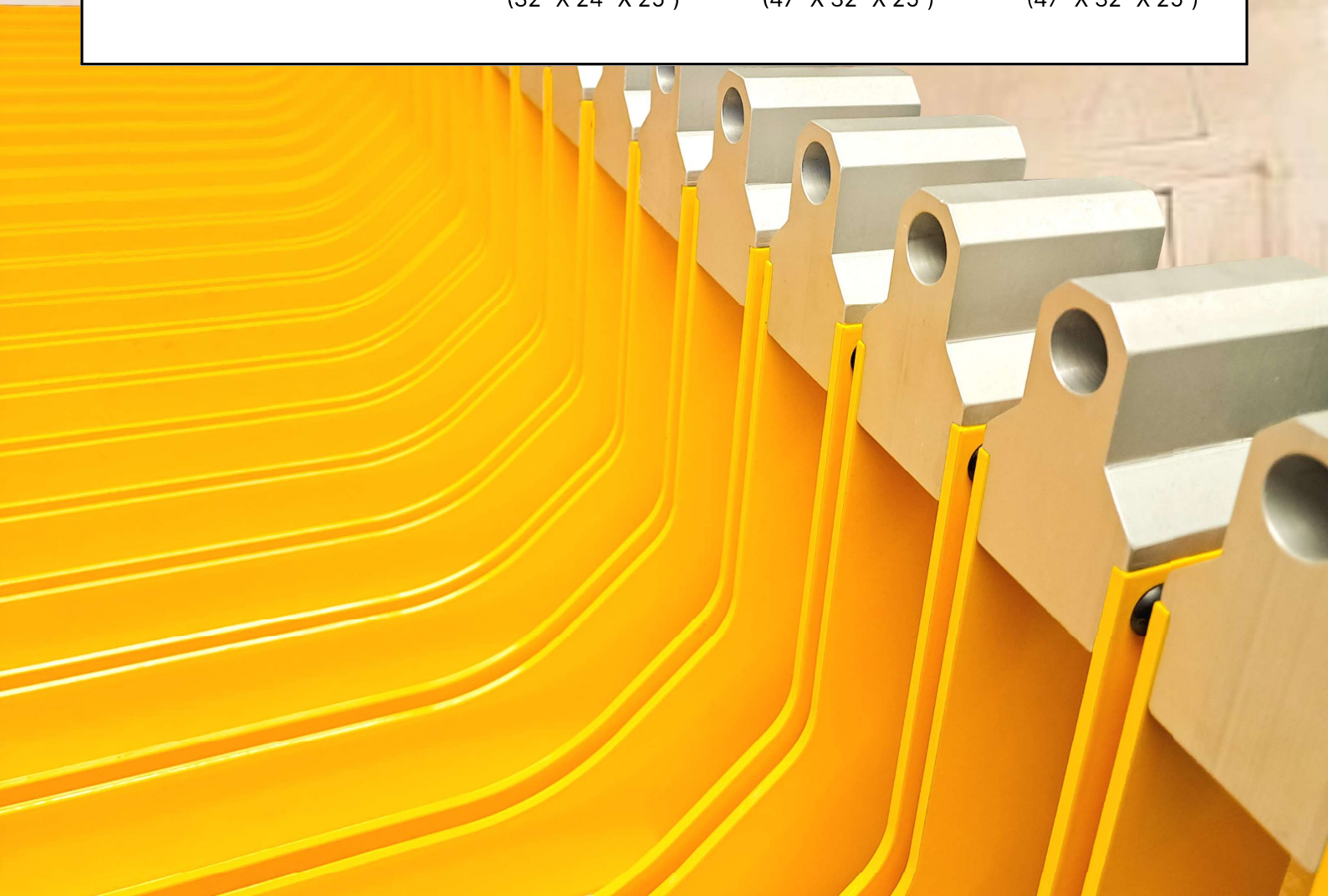


### *Features:*

- A floating counter hold punch that will hold the valves in position during the disassembly and assembly process. It will operate on the valve once the pressure foot makes contact with the valve spring.
- A range of adjustments that will handle angled or tilted valves . The table and the cylinder head may be tilted up to 45 degrees towards the operator and 30 degrees away. The post can be tilted up to 25 degrees in both directions. Tilting the post will also tilt the counter hold punch so that it and the pressure foot always align with the valve.
- Once the pressure foot is in line with the valve, the VFP is ready to operate on the valve spring. The movement of the pressure foot along the post is bi-directional controlled via an exact foot pedal. A slide hammer is attached in line with the pressure foot. It is handy to use if valve keepers are stuck.
- Delivered with a standard 28 mm pressure foot. Additional pressure foots , 18, 21, 23 and 35 mm available as options.

## Technical Specifications

	<u>VFP500</u>	<u>VFP700</u>	<u>VFP900</u>
Overall dimensions (L x W x H):	710 × 610 × 660 mm (28" x 24 x 26")	910 × 610 × 660 mm (36" x 24 x 26")	1110 × 610 × 660 mm (44" x 24 x 26")
Net Weight:	45 kg (100 lb)	52 kg (120 lb)	60 kg (130 lb)
Table dimensions (L x W):	630 × 310 mm (25" x 12")	830 × 310 mm (33" x 12")	1030 × 310 mm (41" x 12")
Press arm movement, X-axis:	500 mm (20")	700 mm (28")	900 mm (35")
Pressure foot movement, Z-axis:	140 mm (5,5")	140 mm (5,5")	140 mm (5,5")
Max pressure force at:			
7 bar (100 psi):	200 kg (440 lb)	200 kg (440 lb)	200 kg (440 lb)
10 bar (150 psi):	280 kg (610 lb)	280 kg (610 lb)	280 kg (610 lb)
Shipping dimensions (L x W x H):	800 × 600 × 620 mm (32" X 24" X 25")	1200 × 800 × 620 mm (47" X 32" X 25")	1200 × 800 × 620 mm (47" X 32" X 25")



# Options for VFP 500, 700 & 900



## Laser Pointer

When doing the disassembly or assembly of valves, valve springs and retainers with a valve spring press it is important to work in line with the valve. Not doing so can be harmful to the valve or other part. To get the pressure foot and the valve stem to be perfectly aligned can sometimes be a bit tricky, especially if the valves are angled or tilted to the block plane.

To make your aligning process faster and more exact Trego can offer a **Laser Pointer** unit to your VFP 500, 700 or 900. Mounted and centered right above the pressure foot. The red dot will indicate the center of your work spot. If the red dot remains on the valve stem when you move your pressure foot, you are good to go.



## Two-Hand Control

The VFP 500, 700 and 900 are normally operated via a foot pedal. In some instances, a set up with a Two Hand Control may be an option. **The Two Hand Control** requires both hands to be away from the pressure foot when moving to press the valve spring.

When the pressure foot of the valve spring press moves upwards, one hand, left or right, will do the control. The other hand will handle the magnet upon removal, or the valve keeper tool upon installation, of the keepers.

## Scale for post angle

The post on the VFP 500, VFP 700 and VFP 900 may be tilted +/-25 degrees to handle canted valves. The Post Angle option is a device that attached to the post shows the current degree of tilting.



## Air Lock

The Air Lock device for the VFP-series makes the adjustment of tilting of the post a lot more convenient. Much appreciated by those who often have to change the angle of the post.

## Air Regulator

The Air Regulator for the VFP 500, 700 and 900 allow control of the maximum force applied to a valve spring. This comes in handy when the valve spring should only be compressed enough to remove or install the keepers. The Air Regulator minimizes the risk of damaging parts by applying too much force on the valve spring.



## Level with Magnet

The Level with Magnet is a clever little gadget from Trego. When having cylinders with tilted angle, it allows you to maintain the correct angle of the table whilst positioning the cylinder.

Product Name	Product code
Scale for post angle	52-121
Air Lock for post angle	52-122
Level with Magnet	52-123
Air Regulator	52-140
Two Hand Control	52-150
Laser Pointer	52-155



# TREGO **VFP 50**

## Manual Valve Spring Press

VFP 50 is fast and easy to use for disassembly and assembly of valve springs on cylinder heads for cars, trucks and motorcycles etc.

An open design makes it easy to remove and replace valve keepers. VFP 50 has an easily adjustable fixture for fast positioning of the cylinder head. The C-frame is adjustable 25° to both sides for canted valves, and there is an Y-axis adjustment and locking of the C-frame.

For purpose of precision there is an adjustable stop collar to prevent damage to valve seal.



## Features

- Open design makes it easy to remove and replace valve keepers.
- Adjustable angle of the head support.
- Adjustable post 25° to either side.
- The keepers are easy to remove with the valve keeper magnet.
- Installation of keepers is fast and easy with the keeper installer thanks to the open design of the pressure foot.
- Valve clearance foot for valve clearance checking without having to install cam shaft bearing caps, can be ordered as an option.
- Additional stop collar can be ordered to have both hands free whilst working on valve clearance checking.

## Technical Specifications

Measurements (L x W x H):	670 × 560 × 880 mm (26,4" × 22 × 34,6")
Movement (C frame):	Horizontal: 490 mm (19,3") Vertical: 84 mm (3,3") Piston movement: 165 mm (6,5")
Shipping dimensions (L x W x H):	1400 × 800 × 1000 (mm) (55" × 31,5" × 39,4")
Shipping weight:	16 kg (35 lb)

# Options for VFP 50 and VFP 500, 700 & 900



## Valve Keeper Installer

The Trego Valve Keeper Installer tool is especially designed for multi groove keepers.



## Keeper Magnet

Keeper Magnet for easy removal of valve keepers, Especially in narrow and difficult areas.

A handy tool made of plastic material with magnets at both ends.

Product name:	Product code:
Valve Keeper Magnet	52-300
Valve Keeper Installer Ø 4 mm	52-300-4
Valve Keeper Installer Ø 5 mm	52-300-5
Valve Keeper Installer Ø 6 mm	52-300-6
Valve Keeper Installer Ø 7 mm	52-300-7
Valve Keeper Installer Ø 8 mm	52-300-8
Valve Keeper Installer Ø 10 mm	52-300-10



## Pressure Feet



## Valve Clearance Foot and Stop Collar

The Valve Clearance Foot with the Stop Collar keeps the overhead camshaft in place for valve adjustment, without having to install cap bearing.



Product name	Diameter	Product name
Pressure Foot	Ø 18 mm	52-091-18
Pressure Foot	Ø 21 mm	52-091-21
Pressure foot	Ø 23 mm	52-091-23
Pressure Foot (standard)	Ø 28 mm	52-091-28
Pressure Foot	Ø 35 mm	52-091-35
Stop Collar (VFP 50 )		52-230
Valve Clearance Foot		52-091-F

# MIRA<sup>®</sup> VGX-21

## Perfect 3-Angle Valve Seat Cutting



*Mira VGX-21 is a product of Minelli AG, Switzerland*

Trego started as a company back in 1972 selling the Swiss made Mira Valve Seat Cutting system, the precursor of today's Mira VGX-21. Over the years Trego have delivered hundreds upon hundreds of "Miras", a brand almost being synonym for its function.

Even today Trego offers a full line of Mira products as well as some products developed by Trego to enhance the system's overall function and flexibility.

For your convenience Trego keeps several hundreds of Mira pilots and form tools in stock. If you have demand for a form tool out of the standard range, custom form tools are available on request.

In order to get a good result of the valve seat cutting work, it is important to centering the pilot in the valve guide. Normally not a big problem if the valve guide is new and the pilot is on the spot. Things are not always perfect, as a valve guide can over time be somewhat hourglass shaped or the exact pilot is not at hand. The Trego Centering Equipment are good to have in hand in such situations.



**Trego Centering Equipment** has two gauge clocks which give you a visual indication and help finding the exact center before clamping the Mira ball point. The equipment is easy to attach to the Mira *VGX-21* and gives you more control and a precise result.

*The Pneumatic Drive  
makes all this so much  
easier*

Trego developed the **Pneumatic Drive** in order to give professional engine rebuilders a time saving and cost effective tool to be used on all "Miras" and all versions of Mira BB (p.28).

Normally, the Mira VGX-21, and all its precursors, are hand driven by a crank. A good cutting result demands an even and steady movement and certain jobs requires strength, time and maybe a bad word or two.





### Tregu adaptor pilot FD to FT

A Tregu adaptor Pilot makes it possible for using new FD-type Mira pilots on older “Miras” that requires FT-type pilots.



### Tregu Formtool Setting Gage

This formtool setting gage is a nice piece of Tregu design. Freeing you from the third hand, which is so often needed to transfer the exact measurement from the valve to the form tool.

### Tregu 90-degree tool bit with replaceable tip.

When installing or replacing valve seats, the Mira is often used for cutting out the existing valve seats. Doing so a 90 degree form tool is used. Tregu 90-degree tool bit with replaceable carbide tip is a cost saving product for those frequently installing or replacing valve seats.



Product name	Product code
Centering Equipment for Mira VGX-21	52-330
Pneumatic Drive to Mira VGX-21, Mira BB-86	52-832
Adapter FD to FT, for Threaded Mira Guide pilots	03-103000
Form Tool Setting Gage	52-340
90 degree Tool Bit with Replaceable Tip	52-390-V



HYDRO

From 11.000,- (incl. VAT)  
Vital Check of the Material (incl.)  
100% 100% 100%  
100% 100% 100%  
100% 100% 100%

Miral  
VGX-21

VGX-21  
100% 100% 100%



# TREGO WS 900

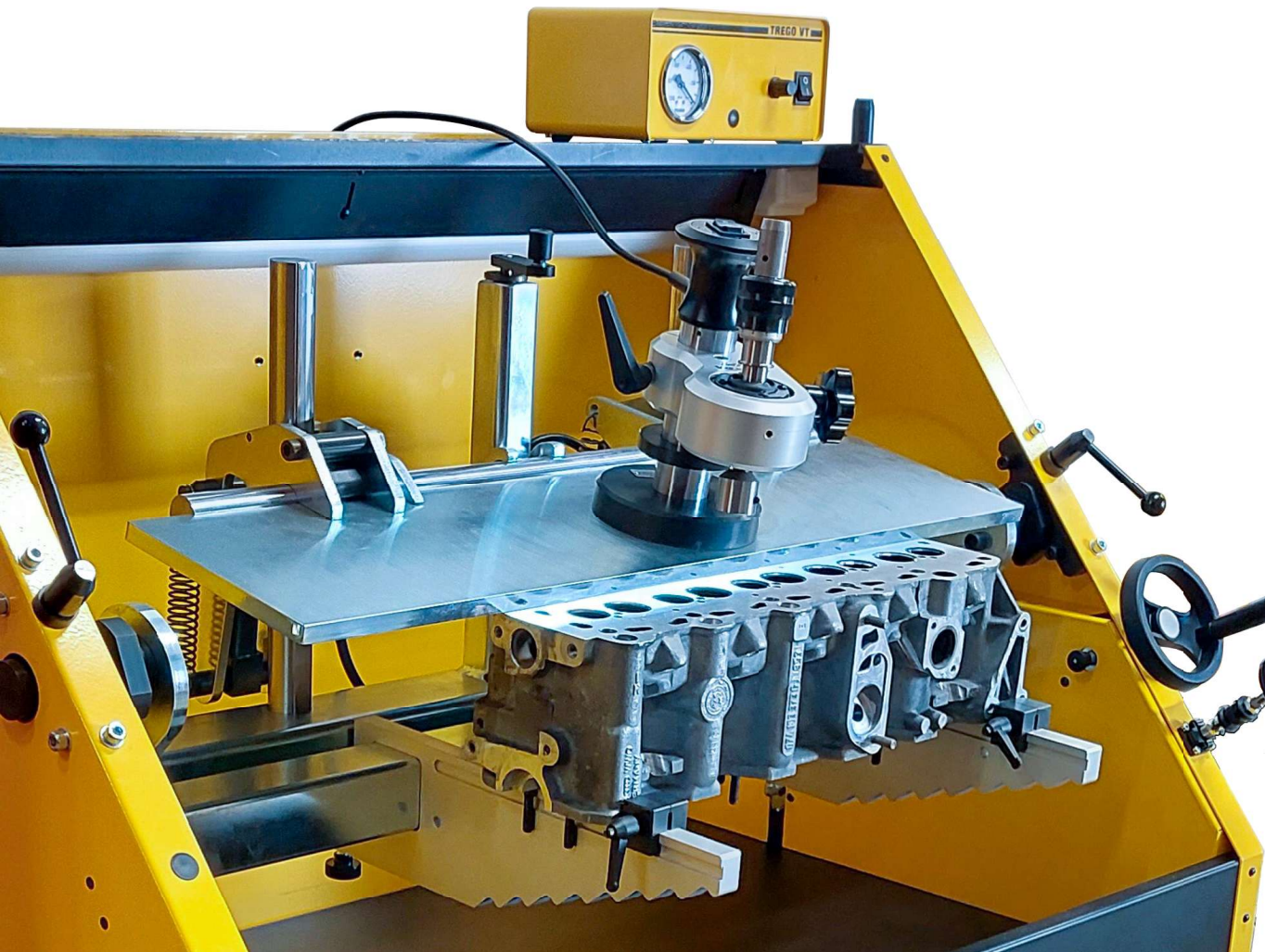
## Work Bench

Trego WS 900 is a state of the art cylinder head work bench, developed for the professional engine rebuilder. It provides a sturdy and efficient workstation, giving precision and good control, working on valve seats and guides on cylinder heads.

Using a standalone valve seat cutter like the Mira VGX-21 requires as steady and vibration free platform for excellence in performance. Any unsteadiness will make its way to the cutting area. The Trego WS 900 is the platform of choice.

Trego WS 900 have robust arms, with adjustable stops, that holds up the cylinder head. This is making it easy to get a good work position. Hydraulic clamping of the cylinder head with self-leveling pressure, keeps the head extra stable during work. The clamping pressure is controlled by a hand wheel building the pressure and a manometer showing it. This to ensures an easy, fast, and secure clamping.

A gas damper ensures a controlled movement of the fixture and the cylinder head when it is tilted backwards or forwards. The fixture can be locked in any position. Integrated with the Trego VT, the vacuum adaptor will have its place on the shelf and be connected to a self-retracting vacuum tube. A lot of extra tools can be attached to the WS 900 like an electric or pneumatic drive for the Mira and there are parking places for tools not in use.



### *Features*

- Robust fixture to hold the cylinder head.
- Platform for Mira almost in line with head.
- Gas dampers provide a controlled tilting of the cylinder head.
- Self-leveling hydraulic clamping.
- Easy to attach extras like Vacuum tester and pneumatic drive.
- Practical storage compartments.



# VT Vacuumtest

## For precise sealing tests of valve seats and guides

The Trego VT is a Vacuum Tester that allows you to check valve to seat seal right on the bench, or in the engine compartment. No special set-up is required. The unit is equipped with an electric vacuum pump and generates up to 850 Mbar (12,3 Psi) of vacuum. A built-in pressure difference control allows you to control vacuum setting accurately when testing other vacuum components.

This unit is lightweight and portable, allowing you to take it right to the assembled engine to diagnose problems before you start disassembly. After the valve and valve seat work you can make sure the seal is up to your expectations. The Trego VT can also be used to test other vacuum controlled components.



The Trego VT has both a quick-coupling for changing adapters and a very appreciated quick-valve right next to the adaptor. This quick valve makes it possible to test and move the adaptor without changing the settings on the Trego VT or turning it off.

The Trego VT comes in two versions, VT 230 for 220 – 240 volts and VT 115 for 115 volts. Both versions come as a complete kit that includes the vacuum tester, vacuum tube complete with a quick-coupling and quick valve, plus 5 round adapters in sizes: Ø30, 40, 50, 60 and 80 mm. Rectangular adaptors are available as options.



Product name	Dimension	Product code
Vacuum test 230V incl 5 adapters		52-VT
Vacuum test 115V incl 5 adapters		52-VT-115
Modification Kit (for other vacuum tester)		52-559
Adapter	Ø 30	52-553
Adapter	Ø 40	52-554
Adapter	Ø 50	52-555
Adapter	Ø 60	52-556
Adapter	Ø 80	52-557
Adapter	50 × 60 mm	52-560
Adapter	55 × 75 mm	52-561
Adapter	75 × 85 mm	52-562

## Technical Specifications

Vacuum pump	Max vacuum approx. 850 mbar
Electric motor	230V 50Hz 62W / 115V 60Hz 67W
Overall dimensions (L x W x H)	250 mm x 170 mm x 115 mm 9,8" x 6,7" x 4,5"
Net weight	3,7 kg (8 lb)
Shipping dimensions (L x W x H)	300 x 200 x 190 mm 11,8" x 7,9" x 7,5"
Shipping weight	4 kg (8,8 lb)



 **TREGO**

# SM 125 Tool Grinder

## Keeping your toolbits sharp

Trego SM125 Tool Grinder is developed specially for regrinding of Mira multi angle valve seat cutting tools and for Mira BB type counter bore tools. With optional toolbit holders the Trego SM125 will also do the job regrinding Serdi, Robins and Rottler toolbits as well as toolbits to Trego Milling Tool 52-830.

The SM125 have a 125 mm diameter replaceable fine grit diamond grinding wheel, rotating at 2770 rpm. The bright LED light and an easy accessible connection for suction of grinding dust make the handling more convenient.

The cutting angle is adjustable with a graduation dial  $0^{\circ}$ - $10^{\circ}$  in both the positive and the negative direction. And a clever design makes it possible to grind all three surfaces, even on the long Mira BB tools.



The standard toolholder for Trego SM125 fits valve seat cutting tools type Mira and also handle the grinding of the extra long Mira BB tools on all three surfaces.

The cutting angle is adjustable with a graduation 0° – 10° in both positive and negative direction. The Ø125 mm diamond wheel can be replaced. Tool bit holders for Serdi, Rottler and Trego tool bits are available as options.



Product name	Product code
Form Tool Grinding Machine	52-SM125
Tool Holder for Serdi & Rottler type tool bits	52-490
Tool Holder for Trego 52-830 tool bits	52-491
Diamond Grinding Wheel for Trego SM 125	52-443

## Technical Specifications

Diamond grinding wheel:	Ø 125 mm Ø 5"
Electric motor:	220V, 50Hz, 1Ph, 2,0A, 0,25kW, 2770RPM
Overall dimensions (W x D x H):	325 x 325 x 315 mm 12,8" x 12,8" x 12,4"
Net weight:	14 kg (31 lb)
Shipping dimensions:	370 x 365 x 315 mm 14,5" x 14,4" x 12,4"
Shipping weight:	16 kg (35 lb)

# MIRA<sup>®</sup> BB-86

## Counterbore Unit



*Mira BB-86 is a product of Minelli AG, Switzerland*

Trego started the same year as the Mira BB Counterbore Unit was born, and their story goes hand in hand. Trego has delivered several hundreds of Mira BB and has also developed a range of products to enhance the function and flexibility of the Mira BB.



Normally Trego keeps the standard Mira BB and all necessary tools in stock. On request we also offer the two versions of the Mira BB; the smaller; Mira BB Mini, and the bigger one; Mira BB Giant. Please note that all standard Mira BB from Trego have a grinded foot at diameter 211 mm, this is in order to make them work with several other Trego tools for counterbore and groove cutting.



# Extension Tool

## for MIRA BB-86

The Trego Extension Tool was developed to solve the problem of the Mira BB and deep counterbores. This Extension Tool will increase the possible work depth of the Mira BB with 200 mm.

Recutting counterbores for sleeves is most important for good sealing between the engine block and the sleeves, as part of the engine overhaul. On some engine types the counterbores are located too deep for the Mira BB to reach them. In other cases, the Mira BB can not be placed directly on the sealing surface of the engine block, it has to be elevated to reach the center of the cylinder.

In both cases above the Trego Extension tool for Mira BB will do the job possible. The Extension tool is easy to attach to the Mira BB. All tools for the Mira BB also fit in the Extension tool.

### Trego Extension Tool Kit

The Extension Tool Kit 800 comes with the Trego Extension tool and an Allen wrench.

Art.nr: 52-800



# Special tools for **MIRA® BB-86** Counterbore



Art.nr: 52-801

## Trego Extension Tool Kit 801 for Volvo D9-D16

One big advantage with the Mira BB is that it makes it possible to recut counterbores without removing the whole engine from the vehicle. This saves a lot of time, energy, and money.

However, on the Volvo D9-D16, the Mira BB works fine on all cylinders but one. The last cylinder is not reachable without removing the engine from the transmission.

To solve this Trego has developed **Extension Kit 801**. The full 801 kit comes with the Trego Extension tool, an elevation ring, bolts for fastening the elevation ring in the block and some Allen wrenches. All nicely packed in a case.



Art.nr: 52-802

## Trego Extension Tool Kit 802 for Scania

On some engines the cylinder sleeves are slightly above the block plane. This makes it sometimes difficult, or impossible, to work with the Mira BB on these cylinders without removing the neighboring sleeves.

Working on the Scania engines with standing sleeves, the **Trego Extension Tool** becomes even more important. Trego provides an Extension Kit 802, that solves the problem with neighboring sleeves as well. It also has a spacer/centering ring with dowels that fits in the Scania block, centering the Mira BB.

The full Extension Kit 802 comes with the Trego Extension tool, a spacer/centering ring, tool MB88AD and an Allen wrench. All nicely packed in a case.

## Trego Spacer rings and Counter Bore Kits

Like the 802 Tool Kit, Trego spacer rings make it possible to use the Mira BB even when neighbouring sleeves are above the block surface. The tool 812 is a Universal Spacer ring and tool 811-1 is specially designed for Scania engines, just like Tool Kit 802.

Counter Bore Kit 835 and 836 are for Deutz/Volvo D7 and D6 engines, they too leaves space for neighbouring sleeves. With the kits come a ring, a special tool and four bolts.



Art.nr: 52-812



Art.nr: 52-811-1



Art.nr: 52-835



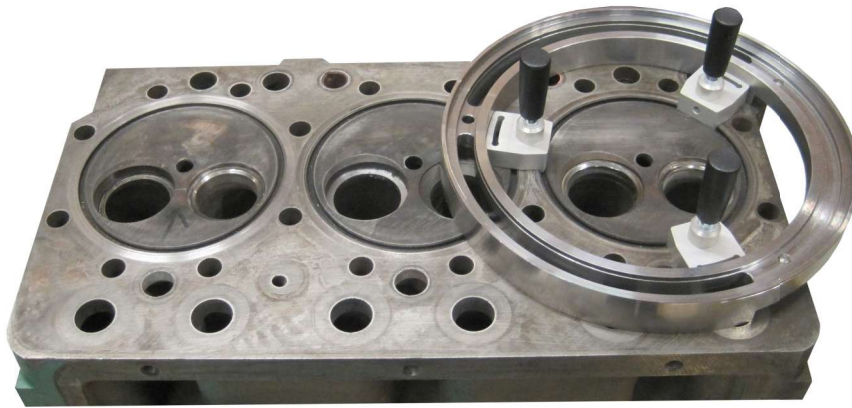
Art.nr: 52-836

Special Tools for Mira BB-86	Make and Model	Product code
Extension for Deep Counterbores (p.29)		52-800
Extension Tool Kit 802	Scania D9-D16	52-802
Extension Tool Kit 801	Volvo D9-D12	52-801
Spacer Ring	Universal	52-812
Spacer Ring	Scania	52-811-1
Counter Bore Kit	Deutz/Volvo D7	52-835
Counter Bore Kit	Deutz/Volvo D6	52-836

# Special tools for **MIRA® BB-86**

## Groove Cutting

Cylinder heads may have grooves that deform the gasket on the diameter of the sleeves. This in order to reinforces the gasket to prevent a blow through. There is normally a need to recut these grooves after resurfacing cylinder heads of this type. With the right tools, the Mira BB will do the job. As there is nothing to centering the Mira BB in it's clever way, you have to add centering equipment. Trego has developed a number of helpful tools that will make the Mira BB your first choice of groove cutting equipment.



### Trego Groove Cutting Kit 816 and 817 for Volvo

Kit 816 is for Volvo TD71-73 and Kit 817 is for Volvo TD61-63. Both sets work the same way, and they need centering ring 06-DSZR to work. Put the three centering lugs as the picture above shows. Place the centering ring around them. Put the Mira BB in the centering ring. It is most important that the Mira BB has a foot grinded to 211 mm in diameter, otherwise it will not fit. Turn on the magnetic foot of the Mira BB and remove the lugs. Kit 816 uses tool MB116 and Kit 817 uses tool 117. Both use tool bit MB212.

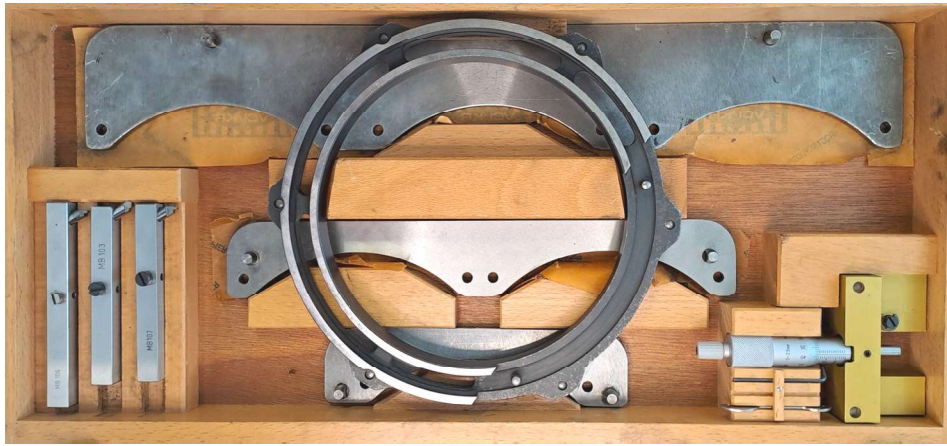


Art.nr: 52-816



Art.nr: 52-817





## Trego Groove Cutting Sets and Parts

Trego provides a number of parts and kits for seal groove cutting. This includes parts like the universal centering ring 06-DSZR. It is a must when using the sets 2-816 and 52-817, and the big set 06-DSK with centering plate.



Art.nr: 06-DSZR



Art.nr: 52-813

## Trego Groove Cutting Kit 813 for Scania

Kit 813 is for Scania engines with 138 mm groove cut diameter. The kit includes a ring that fits into the dowel holes in the cylinder head and tool MB123. For engines with 141 mm groove cut diameter add tool MB124. Both tools MB123 and MB124 use tool bit MB 206.

Special tools for Mira BB-86	Make and Model	Product code
Groove Cutting Set	Volvo TD71-73	52-816
Groove Cutting Set	Volvo TD61-63	52-817
Groove Cutting Set	Scania D8, D11, D14	06-DSK
Centering Ring	Universal	06-DSZR
Groove Cutting Tools	Scania DC9, DC11, DC12, DT12, DC16	52-813

# Cutting Tools for **MIRA<sup>®</sup> BB**

With the Mira BB-86, there are some different types of tools to use dependent on what work there is to be done. Standard tools handles counter bore diameters from 73 mm up to 224 mm. All standard tools have a turnable wheel at the back end. This is to assure that the self-centering function of the Mira BB-86 works as intended.

Apart from standard tools there are also some special ones. Some have the turnable wheel and cutting bit lowered from the tool holder, such as MB118. Other tools have a pre-set diameter and thereby do not make use of the feed, or centering function of the Mira BB-86, instead they need a centering ring and/or a centering plate.

Centering rings, universal and special ones, together with tools for counter bore and groove cutting can be found on p 30-33.



Examples of standard tools, from top to bottom: MB85, the smallest, then the quite common MB88AD and lastly, MB90, which is the longest one. These standard tools handles counter bore diameters from 73mm up to 224 mm.



Tool MB118 is one example of a tool with the turntable wheel and the cutting bit lowered from the tool holder. A necessity if you are using a centering ring or spacer ring, as you otherwise would not reach down deep enough into the counter bore when using the Mira BB.



In order to get, for example, a perfect sealing groove, tools with a pre-set diameter are available. MB123, as shown above, with a pre-set diameter with an adapted tool bit are for certain Scania models. Likewise is MB117 with a pre-set diameter with an adapted tool bit for some of Volvo's engines. Note, MB117 has a pre-set range diameter, meaning the horizontal feed is performed within a pre-set range.

Other tools for the Mira BB are available on request.





# **TREGO Milling Tool**

## **for Upper Cylinder Liner Guide, Scania**

In a collaboration between Trego and Scania, a new method of repair has been developed. Trego Milling Tool for Upper Cylinder Liner Guide 52-830, Scania PN 2300382, comes to grip with the corrosion damage to the upper cylinder liner guide. The new method of repair should be used in cases where oversized cylinder liners are not sufficient to ensure sealing of coolant between the cylinder liner and cylinder block. The new method of repair can also be used in cases of cracks to the cylinder block by the upper cylinder liner guide.

Further information on the method for machining oversized liners is described in TI 01-12 06 01 and in the Work-shop Manual. See also latest *Scania Parts and Service Bulletin*, regarding *Tool for processing of cylinder block*.

The Trego Milling Tool for Upper Cylinder Liner Guide is a tool for Scania engines with standing sleeves. It comes ready to use in two boxes that contain the following products:

In the Wooden box:

1. The main tool
2. Tool holder 52-830-1 with 2 pcs of the tool bit 52-830-16
3. Tool holder 52-830-2 with 1 pc of the tool bit 52-830-17
4. Wooden tool holder
5. Protection cover 52-830-3
6. Handle
7. Setting tool 52-830-10
8. Three mounting screws, one as holder for the optional pneumatic drive
9. Allen wrenches 2,5 mm, 3 mm, 6 mm and 14 mm.
10. Two spare tools 52-830-16
11. Spare tool 52-830-17



In the Plastic box:

12. Two protection covers 52-830-3
13. Center cover plate 52-830-11
14. Right cover plate 52-830-12
15. Left cover plate 52-830-13



The Pneumatic drive together with the Counter hold allows for a more even movement in order to avoid chatter. The Counter Hold prevents the Pneumatic Drive to spin around.

Tools which gives more precision on the job and saves energy for yourself.

Product name	Product code
Milling Tool for Upper Cylinder Line Guide, Scania	52-830
Tool to 52-830, Upper Liner Guide and Chamfer	52-830-16
Tool to 52-830, for Counterbore Ring	52-830-17
Pneumatic Drive to 52-830, Mira VGX and Mira BB	52-832
Counterhold, to 52-830 for Scania Engines	52-832-01

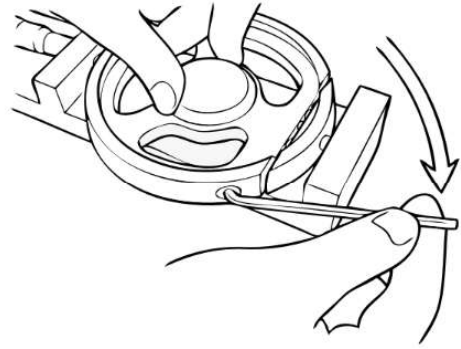
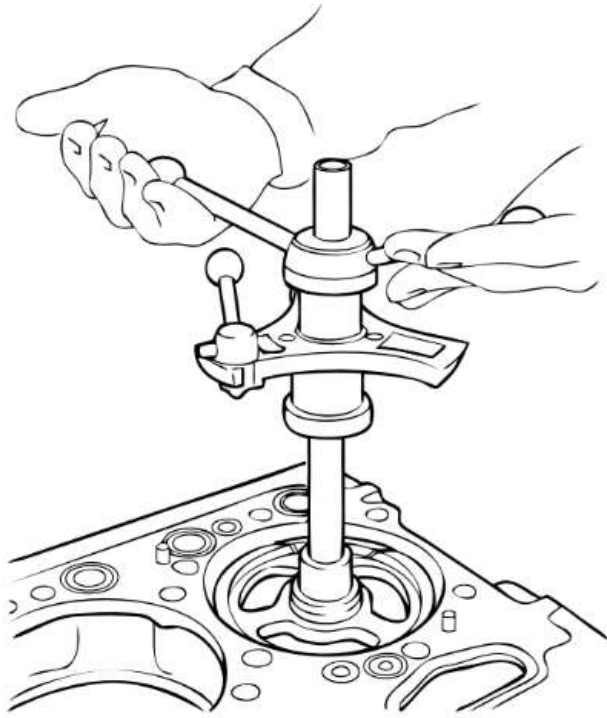


# Adjusting Tool

## for Lower Cylinder Liner Guide

In engines with standing cylinder sleeves there is a risk of ovality in the lower cylinder liner guides if the engine has gotten overheated. This can make the fitting of new sleeves more or less impossible if the lower cylinder liner guides are not looked after.

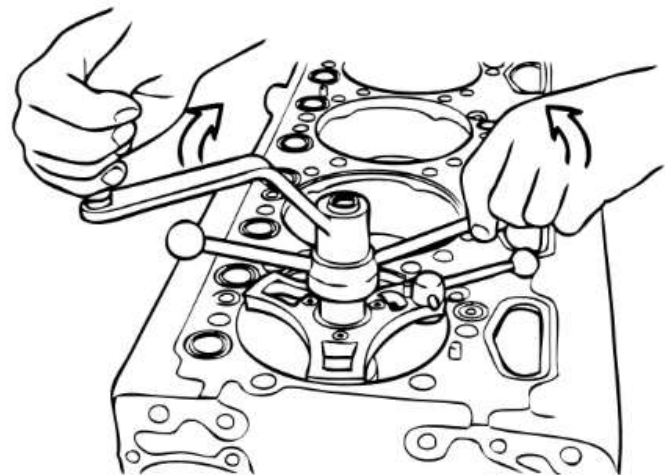
Trego has developed a tool for handling this problem in Scania engines with standing cylinder sleeves, Adjustment tool for Lower Cylinder Liner Guide 52-820, Scania PN 588866. The tool comes with two different toolheads. One for blocks with Lower Cylinder Liner Guides of 139 mm and one for blocks with 140 mm guides. Please note that the tool is not for extending the Cylinder Liner Guide.



Some illustrations from the Scania instruction on how to use the Adjusting Tool for Lower Cylinder Liner Guide on Scania blocks with standing cylinder sleeves.

A quit easy operation that can save a block that have got deformations due to overheating.

The tool comes in a wooden box and it is ready to use right out of the box.



Product name	Model	Product code
Adjusting Tool for Lower Liner Guide	Scania engines with standing sleeves	52-820

## Technical Specifications

Measurements (L x W x H):	670 × 560 × 880 mm (26,4" × 22 × 34,6")
Shipping dimensions (L x W x H):	1400 × 800 × 1000 (mm) (55" × 31,5" × 39,4")
Shipping weight:	16 kg (35 lb)



# DOWEL PULLER

## A fast and easy way

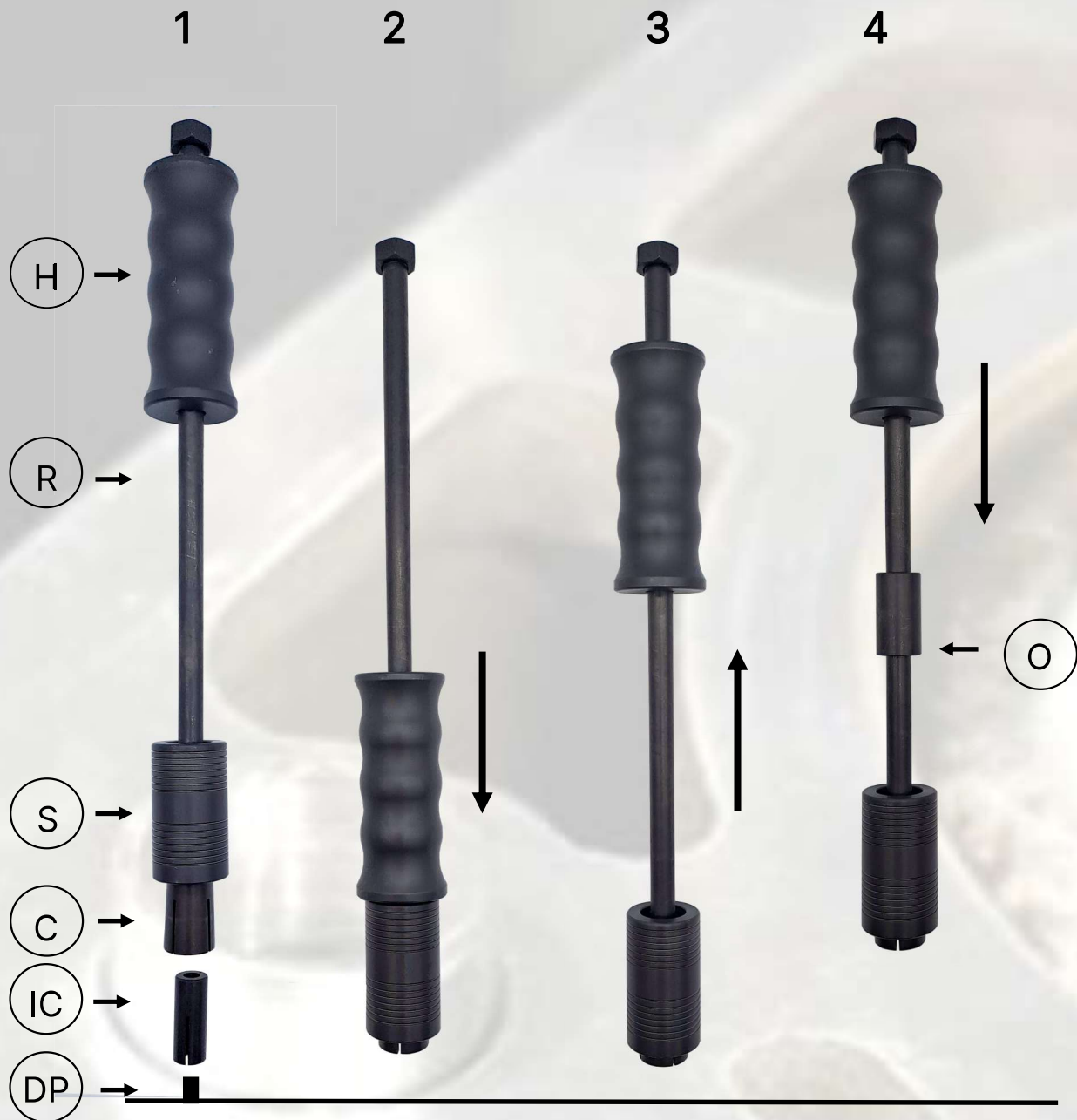
Trego presents a solution to remove even the most stuck and stubborn of dowel pins: The Dowel Puller. Dowels are used in many applications, not only in automotives, for precision aligning of parts. Easy and exact but from time to time not very easy to remove. Most of us have experienced using too much time removing the last dowel using every tool in the workshop and word we did not know before.

The basic idea with the Trego Dowel Puller is quite simple. First you hammer a flexible collet on to the dowel pin, hard enough to make the friction force between the collet and the dowel pin greater than between the dowel pin and the part it sits in. Secondly you hammer the collet and the dowel pin upwards, and the dowel pin will come out nice and easy. Most of the times the dowel pin will be reusable.

For normal dowel pins use the standard 16 mm Heavy Duty collet and a suitable insert collet, (step 1a on next page). The method with insert collets makes changes between different sizes quick and no tools are needed. If you expect the dowel pin to be of the more stubborn kind use the method of attaching a Heavy Duty collet of right size directly to the Rod, (step 1b on next page). For the really big dowel pins, +20 mm, use the XL-system.



## How to use, step by step:



### Parts

- H. Hammer
- R. Rod
- S. Sleeve
- C. Collet
- IC. Insert Collet
- O. Opener
- DP. Dowel pin

### Steps:

- 1a. Attach the 16 mm standard collet to the rod. Put a suitable insert collet on the dowel pin. Place the complete tool over the insert collet.
- 1b. Attach suitable heavy duty collet to the rod. Place the complete tool over the dowel pin.
2. Hit the sleeve with the hammer until the collet (s) grips the dowel sufficiently.
3. Hit with the hammer upwards until the dowel gets loose.
4. Attach the opener and hit it with the hammer until the dowel falls out.



# TREGO SU 2000

Trego Dowel puller kit SU 2000 handles dowels from 6 mm to 16 mm. Standard set comes with one 16 mm Standard Collet, 5 metric and 5 imperial sized insert collets. And it allows for a fast and simple way to remove dowels in cylinder blocks and heads etc.

The kit can be expanded with more insert collets and heavy duty collets, please see list on page 44-45. The SU 2000 kit come mounted on a wooden plate, easy to place leveled or mounted on a wall in your workshop. All parts are in hardened steel.

## Collets included in kit SU 2000.

Standard Collet	16 mm
Metric Insert Collets:	6 mm
	8 mm
	10 mm
	12 mm
	14 mm
Imperial Insert Collets:	1/4"
	11/32"
	3/8"
	7/16"
	1/2"



# TREGO SU 2000XL

Trego Dowel Puller set SU 2000XL handles dowels from 21 mm to 25 mm. This set comes with one bigger sleeve and 5 metric heavy duty XL collets. And it allows for an attach on the bigger dowels pins.

The SU 2000XL set is mounted on a wooden plate and is easy to place leveled or mounted on a wall in your workshop. All parts are in hardened steel.

Collets included in kit SU 2000XL.

Heavy Duty XL Collets: 21 mm  
22 mm  
23 mm  
24 mm  
25 mm

# Dowel Puller

## sets, collets & spare parts

Dowel Puller Sets and spare parts	Product code
Dowel Puller set with 10 insert collets:	51-SU2000
Dowel Puller XL set with 5 XL collets:	51-SU2000-XL
Dowel Puller Rod	51-SU2025
Dowel Puller Hammer	51-SU2026
Collet, standard (Heavy Duty 16 mm)	51-SU2027
Dowel Puller Sleeve	51-SU 2028
Dowel Puller Sleeve XL	51-SU2033
Dowel Puller Opener	51-SU2029
Wooden Dowel Puller Tool holder SU2000	51-SU2031
Wooden Dowel Puller Tool holder SU2000XL	51-SU2034



XL Collets (only in metric)	Product code
21 mm	51-SU2032-21
22 mm	51-SU2032-22
23 mm	51-SU2032-23
24 mm	51-SU2032-24
25 mm	51-SU2032-25



# Collets metric

Insert Collets	Product code
3 mm	51-SU2030
4 mm	51-SU2040
5 mm	51-SU2050
6 mm	51-SU2060
7 mm	51-SU2070
8 mm	51-SU2080
9 mm	51-SU2090
10 mm	51-SU2100
11 mm	51-SU2110
12 mm	51-SU2120
13 mm	51-SU2130
14 mm	51-SU2140

Collets, Heavy Duty	Product code
5 mm	51-Su2027-05
6 mm	51-SU2027-06
8 mm	51-SU2027-08
9 mm	51-SU2027-09
10 mm	51-SU2027-10
11 mm	51-SU2027-11
12 mm	51-SU2027-12
14 mm	51-SU2027-14
15 mm	51-SU2027-15
16 mm	51-SU2027-16
17 mm	51-SU2027-17
18 mm	51-SU2027-18
19 mm	51-SU2027-19
20 mm	51-SU2027-20

# Collets imperial

Insert Collets	Product code
1/4"	51-SU2064
5/16"	51-SU2079
11/32"	51-SU2087
3/8"	51-SU2095
7/16"	51-SU2111
1/2"	51-SU2127

Collets, Heavy Duty	Product code
1/4"	51-SU2027-064
5/16"	51-SU2027-079
11/32"	51-SU2027-087
3/8"	51-SU2027-095
7/16"	51-SU2027-111
1/2"	51-SU2027-127



# TREGO VSSEx 360

## Valve Stem Seal Extractor

Trego Valve Stem Seal Extractor helps you to easily remove the most stubborn valve stem seal. The extractor has three gripping fingers that grip around the bottom part of the seal. Making the removal fast and safe.

Put the gripping fingers around the seal and slide the pressure tube down over the fingers. The tube makes the fingers fit tightly around the valve stem seal and keeps the fingers from expanding. Now, a couple of hits with the slide hammer will make the seal pop off. Pull the tube upwards and the seal falls out, ready for the next one. Replacement jaws are available in set of three.



Product name	Product
Valve Stem Seal Extractor	52-360
Jaws (set of 3), to 52-360	52-361



# TREGO Rental and Repair Service

Trego has a Rental and Repair Service for a number of tools. Tools which you perhaps only use once in a while, or if you need to ascertain that this is a tool you would like to invest in. Here we show some of the tools and kits Trego is able to help you with. Contact the office for inquiries and rates

The number by each tool corresponds to the explanatory table on page 50



1



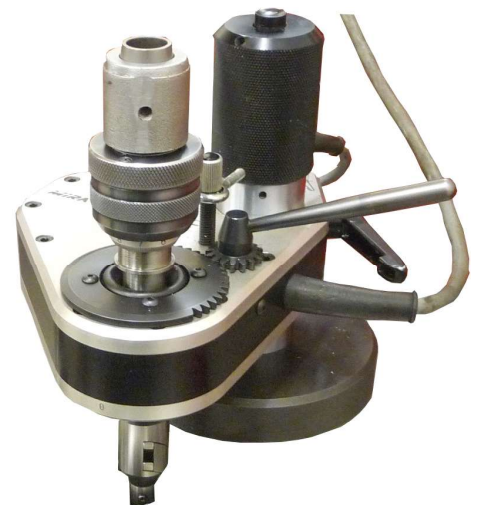
2



3



4



5





6



7



8



9



10



11



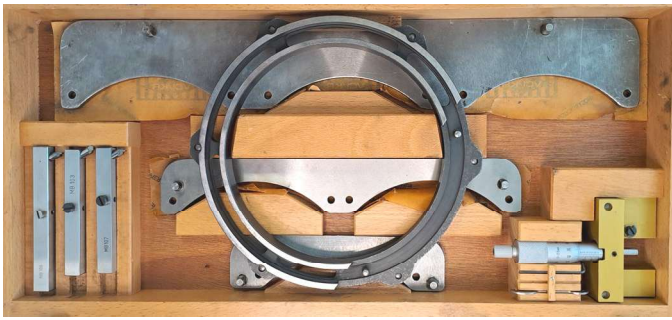
12



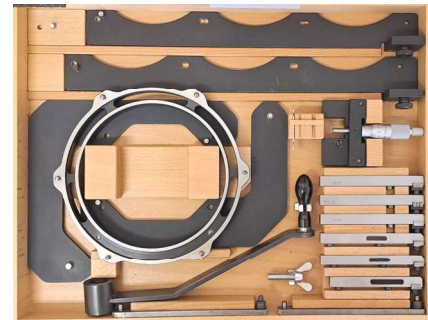
13



14



15



16

Position	Product name	Make and Model	Info
1.	Milling Tool Upper Cylinder Liner Guide	Scania	p. 36
2.	Adjusting Tool Lower Cylinder Liner Guide	Scania	p. 38
3.	Mira VGX-21		p. 18
4.	Mira BB-86		p. 28
5.	Mira Centronic		repair
6.	Extension Tool Kit 801	Volvo D9-D12	p. 30
7.	Extension Tool Kit 802	Scania D9-D12	p. 30
8.	Counter Bore Kit	Deutz/Volvo D7	p. 31
9.	Counter Bore Kit	Deutz/Volvo D6	p. 31
10.	Pneumatic Drive		p. 19
11.	Groove Cutting Set	Volvo TD71-73	p. 32
12.	Groove Cutting Set	Volvo TD61-63	p. 32
13.	Groove Cutting Set	Scania D9	
14.	Groove Cutting Set	Scania Cylinder Ø127	p. 33
15.	Groove Cutting Set	Scania D8, D11, D14	
16.	Groove Cutting Set	Volvo	

**TREGO** is also an agent for an extensive stock of machines and other tools for engine rebuilding from the following brands and companies:

Mira  
Goodson  
Comec  
Serdi  
K-Line (SBi)  
Kwik-Way  
HoningTec  
Flex-Hone  
IRONTITE  
MOLEMAB  
PEG  
AZ

Products can be found in the following categories:

Mira tools and equipment  
Cylinder head seat machines  
Cylinder head guide machines  
Block and cylinder head surfacing machines  
Valve re-facers  
Honing machines  
Grinding-, wheels, stones and belts  
Flex-Hones  
Cutting bits and tools  
Guide pilots  
Valve guide liners and tools  
Valve seats  
Crankshaft machines  
Cylinder boring machines  
Dress Diamonds  
Pressure tester for heads and blocks  
Line Boring machines  
Micrometers  
Fixtures ... and so much more.

Give us a call and we will do our best to help you find what you are looking for.



Rattgatan 6  
SE-827 35 Ljusdal  
Sweden

Telephone: +46 (0)651 124 60

[www.trego.se](http://www.trego.se)

[info@trego.se](mailto:info@trego.se)

[order@trego.se](mailto:order@trego.se)

Your Reseller:



**f**ijn**t**echniek **f**ijnaart b.v.  
Machines voor motoren revisie,  
honen en ultrasoonreinigen

*Service makes the difference!*

Blaaksedijk 30 | 4793 RN Fijnaart | Nederland  
tel. +31 (0)168 46 44 61 [info@ftf.nl](mailto:info@ftf.nl) [www.ftfmachines.com](http://www.ftfmachines.com)