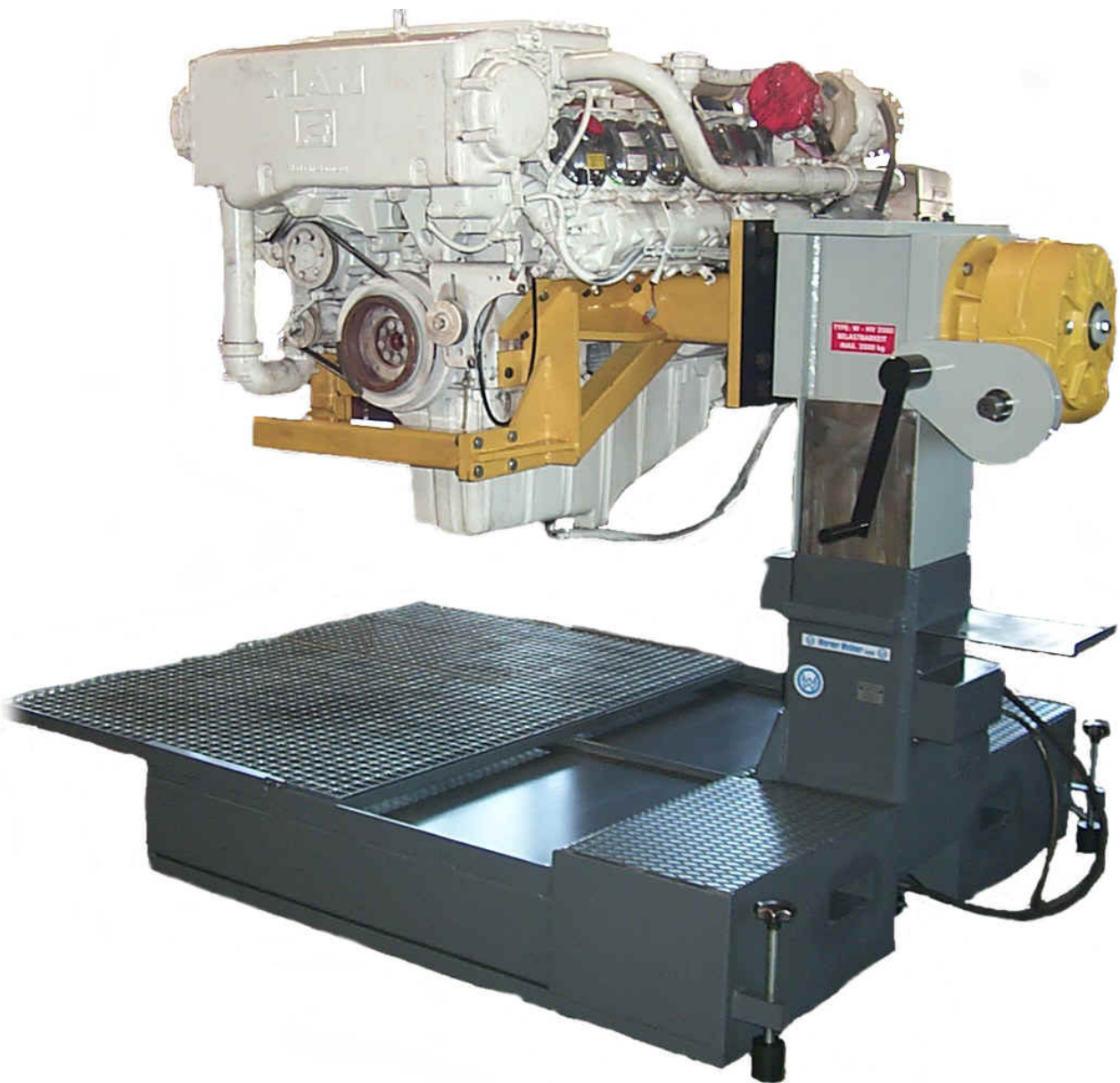


Description of equipment

Assembly and Repair Stand

WW-HV 2500





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Maschinenbau Machine-Design
Kfz-Spezialwerkzeuge Automotive Service-Tools
Entwicklung & Fertigung Engineering & Production

1. Introduction

1.1. Advice

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Werner Weitner Ltd. assumes neither explicit nor implicit any liability for the product informations which are presented in this paperwork, neither for their functional capability nor for their applicability for any specific employment.

Furthermore Werner Weitner Ltd. assumes no liability for material defects or for all types of direct or indirect damages which are caused by or connected with delivery, usage or material function.

Also for damages or troubles, which result from the usage of external accessories, is no liability assumed.

Any constructional changing requires the prior written agreement of Werner Weitner Ltd.

Werner Weitner Ltd. offers a limited warranty of 12 months to the customer, in the case of material or fabrication defects of this product. The warranty starts with the receipt of the goods by the customer.

Within the limited warranty a demonstrable defect product will be repaired or replaced depending on the discretion of Werner Weitner Ltd.



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1.2. Address of the producer/ distributor

Management, administration and assembly:

**Werner Weitner GmbH (Ltd.)
Sollnau 14
D-85072 Eichstätt**

Phone: +49 (0) 8421/9816-0

Fax: +49 (0) 8421/9816-98

All our products are controlled by means of a checklist by our quality manager before delivery. Should you have any further inquiries, please contact the above-named address. We would like to provide you further assistance.

Operating Instruction

2. Application

For repairs on heavy engines (especially truck and marine), transmissions and axles, even easily movable with unit

3. Operating Manual

- 1) Before using the Assembly and Repair Stand control the correct assembling and check for potential damage.
- 2) In the case of a damage of the Assembly and Repair Stand or of the accessories (worm gear pair, adapters ect.), do not put the Assembly and Repair Stand into operation.
- 3) The Assembly and Repair Stand has to be put in operation in connection with the designated accessories.
- 4) The maximum payload of the Assembly and Repair Stand is 2500 kg. Do never exceed this limit! Any overloading can cause serious damage on the Assembly and Repair Stand as well as on Individuals. When the supporting stand is accelerated, insert the safety plate (lock). (see item 3.2)
- 5) The Assembly and Repair stand must only be moved in the smallest cylinder setting, when it is loaded with an engine or a gear.
- 6) The Assembly and Repair Stand must only be used in closed factory buildings. Watch out for a level surface. Do not drive it on stages and bevels!
- 7) When using the Assembly and Repair Stand see that the quantity loaded is as axial as possible fixed on the used adapter. Any eccentric loading can cause complicated or fitful rotation of the crank.
- 8) When the Assembly and Repair Stand is descended, engage both set screws on the drive side.
- 9) The Assembly and Repair Stand is equipped for loading 2500 kg.
- 10) When leakages of the lifting cylinder and/or damages on the under frame (cracks on components, welding seams ect.) appear, the Assembly and Repair Stand must be decommissioned and checked **immediately**. Repairs must only be executed by professional workshops. Furthermore contact us as fast as possible.

- 11) The engine or the gear can be lowered by foot actuation with pressure forwards on the air hydraulic pump.
- 12) The non-observance of the aforementioned advices can cause damages and/or a breakdown of the Assembly and Repair Stand. From these malfunctions damages on individuals and objects can result.
- 13) We assume no liability for damages which are caused by an incorrect handling of the Assembly and Repair Stand and/or of the particular adapters.

4. Equipment and scope of supply and services

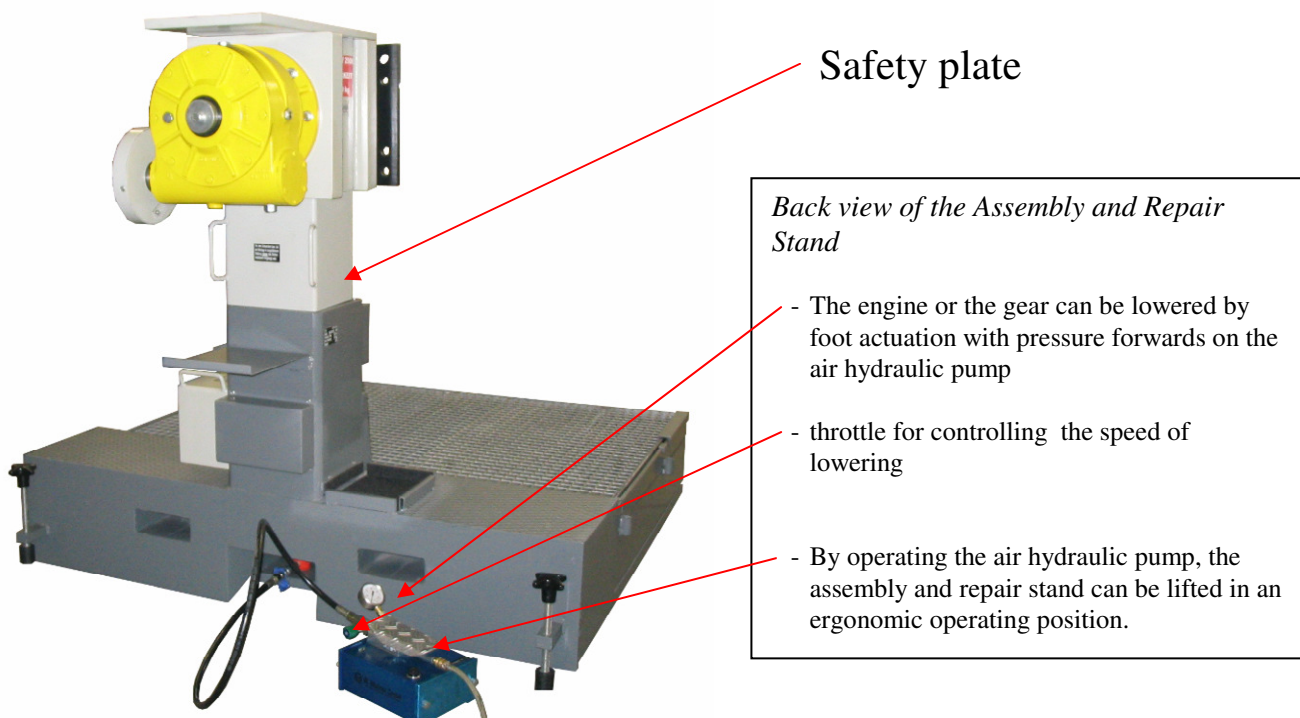
- Facile turning of the engines because of a worm gear pair ($i = 80:1$) that is self-locking in each position
- Ergonomic operation by reason of a low installation-height and individual adjustable working height

4.1. Construction

The Assembly and Repair Stand must only be operated using the installed hydraulic. Any modification of the Assembly and repair stand causes the losing of the operating licence. In case of every change of the components, e.g. modified contour, form or tolerance changing ect., consult Werner Weitner Ltd. before.

After a contingently needed change of the device, e.g. with alternative engine adapters by Werner Weitner Ltd., the application of the Assembly and Repair Stand is permitted for diverse engine types. Condition is the **non-exceeding of the maximum payload**.

4.2. Hydraulic



Follow the directions of the air hydraulic single plunger pump



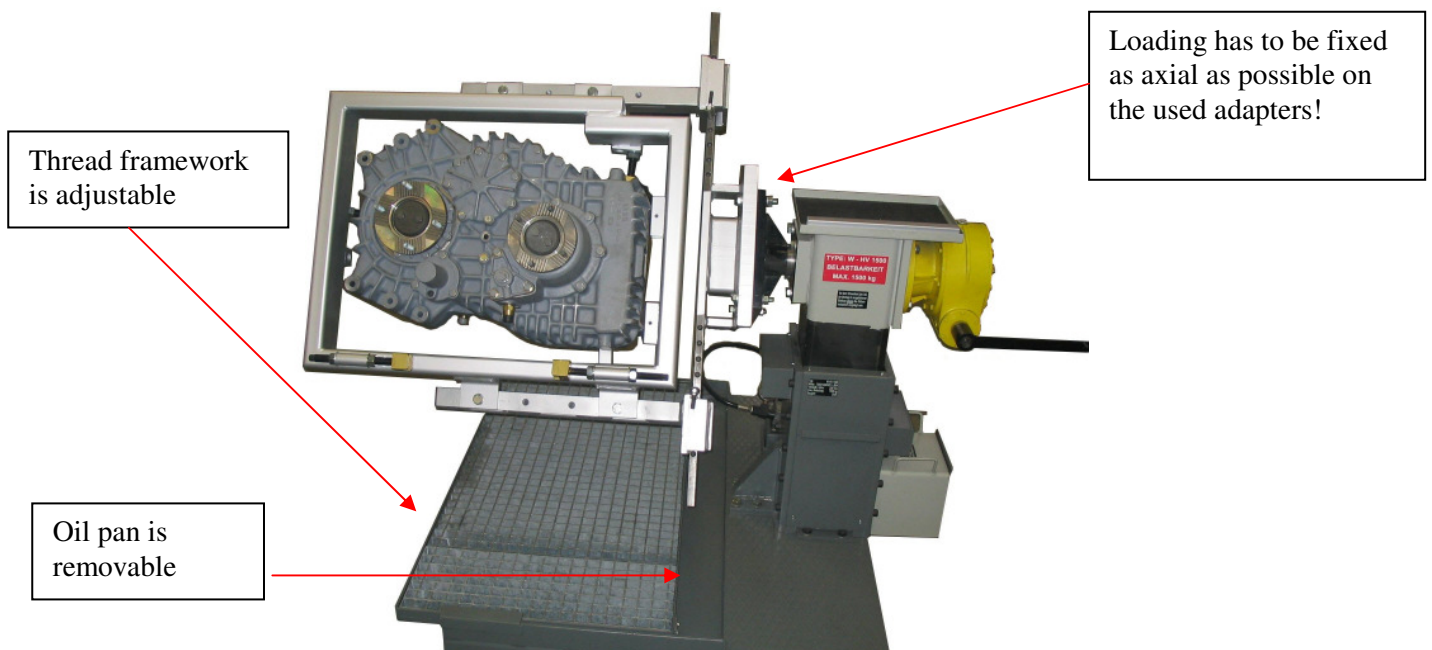
Side View of the Assembly and Repair Stand

- By turning the crank handle the fixed engine can be turned comfortably 360° using the self-locking worm gear pair

5. Handling of the mounting fixture

5.1. Operation sequence

- Clamping the engine or the gear with adequate adapters



Thread framework is adjustable

Loading has to be fixed as axial as possible on the used adapters!

Oil pan is removable

- ⇒ Turning the engine or the gear in the designated position

5.2. Before initial operation

General:

The Assembly and Repair Stand is a working place for **one or more persons**.

The turning of the engine or the gear into the correct position is possible by using the crank handle. Follow the safety instructions.

Attention: Before starting the Assembly and Repair Stand WW-HV 2500, instructions for safety and the instructions for operating the WW-HV 2500 have to be read carefully!

Intended use of the device

This device has been constructed according to the latest state-of-the-art and accepted rules of safety. Nevertheless danger to life and limb of the user or third party and/or impairment of the device or other real value can result from using it.

The device must only be used in good order and condition as well as conventional, danger- and safety-conscious and in consideration to the operating instructions. Particularly disturbances, which might impair safety, have to be eliminated immediately.

The Assembly and Repair stand is exclusively made for the purpose shown in the instructions for operating of the WW-HV 2500. Any different use is not in accordance with the regulation. Therefore no liability of the producer/distributor for damages resulting from that irregular use is assumed. The risk will be taken by the user exclusively. The observance of the operating instructions and as well the compliance of the inspection and maintenance conditions belong also to an intended use.

Observe any notice of safety and danger on the Assembly and Repair Stand. Keep all these notices in readable condition.

Do not make any modification on the Assembly and Repair Stand, which could endanger safety, without permission of producer! This is also valid for installation and adjusting safety equipment and valves.

Stop and secure Assembly and Repair Stand immediately if trouble occurs. Let eliminate trouble immediately!

Before and during any use of the Assembly and Repair Stand make sure, that nobody will be endangered while running the Assembly and Repair Stand.

Avoid any working method that will reduce safety and/or stability of the Assembly and Repair Stand.

After every use check the Assembly and Repair Stand for externally visible damages and faults. If there are changes (inclusive operation of the Stand) report immediately to appropriate place! Stop and secure the Assembly and Repair Stand! Check every screwing for tight fit and externally visible damage. If there are damages, eliminate them immediately!

Working under load is prohibited, if loading is only lifted by hydraulic cylinders. If this work is imperative, adequate mechanical supports are additionally required.

For maintenance and repair work appropriate workshop equipment is absolutely demanded. Only personnel with expert knowledge are allowed to work with the Assembly and Repair Stand.

Check before every operation of the Assembly and Repair Stand WW-HV 2500:

- The wedging brakes have to be engaged on the guide rolls on the drive side
- Control that the Assembly and Repair Stand stands still in the designated position

During lifting, lowering or turning a fixed engine or gear on the Assembly and Repair Stand, nobody is allowed to stay in the danger zone. The whole front and side part from ca. 1 m of the centre of the Assembly and Repair Stand is part of the danger zone.

6. Safety instructions and precautions

This Stand must only be operated and maintained by instructed and qualified staff. The observance of the limit values, written in the technical specifications, has to be assured. (Hydraulic, lubricants, etc.)

See the description of product or technical specifications.



For maintenance and conversion work the assembly and Repair Stand has to be moved in basic position. Guide column has to be retracted.



Caution!

Do not engage with the Assembly and Repair Stand during operation, neither operator nor persons standing next to the Stand.



Interference of other persons during lifting or lowering of the tower or while the motor is turning is prohibited.

If there is trouble, the Stand has to be moved in basic position and the cause of fault or trouble has to be eliminated.

Afterwards the Stand can be taken in service again.



If the damage is not repairable, do not put the Assembly and Repair Stand into service again. Inform Werner Weitner Ltd. immediately!



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7. Maintenance

7.1. Station

Only regularly instructed and qualified personnel is allowed to operate and maintain this assembling device. Take always account of the operational safety and the regulation for the prevention of industrial accidents.

7.2. Assembly and Repair stand and adapters

At regular intervals the Assembly and Repair Stand has to be cleaned and the oil pan has to be emptied. Any contamination caused by solid substances (such as dust or the like) has to be removed immediately. Every screwing on the adapter system has to be checked for tight fit at regular intervals.

The guide column has also to be greased regularly and checked for free movement and function. If damaged parts have to be exchanged; only equivalent materials can be used. Exchange- and repair- work of parts or components is prohibited. Only Werner Weitner Ltd, or experts provided by customer are authorized to do this work.

8. Technical specifications

Marking: Assembly and Repair Stand WW-HV 2500

Payload: max. 2500 kg

Height of stroke: max. 350 mm (hydraulic)

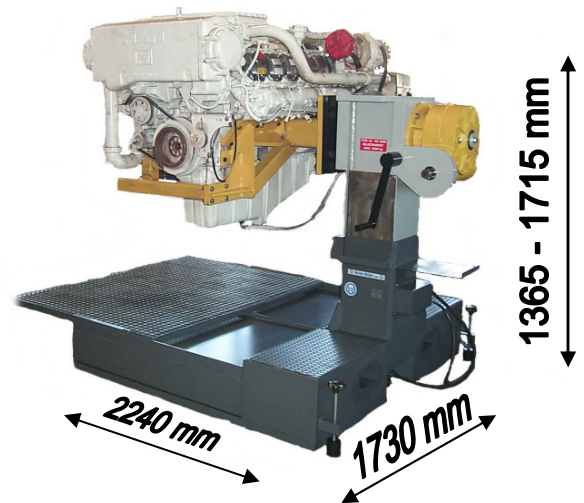
Measures: Width: 1730 mm
 Length: 2240 mm
 Height: 1365 mm

Total height to the centre: 1165-1515 mm

Dead weight: 1250 kg

Air hydraulic pump: 700 bar

Adapter flange: Vkt. 400 x 400 x 30



- 2 guide rolls, 2 fixed rollers for heavy load
- carriage lockable
- fitting for transport by fork lift
- removable oil pan
- thread space enlargeable using extendable thread framework
- a height adjustable supporting stand can be inserted in the thread framework for loading heavy engines
- Facile turning of the engines because of a worm gear pair that is self-locking in each position
- Ergonomic operation by low installation height
- The column can be lifted and lowered by the installed hydraulic




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9. EC – Declaration of Conformity

According to EC – machine guidelines 98/37/EG, Appendix II A

<p>In this connection we declare, that the machine, called above, is in accordance with EC-machine guideline. Its conception and construction and also the version we are distributing fulfils the request of safety and health under the regulations of DIN 1494: 2000.</p> <p>In the case that this device is intended to be part of another machine, we have to stress that our machine can only be put into operation, if the super ordinate machine is fulfilling the standards of the guideline, mentioned above. Any change of the machine that is not permitted by Werner Weitner Ltd. will be due to loosing the validity of this declaration.</p>	
<u>Description of the machine:</u>	Assembly and Repair Stand
<u>Type:</u>	WW-HV 2500
<u>Use:</u>	permitted only for repair work
<u>Appropriate EC – guidelines:</u>	EC machine guideline (98/37/EG)
<u>Applied harmonized standards:</u>	ISO 12100-1, ISO 12100-2.....
<u>Applied national</u>	BGVA1, BGVA2.....
<u>Standards and technological Details, especially:</u>	DIN EN 1494.....
<u>Date/Signature of producer:</u>	01.01.2008 
<u>Personal details of signatory:</u>	managing director
<p><u>Formal requirements:</u></p> <ul style="list-style-type: none"> - Filling in printed or type-written - Official language of user's country - Legally binding signature 	
<ul style="list-style-type: none"> - original for project file - copy for customer 	

10. Examples of clamping

