

Please read and save these instructions. Read through this owner's manual carefully before using product. Protect yourself and others by observing all safety information, warnings, and cautions. Failure to comply with instructions could result in personal injury and/or damage to product or property. Please retain instructions for future reference.



BODY REPAIR KIT

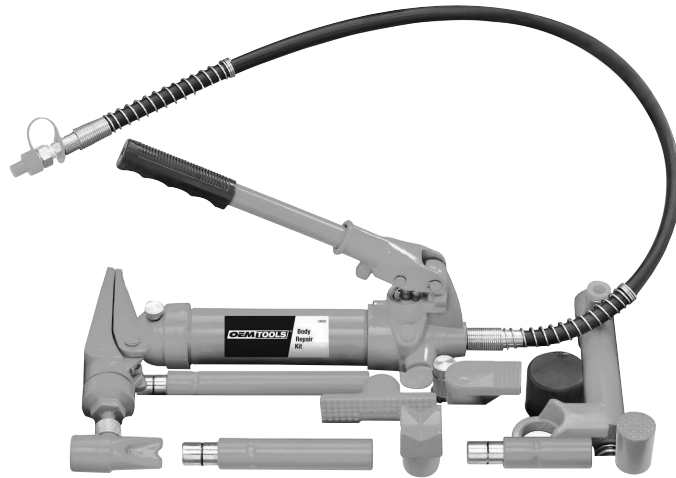
FOR CUSTOMER SERVICE

Technical Question?

CALL 1-866-458-2472
customerservice@oem-tools.com

UNPACKING

After unpacking the unit, inspect carefully for any damage that may have occurred during transit. Check for loose, missing, or damaged parts. If any damage is observed, a shipping damage claim must be filed with the carrier. DO NOT use the OEMTOOLS™ Body Repair Kit if broken, bent, cracked or damaged parts (including labels) are noted. Any Body Repair Kit that appears damaged in any way, operates abnormally or is missing parts should be removed from service immediately. If you suspect that the Body Repair Kit was subjected to shock load (a load that was dropped suddenly, unexpectedly, etc.), immediately discontinue use until it has been checked by a factory authorized service center.



⚠ WARNING

The following safety information is provided as a guideline to help you operate your Body Repair Kit under the safest possible conditions. Any tool or piece of equipment can be potentially dangerous to use when safety or safe handling instructions are not known or not followed. The following safety instructions are to provide the user with the information necessary for safe use and operation. Please read and retain these instructions for the continued safe use of your tool. Failure to follow instructions listed below may result in serious injury. In addition, make certain that anyone who uses the equipment understands and follows these safety instructions as well.

Explanation of Safety Signal Words

⚠ WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION: Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTES: Provide clarity and helpful information.

Thank you very much for choosing an OEMTOOLS™ Product!

For future reference, please register your new tool at www.oem-tools.com and complete the owner's record below:

Model: _____ **Purchase Date:** _____

Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it. This product is designed for certain applications only. OEMTOOLS™ cannot be responsible for issues arising from modification. We strongly recommend this product is not modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the product until you have first contacted customer service to determine if it can or should be performed on the product.



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! IMPORTANT INSTRUCTIONS AND SAFETY RULES

1. Know your tool. Read this manual carefully. Learn the tool's applications and limitations as well as potential hazards specific to it.
2. Keep work area clean and well lit. Cluttered or dark work areas invite accidents.
3. Keep children away. All children should be kept away from the work area. Never let a child handle a tool without strict adult supervision.
4. DO NOT operate this tool if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, DO NOT attempt to operate.
5. Use safety equipment. Eye protection should be worn at all times when operating this tool. Use ANSI approved safety glasses. Everyday eyeglasses are NOT safety glasses. Dust mask, non-skid safety shoes, hard hat or hearing protection should be used in appropriate conditions.
6. Wear proper apparel. Loose clothing, gloves, neckties, rings, bracelets or other jewelry may present a potential hazard when operating this tool. Keep all apparel clear of the tool.
7. DO NOT overreach. Keep proper footing and balance at all times when operating this tool.
8. Check for damage. Check your tool regularly. If part of the tool is damaged, it should be carefully inspected to make sure that it can perform its intended function correctly. If in doubt, the part should be repaired. Refer all servicing to a qualified technician. Consult your dealer for advice.
9. Keep away from flammables. DO NOT attempt to operate this tool near flammable materials or combustibles. Failure to comply may cause serious injury or death.
10. Store idle tools out of the reach of children and untrained persons. Tools may be dangerous in the hands of untrained users.
11. Maintain tools with care.
12. Keep tools dry and clean.
13. Properly maintained tools are less likely to bind and are easier to control. DO NOT use a damaged tool. Tag damaged tools "DO NOT use" until repaired.
14. Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation.
15. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.
16. Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool may become hazardous when used on another tool.
17. Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.
18. When servicing a tool, use only identical replacement parts. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.
19. Maintain a safe working environment. Keep the work area well lit. Make sure there is adequate surrounding workspace. Keep the work area free of obstructions, grease, oil, trash, and other debris. DO NOT use this product in a damp or wet location.
20. Maintain labels and nameplates on this product. These carry important information. If unreadable or missing, contact OEMTOOLS™ for a replacement.
21. Keep the handle dry, clean, and free from brake fluid, oil, and grease.
22. Before use, read and understand all warnings, safety precautions, and instructions as outlined in the vehicle manufacturer's service manual. It is beyond the scope of this manual to properly describe the correct procedure and test data for each vehicle.
23. The warnings, precautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.
24. We believe the information contained herein to be reliable. However, general technical information is given by us without charge and the user shall employ such information at their own discretion and risk. We assume no responsibility for results or damages incurred from the use of such information in whole or in part. Always refer to specific instructions and technical information supplied by vehicle manufacturer.
25. The manufacturer declines any and all responsibility for damage to vehicles or components if said damage is the result of unskillful handling by the operator, or of failure to observe the basic safety rules set forth in the instruction manual.
26. The procedures documented in this manual are to serve as guidelines for the use of this equipment.
27. Remember that during body repair there is always the possibility of a fixture slipping or a body part failing, which could cause the vehicle to jolt suddenly. If the vehicle is not adequately supported, it could fall with possibly serious consequences.
28. Never use an additional extension handle to operate the pump.

PRODUCT DESCRIPTION

The OEMTOOLS™ Body Repair Kit is great for body and frame repair. Use to straighten, bend or spread any piece of metal that requires hydraulic power.

PRODUCT SPECIFICATIONS

Repair Kit includes hydraulic pump, hydraulic ram, (4) extension rods, rubber ball foot and duckbill hydraulic spreader.



BODY REPAIR KIT

Description	4 Ton 24820	10 Ton 24821
Weight (complete in case)	17.6 kg	30 kg
Moulded case dims (L x W x H)	580 x 315 x 170 mm	720 x 390 x 160 mm
Length of handle	265 mm	465 mm
Pressure relief operating pressure	4 Ton	10 Ton
Pump unit dimensions (L x W x H)	330 x 130 x 140 mm	510 x 140 x 140 mm
Pump rated operating pressure	63 Mpa	62 Mpa
Pump oil capacity	250 g	500 g
Hose dimensions (L x O/D)	1150 x 17 mm	1350 x 17 mm
Hose max operating pressure	140 PSI	140 PSI
Ram unit length (ret/ext)	270 x 395 mm	370 x 512 mm
Ram rated operating force	4 Tons	10 Tons
Ram piston stroke	125 mm	142 mm
Hydraulic spreader dims (L x W x H)	230 x 50 x 60 mm	230 x 50 x 65 mm
Spreader max rated load	0.5 Ton	0.5 Tons
Spreader opening	16 - 90 mm	20 - 100 mm
Base rated load	4 Tons	10 Tons
Angled toe rated load	4 Tons	4 Tons
Circular head rated load	4 Tons	10 Tons
Square V-head	4 Tons	10 Tons
Rubber head	4 Tons	10 Tons
Plate head	4 Tons	10 Tons
Removable connector	4 Tons	10 Tons
Extension tubes	2 Tons	5 Tons

Please note that the details and specifications contained herein are correct at the time of going to print. However, OEMTOOLS™ reserves the right to change specifications at any time without prior notice.

OVERVIEW

This body repair kit is designed for bending chassis frames and repairing dents in vehicle body panels. In most cases, the kit will only return the vehicle body parts to approximately their original position. Additional work will be required to complete the repair. There are two attachments which can be connected to the Pump unit.

1. The Hydraulic Ram is for use in larger spaces where greater force is needed and where there is sufficient room. It requires a solid immovable base, directly in line with the damaged area.
2. The Spreader Wedge is used in tighter spaces where the Ram and other accessories will not fit.

THE ATTACHMENTS

Several different attachments are provided that may be used in conjunction with the Hydraulic Ram dependant upon the nature of the damage.

1. The FLAT BASE is used to spread the load of the Hydraulic Ram. It should be connected to the static end of the Hydraulic Ram using the Male Connector.
2. The RUBBER HEAD is typically used for popping dents out of sheet metal such as doors and body panels when plugged into the moving end of the Hydraulic Ram or the Extension Tubes.
3. The SQUARE V-HEAD is used to align the force of the Hydraulic Ram when bearing against an angled frame, and may be attached to the Hydraulic Ram or the Extension Tubes.
4. The WEDGE HEAD is used to repair small dents and areas located in angles and tight spaces and attaches to the Hydraulic Ram or Extension Tubes.
5. The MALE CONNECTOR plugs into the female end of the Hydraulic Ram.
6. The ANGLED TOE and PLATE HEAD are normally attached to the extension tubes but could be used as a substitute for the flat base if space is limited.





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- The SERRATED CAP is typically used for pushing during frame repair. It may be plugged into either end of the Hydraulic Ram or the Extension Tubes.
- The EXTENSION TUBES plug together in different combinations to reach the desired length.
- The HYDRAULIC SPREADER WEDGE is used in restricted spaces when the Hydraulic Ram cannot be used. Connect the wedge directly to the hose of the pump unit.

ASSEMBLY

When assembling the Hydraulic Ram, Pump unit and attachments, unscrew and retain the plastic end plugs on the connections of the Ram and Hydraulic Spreader Wedge for future use. Ensure the hydraulic hose is tightly screwed to the connection.

- Screw the Pump Handle into the socket in the pump unit.
- If the Hydraulic Spreader Wedge is to be used, connect the screw-in connector of the pump hose to the spreader wedge as shown in Fig 1.
- If the Ram is to be used, fit the Flat Base to the static end of the Ram using the male connector. Connect other attachments to the moving end as required.

Various combinations of extension tubes and attachments can be assembled as shown in Fig 2, according to the distance between the work surface and the supporting frame.

OPERATION

Assemble the components including the flat base and as many extension tubes as required.

▲ Note: WHEN ADDING FURTHER EXTENSION TUBES, THE MAXIMUM RATED LOAD IS REDUCED. (SEE WARNING LABEL)

- Connect the Hydraulic Ram or Hydraulic Spreader to the connecting hose using the screw-on hose connector. Use the male connector to join the ram to your selected attachment or any extension tube.

- To operate the Hydraulic Pump, position it on a stable, level surface close to the damaged area. Close the Release Valve by turning it clockwise and pump the handle to create pressure.
- Turn the Release Valve counter-clockwise to release the pressure.

The pump may be positioned horizontally or vertically. When using the Hydraulic Ram in a vertical position, always keep the hose end facing downward.

▲ WARNING

NEVER OVERLOAD THE RAM BEYOND ITS CAPACITY. ENSURE THE BEARING POINT IS STABLE AND PROPERLY CENTERED ABOVE THE RAM. NEVER OVERLOAD THE ATTACHED COMPONENTS BEYOND THEIR RATED CAPACITIES AS STATED IN THE SPECIFICATION.

Always apply the load slowly to be sure that everything is secure. Take care that the load is always in line with the ram.

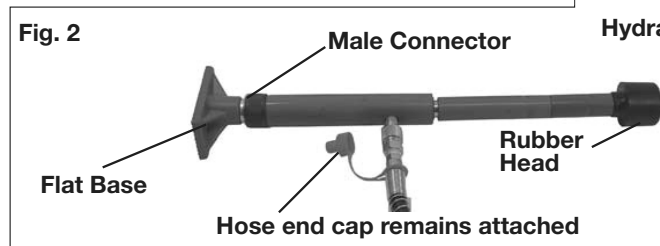
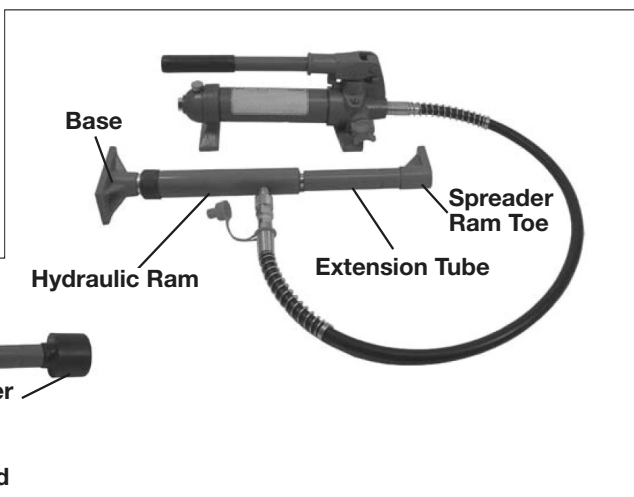
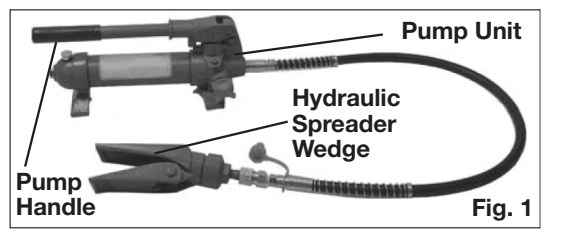
USING THE RAM

- Determine the direction in the which the target area needs to be pushed.
- Remove any obstructions that are in the way and could be damaged.
- Connect the Flat Base to the stationary side of the Hydraulic Ram and connect the appropriate attachment to the working end of the Ram.

Note: When repairing larger body panel dents such as a dented door, wing or quarter panel, the correct pushing attachment will be the Rubber Head.

- Position the Hydraulic Ram so that the flat base is resting against a frame member opposite the damaged area. It must be in line with the direction in which the damaged area needs to be pushed and have enough support that only the damaged area will be displaced by the ram pressure.

Use soft pads or wooden supports where necessary to protect the body.





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5. Aim the pushing end towards the damaged area and slowly apply pressure with the pump.
6. Once contact is established at each end, keep clear as well as practical and slowly apply pressure to the damaged area until the desired correction has been made.

▲ CAUTION: KEEP HANDS AWAY FROM CONTACT AREAS AND TIGHT SPACES IN CASE THE COMPONENTS SHOULD SLIP AND CAUSE INJURY.

7. When the damaged area has been bent to the desired position, slowly turn the release valve on the pump unit in a counterclockwise direction to release hydraulic pressure before removing the Ram.

USING THE SPREADER WEDGE

1. Determine the direction in which the metal needs to be spread.
2. Remove any obstructions that are in the way and could be damaged.
3. Place the Spreader Wedge so that the hinged arm is resting against the part to be moved and the stationary base is bearing against a rigid support. Hold the Spreader Ram in position and apply the pump pressure.
4. Once contact is established at each end, keep clear as well as practical and slowly apply pressure to the damaged area until the desired correction has been made.

▲ CAUTION: KEEP HANDS AWAY FROM CONTACT AREAS AND TIGHT SPACES IN CASE THE COMPONENTS SHOULD SLIP AND CAUSE INJURY.

5. When the damaged area has been bent to the desired position, slowly turn the release valve on the pump in a counterclockwise direction to release hydraulic pressure before removing the wedge.

MAINTENANCE

If the pump has been stored for long periods, check the oil level before use. Stand the pump on a level

FAULT FINDING

Problem	Possible Cause	Remedy
Ram does not operate when handle is pumped.	Release valve not tightly closed. Air trapped in system.	Firmly close the release valve. Purge air from system by pumping operating handle.
Ram will not hold load.	Release valve not tightly closed. Malfunction in pump such as dirt inside valve mechanism.	Firmly close the release valve. Return pump to dealer for overhaul.
Ram reluctant to lower when load removed.	Oil reservoir overfilled. Piston binding.	Drain oil to correct level. Clean and lubricate moving parts.
Ram will not extend to full range of stroke.	Low oil level.	Add hydraulic oil to the reservoir.
Ram tries to tilt to one side.	Poor positioning of the footing.	Stop work and re-position ram and base, ensuring it is well supported and as close to perpendicular to the repair as possible.

surface and remove the breather valve on the oil reservoir. If necessary, top up via the breather valve which is then screwed on finger tight.

Note: Only unscrew this when the system is not under pressure. The oil level should be near the bottom of the opening. If required, oil can be Topped. Top using high quality Hydraulic Oil.

After extensive use, the hydraulic oil should be replaced to ensure longer equipment life. Do not overfill, or the piston rod will be unable to move freely. Replace the breather valve after re-filling. The required oil volumes are as follows.

24820 - 250 ml + 5ml

24821 - 500 ml + 5ml

STORAGE

After use, screw the valve cover on to the pump to keep the connection clear of dust and dirt and cover the hydraulic hose end with the plastic cap. When not in use, the pump should be stored with the release valve open. Store all the equipment in its moulded case in a clean, dry environment protected from the weather.

ENVIRONMENTAL PROTECTION

If disposing of old oil or any damaged components, do not dispose of them with general waste. Any escaping oil should be captured with some absorbent material which should then be disposed of appropriately. This product and its packaging contain valuable raw materials and should be taken to your local civic amenity site for recycling.

SPARE PARTS

In the event of lost or damaged components, replacements are available from OEM Parts & Service. Please refer to the following parts list and diagrams, quoting the OEM part numbers:

4 Ton: 24820-01 to 69.

10 Ton: 24821-01 to 69.



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Parts List

No.	Description	No.	Description	No.	Description
1	Plastic Case	24	Steel Ball	47	Ram Cylinder
2	Tube Set (4 pieces)	25	O-ring	48	Screw Cover
3	Flat Base	26	Hand Release Valve	49	Screw M6
4	Angled Toe	27	Sealing Ball	50	Connecting Nut
5	Plate Head	28	Spring	51	Cylinder Screw
6	Wedge Head	29	Screw	52	O-ring
7	Square V-Head	30	Steel Ball	53	Dust Cover
8	Male Connector	31	Ball Cup	54	Tension Spring
9	Serrated Cap	32	Spring	55	Circlip
10	Rubber Head	33	Screw	56	Nylon Sealing Ring
11	Valve Body	34	Screw Protector	57	Bushing
12	Oil Filter	35	O-ring	58	O-ring
13	O-ring	36	Nylon Sealing Ring	59	Piston Rod
14	Oil Reservoir	37	Screw	60	Piston End Cover
15	Seal Ring	38	O-ring Seal	61	Fixed Jaw
16	Thumb Nut	39	Piston	62	Small Piston
17	Sealing Ring	40	Hinge Pin	63	Piston Ring
18	Tie Rod	41	Circlip	64	O-ring
19	O-ring	42	Pivot Pin	65	Screw Cover
20	Pump Foot	43	Handle Socket	66	Moving Jaw
21	Hydraulic Hose	44	Operating Handle	67	Circlip
22	Coupling	45	Handle Grip	68	Hinge Pin
23	Dust Seal	46	Ram Cylinder	69	Spring

NOTE:

Not all components of the Body Repair Kit are replacement items, but are illustrated as a convenient reference for location and position in the assembly sequence. The manufacturer and/or distributor have provided the parts list and assembly diagram in this manual as a reference tool only. Neither the manufacturer nor distributor makes any representation or warranty of any kind to the buyer that he or she is qualified to make any repairs to the product, or that he or she is qualified to replace any parts of the product. In fact, the manufacturer and/or distributor expressly states that all repairs and parts replacements should be undertaken by certified and licensed technicians, and not by the buyer. The buyer assumes all risk and liability arising out of his or her repairs to the original product or replacement parts thereto, or arising out of his or her installation of replacement parts thereto.

**BODY REPAIR KIT****OEMTOOLS™ Limited 90 Day WARRANTY**

If within 90 days from the original date of purchase of this OEMTOOLS™ product, you find any defect in material or workmanship, through normal usage, return it to the place of purchase, or to OEMTOOLS™ for repair or replacement at our discretion. In order to obtain this service, send your tool and proof of purchase, transportation pre-paid, to OEMTOOLS™ Q.A. Dept., 3580 E. Raines Road #3, Memphis, TN 38118. We will not be responsible for lost or damaged goods during transportation; please insure your package. If our inspection verifies the defect, we will either repair or replace the product at our election, or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

OEMTOOLS™ does not provide warranty for products labeled other than OEM® or OEMTOOLS™. OEMTOOLS™ will not provide any warranty for products subjected to abnormal use. Abnormal use includes, but is not limited to, abuse, accident, alteration, neglect, and unauthorized or unreasonable use or repairs. This warranty does not cover bits, blades, files, batteries, or calibration. We recommend that you maintain your tools and sharpen or replace blades, bits, files, and batteries as necessary. OEMTOOLS™ reserves the right to make any changes in construction or design at any time without any obligation in incorporating such changes to tools or equipment previously sold.

OEMTOOLS™ makes every effort to ensure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear or to lack of maintenance.

We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Don't forget to register your new OEMTOOLS™ product at www.oem-tools.com.

CONTACT US

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