



GENESIS™

S E R I E S

User's Guide



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Thank you for choosing equipment from **American Rescue Technology**. We strive to give our customers the latest technology available in rescue products; from the newest lightweight alloys, to the most innovative designs in the industry. We continually update and refine our products in order to offer the highest quality equipment at a reasonable price. All of our **Genesis Series** rams are constructed from tool steel and aircraft grade aluminum alloy protected with a hard anodize finish. At **American Rescue Technology** we feel we offer the highest quality rescue equipment available; so do our customers! Thank you again for choosing **American Rescue Technology**.

Read Before Operating

Read and follow this manual and safety regulations prior to operation.

- Only trained and qualified personnel are authorized to use this ram.
- Operator must wear protective clothing, helmet, eye protection, and gloves.
- No modifications in shape or performance is allowed. Changing the pressure relief valve of the hydraulic power unit is not allowed.
- These rams are designed for the use described in this manual. Other applications are not permitted.
- Before operating rams, all bystanders must be removed from area.
- These rams should never be connected or disconnected to hydraulic hoses if pressure is present in the hoses.

Applications

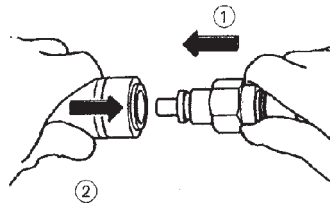
The rams are designed for spreading body parts on vehicles. They are used to rescue trapped or endangered patients: To displace dashboards, doors, roofs, and other obstacles encountered during rescue operations. The rams are also used for industrial purposes, e.g. to spread open molds, general lifting and pulling.

Connecting the Ram

Remove the protective caps from the male (1) and female (2) coupler.

Connecting

Grasp the male coupling in one hand and with the other grasp the female coupler and draw back the sleeve, be sure the pin and slot are aligned. Bring the ends together and press. Release and turn the sleeve to ensure couplers are connected.



Disconnecting

Grasp the coupler pair and draw back on the sleeve of the female coupler. Make sure the pin and slot are aligned and the coupler will disconnect. A few drops of fluid may be expelled. This is normal.

Operating Rams

The operation of the ram is controlled by a push-button “dead man” control.

Neutral Position: The push-button is held in the center position when not in use.

←|→ **Opening:** Press wedge-end knob (bottom button)- ram extends.

→|← **Closing:** Press spherical knob (top button)- ram retracts.

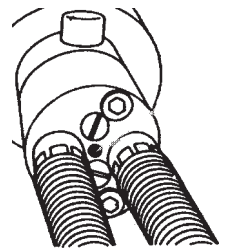
To Stop Movement:

Release push-button. The ram rod stops moving immediately (neutral position). The operating pressure built up in the ram, by the load, remains. The oil flow passes through the control handle allowing the tool to stop moving and hold the load in any position.

To restart press push-button side marked “open” or “close” as required. The operating speed of the ram is controlled by the pressure exerted on the push-buttons. Maximum speed and pressure can only be reached by completely depressing the push-button.

Operation of Over-Pressurization Relief Valve

If the couplers have not been properly engaged, preventing the return flow of fluid back to the power unit, a relief valve in the control handle automatically releases fluid. This causes a fluid leak, from the hole, between the hoses on the control handle. Immediately switch the power unit to the neutral position and connect the couplings correctly.



Disconnecting the Ram

When disconnecting the ram from the power unit hoses, the power unit must be in the neutral position. The ram can now be disconnected and another tool connected.

General Maintenance

Following are the recommended service intervals for your new rescue equipment. By following these guidelines you will be assured many years of reliable service.

After Each Use

- Wipe down all equipment to remove debris
- Clean male and female couplers
- Check whipends for damage
- Check pushing head and base for damage
- Clean debris from pushing head and base
- Clean debris from any ram accessories used
- Check ram accessories for damage

Weekly Inspection & Maintenance

We recommend running the tools weekly and doing the following checks.

- Check all couplers and fittings for tightness
- Run each tool and build full pressure
- Check handles and guards, tighten if necessary
- Check ram accessories for damage
- Attach accessories to rams to check threads

Yearly Maintenance

We recommend having a yearly inspection and service done by a qualified American Rescue Technology technician.

- Test couplers and fittings.
- Pressure test ram, adjust if necessary.
- Test over-pressurization relief valve.
- Check ram accessories for damage.



Ram Accessory Kit
P/N: ART.011.500.1

Genesis Series Rams

Genesis Series rams are designed to provide maximum performance in all rescue situations. Proper use and regular maintenance will keep the rams working at maximum efficiency.

Cleaning the Couplers

Below is a photo of a dirty female coupler. Dirty couplers allow dirt to get into the hydraulic system, requiring more frequent fluid changes. Dirty couplers are difficult to connect and lead to further complications. To clean a coupler, we recommend immersing it in hydraulic fluid and agitating it until the dirt is removed. Petroleum based penetrating oil will also work. (WD-40) These are available in sprays and are well suited for field use.

Clean dirty couplers with hydraulic fluid or a light penetrating oil like WD-40.



Ram Accessories

The hydraulic rams come with a standard pushing head. A ram accessory kit is also available. This kit contains some special purpose heads, chain pulling attachments and extensions. Following are some things to consider when using hydraulic rams.

- Always make sure the ram accessory is fully threaded to the rod. Failure to do so may bend or strip the threads.
- NEVER use more than one extension on a ram.
- Watch the ram head and base when pushing. If the ram “kicks out” it could further injure the patient or a rescuer.
- When performing a “dash roll-up” keep the control valve to the outside of the vehicle.
- When pulling with a ram, always pull in a straight line. Pulling at an angle could bend the ram rod.
- Always push against solid surfaces. Rusted or thin walled material could cause the ram to push through the material.

Genesis Series Rams

Set-Up Procedure

Thank you again for purchasing equipment from American Rescue Technology, Inc. Your new Genesis ram will provide you with many years of reliable service. All of the Genesis Series tools require little maintenance. We suggest following the guidelines as stated under the General Maintenance section of this guide. The ram should also be pressure tested and adjusted if necessary. The entire system should be serviced yearly by a qualified American Rescue Technology technician. Any adjustments to the pressure settings should be done by a qualified American Rescue Technology technician.

If any hydraulic leaks are detected at any time immediately shut system off.

1. Remove ram from box.
2. Remove packing material from ram and clean.
3. Check tightness of hose connections and couplers.
4. Check tightness of handle bolts.
5. Connect ram to power unit.
6. Start power unit and engage pump valve.
7. Allow fluid to circulate for 2 minutes.
8. Open and close ram a few times. This will remove any air in the system.
9. Build pressure by fully opening and closing the ram a few times.
10. Ram is ready for use.

Specifications

	21 Ram	31 Ram	41 Ram	62 Ram
Length (in/cm)	14.25/362	20/508	25/635	36/914
Width (in/cm)	11/279	8/203	8/203	8/203
Height (in/cm)	5/127	5/127	5/127	5/127
Weight (lbs/kg)	21/9.5	24/10.9	29/13.2	39/17.7
Maximum Opening (in/cm)	21.25/540	31/787	41/1041	62/1575
Operating Pressure (max. psi/bar)	10,000/700	10,000/700	10,000/700	10,000/700
Maximum Pushing Force(lbs./kN)	30,000/133	30,000/133	30,000/133	30,000/133
Maximum Pulling Force (lbs./kN)	NA	15,000/67	15,000/67	15,000/67
Part Number	ART.021.800.1	ART.031.800.1	ART.041.800.1	ART.062.800.1

Troubleshooting

Problem	Reason	Action
Tool not achieving maximum performance. Tool won't move or tool runs backward.	Push-button not completely depressed. Coupler set on backwards	Depress push-button completely Find reversed coupler set and repair
Ram cannot be connected to hose. Fluid leaks at back of control handle.	Pressure build-up in hose. Return line not properly connected	Put pump valve to dump or neutral position Check coupler connections
Ram opens and closes slowly Hoses have cuts and abrasions and wire braids are exposed.	Clogged filter or flow restrictor Hoses showing signs of wear	Check tool filters and flow restrictors Replace hoses
Fittings or couplers leaking	Loose fitting or coupler or bad seal	Replace seal if bad. Tighten

Parts and service are available through your local dealer or contact American Rescue Technology, Inc. Before disassembling tools contact your local dealer or American Rescue Technology, Inc.