



C-150 Cutter
ART.059.569.1



C-180 Cutter
ART.059.947.6

GENESIS[™]

S E R I E S

USERS GUIDE



240 Warren Street
Dayton, Ohio 45402
Tel. (937) 228-2200
Fax. (937) 228-3300
<http://www.art4rescue.com>
e-mail: amres@erinet.com

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. The **C-150 and C-180** cutters are forged from aircraft grade aluminum alloy and protected with a hard anodize finish. The cutting blades are forged from shock resistant tool steel. The C-150 and C-180 cutting tools are third party tested, **ISO 9001 Quality Assurance Certified and NFPA 1936 Compliant**. 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 cutter.
- 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.
- This cutter is designed for the use described in this manual. Other applications are not permitted.
- Before operating cutter, all by-standers must be removed from area.
- This cutter should never be connected or disconnected to hydraulic hoses if pressure is present in the hoses.

Applications

The cutters are designed for cutting body parts on vehicles. They are used to rescue trapped or endangered patients: To cut door or roof pillars, door posts, hinges and side impact bars.

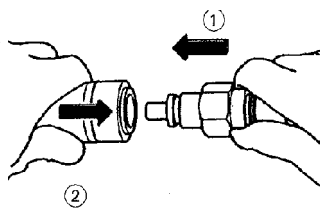
The cutters are also used for industrial purposes, e.g. to cut pipes, structural steel, sheet metal and cables.

Connecting the Cutter

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 Cutter

The operation of the cutter 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 spherical knob (top button)- cutter blades open.
←|→

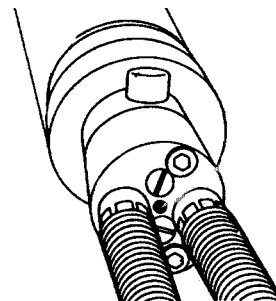
Closing: Press wedge-end knob (bottom button)-
→|← cutter blades close.

To Stop Movement: Release push-button. The cutter blades stop moving immediately (neutral position). The operating pressure built up in the cutter, 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 re-start press push-button side marked “open” or “close” as required. The operating speed of the cutter 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 of the Cutter

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

General Maintenance

The 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
- Clean cutter blades
- Check whipends for damage
- Check cutter blades 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
- Torque centerbolt on cutters

Yearly Maintenance

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

- Cleaning, greasing and inspection of cutter
- Sharpening or dressing of cutter blades
- Pressure test cutter, adjust if necessary

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.

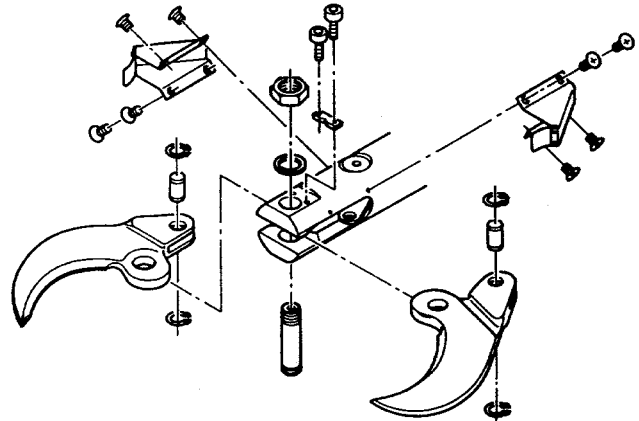
Clean dirty couplers with hydraulic fluid or a light penetrating oil like WD-40.



Lubricating Cutter

Remove the guard plates/rubber sleeve - close cutter blades to the point at which the pivot pins with snap ring are accessible. Remove snap ring and disassemble pivot pin. Remove rubber sleeve, hex nut and center bolt. Remove blades.

Grease blade friction points and pivot pins with molybdenum disulphide grease. Re-assemble in reverse order. When tightening center bolt use proper torque setting. (110 - 120 lb-ft.)



Regrinding Cutter Blades

The cutter blades can be re-ground up to 2 mm. When grinding, ensure that the original cutting angle and cutting width are restored. Only grind the cutting edge of the cutter blades. Any burrs or nicks should be removed with a file.

Cutter Set Up

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

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

Specifications

	C-150	C-180
NFPA Level Rating	A7/B6/C6/D8/E8	A7/B7/C7/D8/E9
Length (in/cm)	26/660	26/660
Width (in/cm)	10.5/267	10.5/267
Height (in/cm)	7.25/184	7.25/184
Weight (lbs/kg)	29/13.2	29/13.2
Opening (in/cm)	6.5/165	7/178
Opening Time (sec)	3.3	3.3
Closing Time (sec)	4.2	4.2
Operating Pressure (max. psi/bar)	10,000 700	10,000 700
Cutting Force (max. lbs/kN)	90,000 405	90,000 405
Part Number	ART.059.569.1	ART.059.947.6

Genesis Series Cutters

Of all the tools in your new Genesis Rescue System, the cutter requires the most care and maintenance. Following the General Maintenance recommendations on the previous page will keep your cutter working reliably for many years.

Cleaning & Inspecting Blades

When necessary clean the cutter blades with a wire brush. This will reduce the amount of contaminants that get into the moving parts of the blades and linkage. The blades and linkage should be cleaned and greased at least once a year.

After each use we recommend inspecting the blades for damage. Damage can occur during rescue operations for many reasons. Check along the cutting edge of the blades for nicks or gouges. These can usually be filed smooth. Bent blades or major blade failures require replacement. Call your local dealer or American Rescue Technology.

Tightening the Center Bolt

The most common cause for blade failure is a loose center bolt. The center bolt is the bolt that goes through both blades and acts as a pivot point. The center bolt torque should be checked after heavy use. The chart below gives the proper torque setting.

C-150 Cutter -----110-120 ft-lbs

C-180 Cutter -----110-120 ft-lbs

If the cutter is twisting excessively when cutting, the problem may be a loose center bolt.

Blade Placement When Cutting

When cutting with a hydraulic cutter be aware of what you are cutting. Following these guidelines will keep your cutter working in top condition.

- Always wrap around the piece to be cut. (See photo below left)
- Cut as close to the pivot point as possible. This is where the cutter has the greatest power.
- BEWARE, loose ends may “launch” when cut.
- Always cut perpendicular to the blades. (See photo below right)
- Puncture cuts should only be made in sheet metal.
- Cut normal rescue obstacles. DO NOT cut leaf springs, coil springs, trailer hitches, tie rods, axles . . . these could damage the cutter.
- When cutting door hinges, cut to either side of the hinge pin. Wedging the pin between the blades could cause damage.



Wrap the blades around the piece to be cut. This will reduce the chance of damaging the blades.



The proper way to cut. The blades are perpendicular to the piece being cut.

Troubleshooting

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

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.