

## NFPA 1901-04 Will Change the Way You Store Your Self-Contained Breathing Apparatus



"Where SCBA units are mounted within a driving or crew compartment, a positive latching mechanical means of holding the SCBA device in its stowed position shall be provided such that the SCBA unit cannot be retained in the mount unless the positive latch is engaged."

The New Standard further requires the holding device to "retain the SCBA unit when subjected to a 9-G force." Additionally, the "mounting devices shall be of a type that positively latch around the cylinder" and when mounted in a seat back, "the release mechanism shall be accessible to the user while seated."

This New Standard will go into effect on January 1, 2004, but the new brackets may be used beginning August 1, 2003.

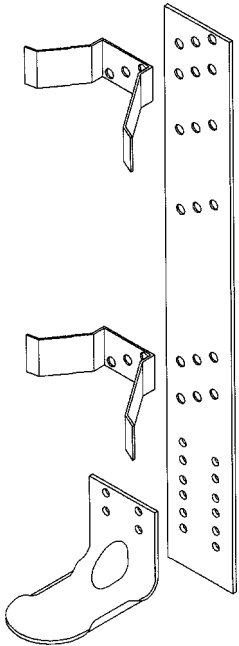
Spring clip style brackets cannot be used in the crew area of fire or emergency apparatus, purchased under the NFPA 1901 Standard, after January 1, 2004. You may continue to use the spring clip style brackets anywhere other than the crew area.

## Best bracket for your money

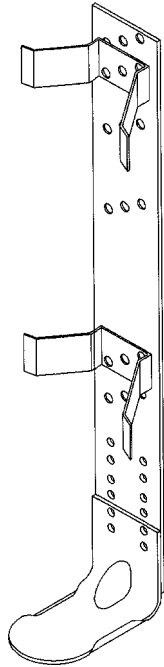
The "Load & Lock"<sup>™</sup> bracket is composed of a backplate, two seats and a footplate. Model LLS ("Load & Lock" Strap) comes standard with the bracket.

Brackets are sold in two ways:

1. **Knock-down bracket (model KD-ULLH).** Requires assembly in the field. This is the most economical way to purchase a "Load & Lock" bracket. All hardware for assembly is included, and assembly should require only a few minutes time with a Phillips head screwdriver and 7/16" wrench.



**KD-ULLH**  
**Knockdown Bracket**  
**Less LLS**



**ULLH**  
**Assembled Bracket**  
**Less LLS**

Patents Pending

2. **Assembled bracket (model ULLH).** Seats (2) are bolted to the backplate. Footplate is bolted to the universal backplate (positioned as required). Bracket is ready to be mounted.

**Coating Materials:** All bracket components are coated with a specially formulated thermoplastic material. The coating prevents the steel surfaces from rusting and minimizes wear to SCBA cylinders. The special coating is much harder (less tendency to crack or peel off) and is more suitable for use with composite, Kevlar or carbon cylinders. High cycle seats are multi-layer coated and have been tested to over 50,000 cycles (on and off an air cylinder) and are completely non-abrasive to the coating or air cylinder. The High Cycle process was developed by and only available through ZICO.

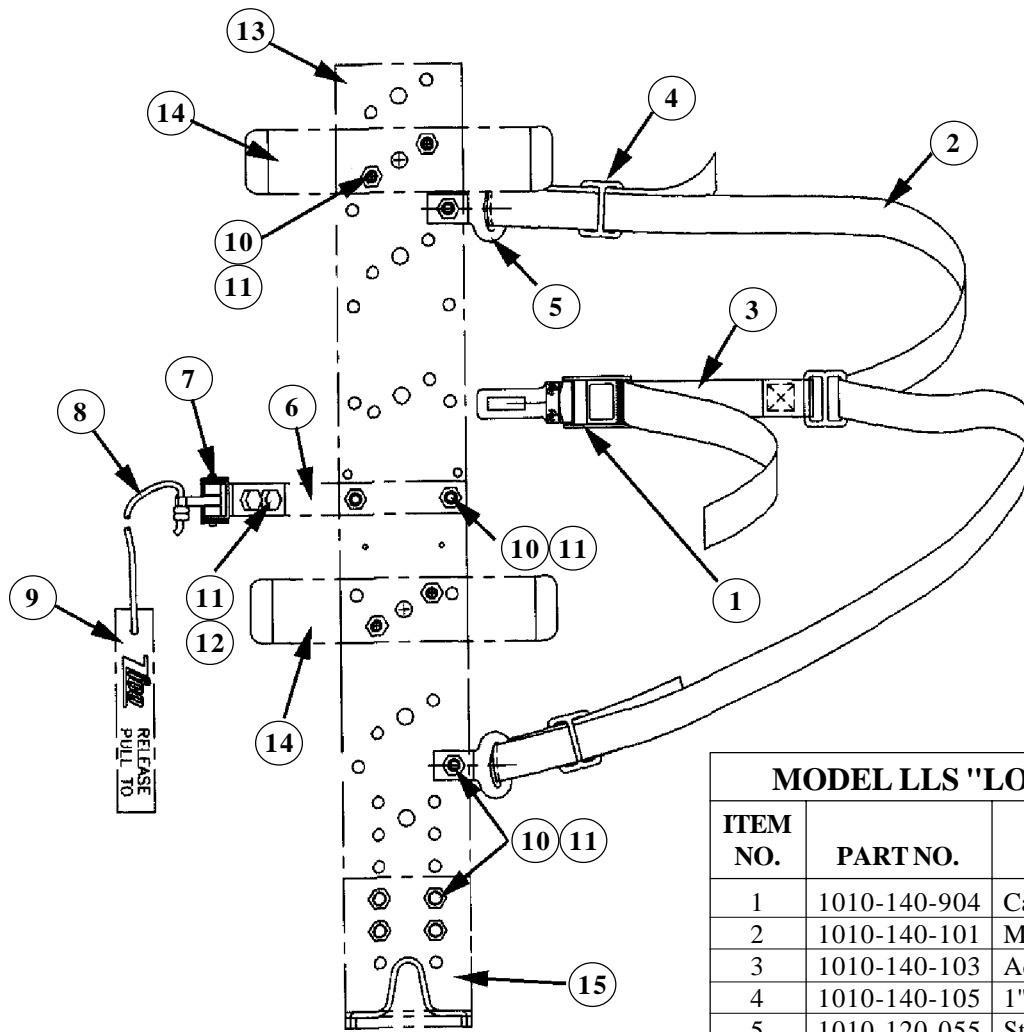
**What seat size should be specified? One size fits all.** SCBA cylinders from the high pressure 30-minute to the high pressure 60-minute units. Seats are engineered with **unique rounded ends providing a smooth bearing surface to prevent gouging or marring of SCBA cylinders.** Seats are double coated (high cycle yellow over black) for added protection.

**What footplate style is available?** Model NSF Standard short footplate with two sets of mounting holes. Provides the necessary range for mounting air cylinders of varying lengths.

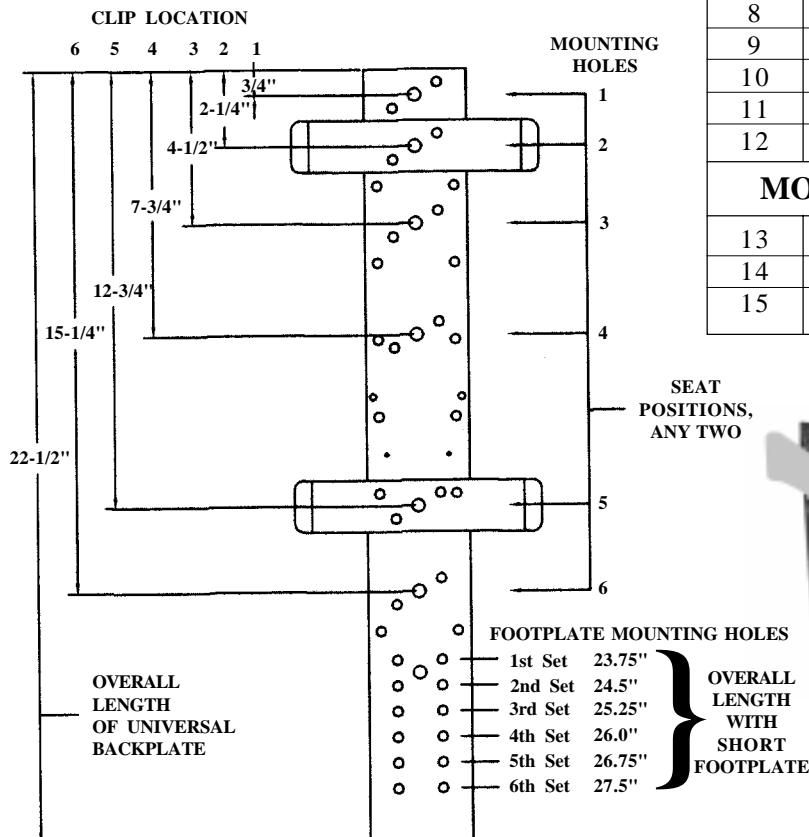
**What style strap is required? NFPA 1901-04, Section 14.1.10.1** requires a mechanical means of restraining the SCBA when mounted in the crew area on a fire apparatus. Model LLS is specifically designed to meet this standard. See page 3 for additional details.

**Can I convert my spring clip style bracket to a "Load & Lock" style bracket?** Model ULLH-CC provides (2) seats and (1) "Load & Lock" strap to convert any KD style bracket. See page 5 for details.

**What if the SCBA unit stays in the bracket without the strap?** Model LL-ES Ejector spring must be added to your bracket to insure compliance with the New Standard. See page 3.



MODEL LLS "LOAD & LOCK" STRAP			
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	1010-140-904	Cambuckle/Tab Assembly	1
2	1010-140-101	Main Strap	1
3	1010-140-103	Adjustment Strap Assembly	1
4	1010-140-105	1" Tri-Glide	2
5	1010-120-055	Strap Retainer	2
6	1010-120-175	Latch Extension Stamping	1
7	1010-120-903	Latch Assembly	1
8	1010-120-065	Lanyard	1
9	1010-120-070	Pull Tab	1
10	9010-162511	1/4-20 x 5/8 Flat Head	12
11	9013-172500	1/4-20 Lock Nut	14
12	9010-102508	1/4-20 x 1/2 Hex Head	2
MODEL KD-ULLH OR ULLH BRACKET			
13	UN	Universal Backplate	1
14	1054-007-105	Seat	2
15	NSF	Short Footplate	1



On seats that are excessively tilted back an Ejector Spring must be added to be sure the bracket is in compliance. Specify Model LLES Ejector Spring.

# KNOCK-DOWN BRACKET PARTS & ASSEMBLY

Model KD-ULLH "Load & Lock" brackets fit all SCBA units.

## KD-ULLH bracket kit contains the following: (component items are shown on page 3)

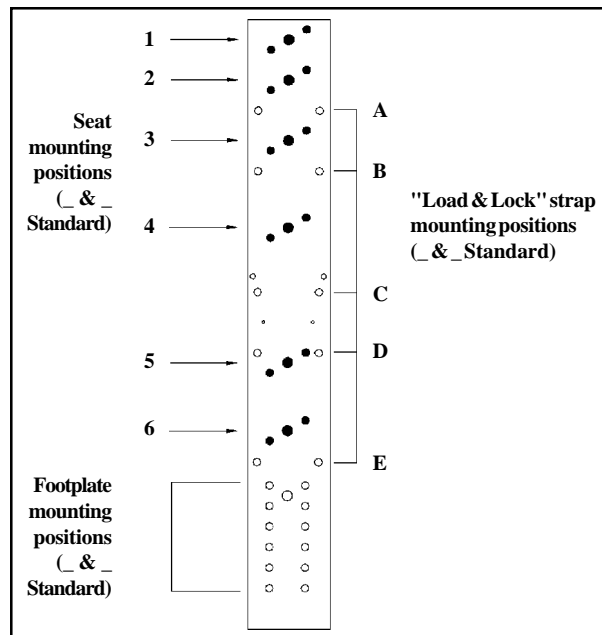
1. Model UN (13) - Universal backplate
2. Part Number: 1054-000-105 - Universal seats
3. Model NSF (15) - Standard black nylon coated short footplate - One per model of your choice (not required if valve assembly or end of cylinder will rest on a flat surface)
4. Model LLS - "Load & Lock" strap
5. Fastening screws and lock-nuts for attaching seats and footplate to universal backplate

## Assembly Instructions:

1. Lay the self-contained breathing apparatus (SCBA) unit on a flat surface, floor or table.
2. Lay universal backplate (13) along side of SCBA with six sets of parallel holes at same end as valve assembly on SCBA.
  - If mounting cylinder in inverted position, end of cylinder will be located at same end as parallel holes.
3. Place one seat (14) at location "6" (see drawing).
4. Place footplate (15) on universal backplate.

**NOTE:** Short footplate may need to be inverted for some types of SCBA.

- a. Valve assembly should be placed next to footplate; valve will rest upon footplate on final assembly.
  - b. Adjust SCBA cylinder so that cylinder will rest fully within the seat at location "6".
5. Second seat (14) can now be placed at locations "1", "2", "3", or "4" (see drawing), so as to make full contact with the cylinder.



6. Now that the proper seat mounting locations have been selected, proceed with assembly:

- a. Place flat head screws (10) through backplate (from countersunk side).
- b. Place seats and footplate over screws.
- c. Start nuts (11) onto screws.
- d. Tighten with 7/16" wrench and Phillips head screw driver.
- e. Make sure that screws and nuts do not come into contact with air cylinder.

**NOTE:** Seats are designed for 7/16" clearance between base of seat and the air cylinder.

7. Securing "Load & Lock" strap onto universal backplate.

- a. Secure latch extension stamping (6) to universal backplate (see page 3 for position).
- b. Latch assembly (7), lanyard (8) and pull tab (9) should already be attached to the latch extrusion. If not, connect them at this time.
- c. Attach strap retainers (5) to universal backplate at positions A & E (see above).

8. To mount completed "Load & Lock" bracket to mounting surface, see instructions on pages 6, 7 or 8.

# CONVERTING KD-UN OR KD-UH BRACKET TO KD-ULLH BRACKET

1. Remove bolts (10) and lock nuts (11) retaining the spring clips.
2. Discard the spring clips and replace with seats (14).
3. Remove bolts (10) and lock nuts (11) holding the model CRS strap to the universal backplate (13).
4. Replace with "Load & Lock" strap attaching two strap retainers (5) to universal backplate using bolts (10) and locknuts (11) provided.
5. Lay the latch extension stamping (6) next to the one presently attached to your backplate (if you had a CRS strap). If they are the same size, you can use the extension (6), latch assembly (7), lanyard (8) and pull tab (9) presently on your bracket. If the extension on your bracket is longer, remove the long extension and replace with the one provided.
6. You are now ready to adjust the "Load & Lock" strap.

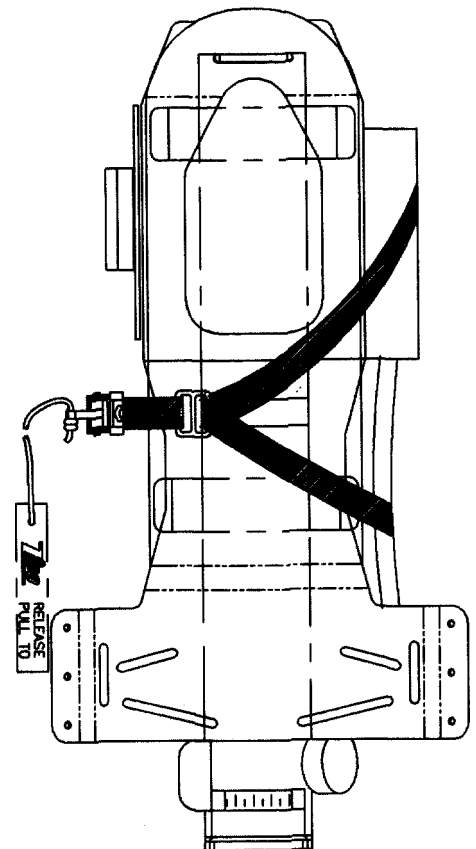
## USING THE "LOAD & LOCK" WALKAWAY BRACKET

### Storage of SCBA:

1. Place cylinder valve assembly on footplate.
2. Tilt cylinder back until it is touching both seats and hold in place with one hand.
3. With the other hand, bring the strap around the cylinder and insert the male tab into the latch.
4. Pull the adjusting strap until it is tight around the cylinder.

### Release of SCBA:

1. Place arms through shoulder straps, but do not tighten.
2. Pull the release strap when the apparatus comes to a full and complete stop at the emergency scene and after the seat belt has been released.
3. The LLS strap will pass between the SCBA unit and the firefighter.

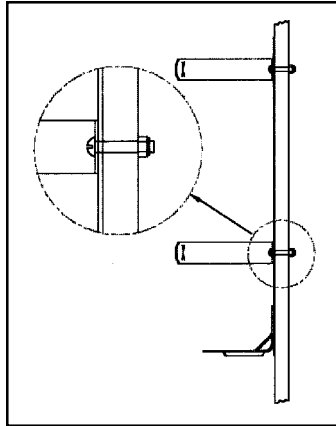


# BRACKET MOUNTING ON MOBILE FIRE APPARATUS

## Mounting in crew area:

When mounting SCBA brackets in the crew area, the Model LLS "Load & Lock" Strap must be used with the bracket. The bracket with the LLS are designed to withstand a dynamic deceleration of ten (10) gravitational forces for a duration of ten (10) milliseconds.

The surface to which the bracket is mounted should also be capable of withstanding a static force of ten (10) times the weight of the SCBA and bracket. If the bracket is mounted in a jump seat, then the seat assembly should also be capable of withstanding this same static force of ten (10) times the weight of the SCBA and bracket.

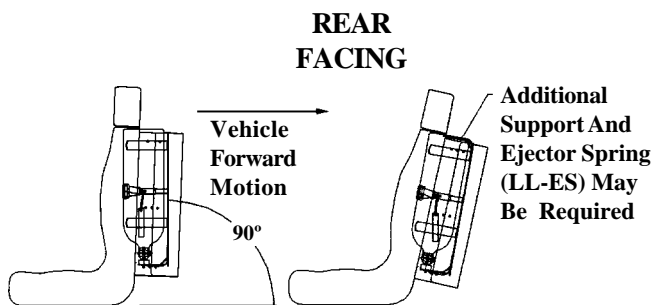
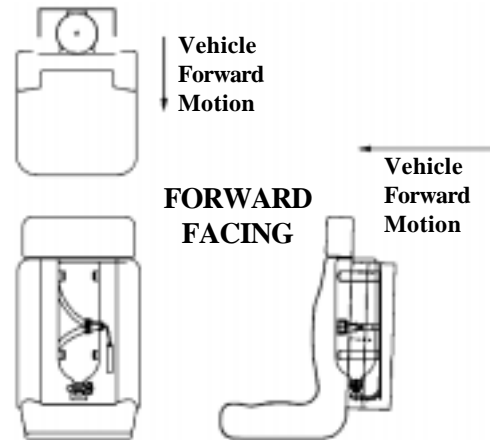


## Mounting hardware:

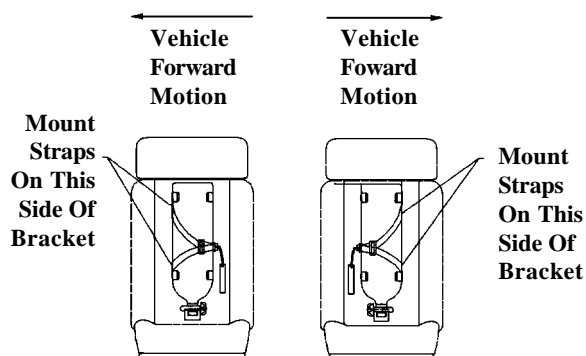
The bracket should be mounted using two (2) 5/16-18 round head screws, nuts and lock washers (not provided). Refer to page 3 which shows the seat locations on the bracket. The center hole, at each seat location, is made for a 5/16" screw. We suggest the top screw be placed in seat location 1, 2 or 3. The bottom screw should be at seat locations 4 or 5. All mounting bolts and fasteners should be placed with the head in contact with the bracket and the screw portion passing through the bracket and supporting member. Nut and washer should be on the back side of the supporting member.

## Forward or rear facing seats:

When mounted in specially designed SCBA seats, the bracket and LLS will meet the 10G force requirement with the LLS latch mounted on either side of the bracket. The angle between the back of the bracket and the mounting surface for the seat should be 90°. If the angle is less than 90° in rear facing seats, a "stop" may be required at the top of the bracket to prevent the air cylinder from being ejected in the event of a collision. This stop could be a model NSF short footplate bolted to the top of the bracket or a metal device attached to the top of the pan holding the SCBA.



**NOTE:** When the SCBA is placed into the bracket (without the LLS strap attached) it should fall out. If it does not, you will need to install Model LL-ES Ejector Spring (page 3) to be in compliance with NFPA 1901-04.



## Side facing seats:

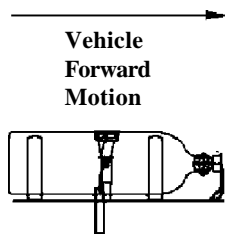
When the bracket and LLS are mounted so that the passenger's side faces towards the front or rear of the apparatus, the LLS latch mechanism must be mounted on the side from which the force is coming.

# BRACKET MOUNTING ON MOBILE FIRE APPARATUS

## Mounting outside the crew area:

When SCBA is mounted outside of the crew area, it is not subject to the 10G requirement and the "Load & Lock" bracket is not required. However, we recommend the following:

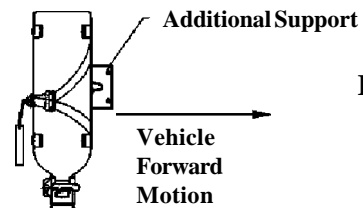
**Figure 1.** Footplate should be mounted at the end towards which force is exerted when mounted on a flat surface.



**Figure 1**

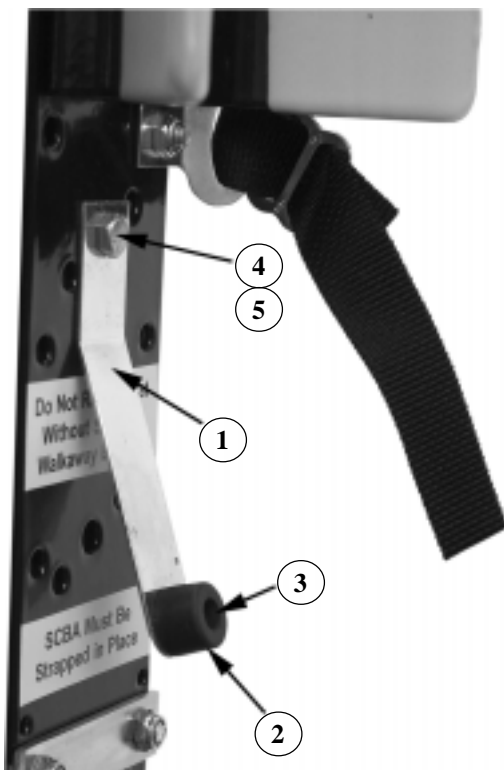
Bracket Laying Flat With Footplate Forward Is Okay

**Figure 2.** When the bracket is mounted vertically, the CRS or LLS latch should be on the side from which the force is applied and an additional stop should be placed against the air cylinder. An NSF footplate could be bolted to the mounting surface next to the cylinder.



**Figure 2**

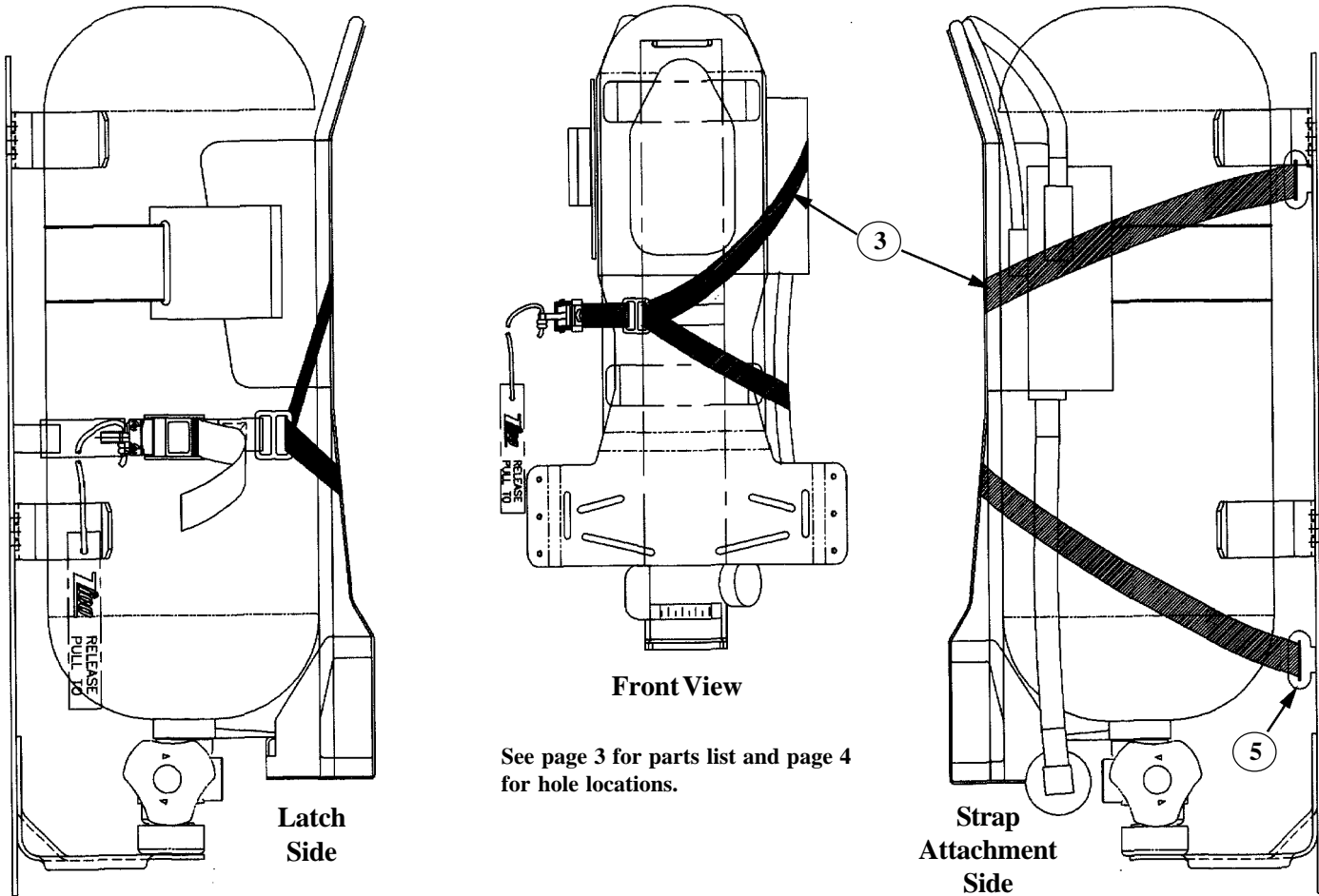
# MODEL LLES EJECTOR SPRING



ITEMNO.	PARTNO.	DESCRIPTION	QTY.
1	1054-015-105	Spring	1
2	1045-260-113	Bumper	1
3	9360-151206	Semi-tubular Rivet	1
4	9010-162511	1/4-20 x 5/8 flat hd.	1
5	9013-172500	1/4-20 Lock Nut	1

# PROPER ADJUSTMENT OF "LOAD & LOCK"

## STRAP MODEL LLS



See page 3 for parts list and page 4 for hole locations.

### Strap Attachment

- Strap retainers (5) attached below seat locations 2 & 6 (see drawing page 3).
- Strap retainers may be relocated so that straps (3) will not damage SCBA components.

### Strap Attachment

- "V" of strap should extend as far towards left or latch side of cylinder as possible.

### Latch Side

- Keep the adjustment strap assembly (3) as short as possible so that "V" of strap covers maximum surface of SCBA backplate.
- Make sure strap (3) is "snugged" up so cylinder makes full contact with seats.

**If you have additional questions or are uncertain about mounting your ZICO bracket, call 1-800-711-3473 for assistance.**



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