

Black Rhino™ Carrier and Harness

MAINTENANCE AND REPAIR

For More Information, call 1-800-MSA-2222 or Visit Our Website at www.MSAnet.com

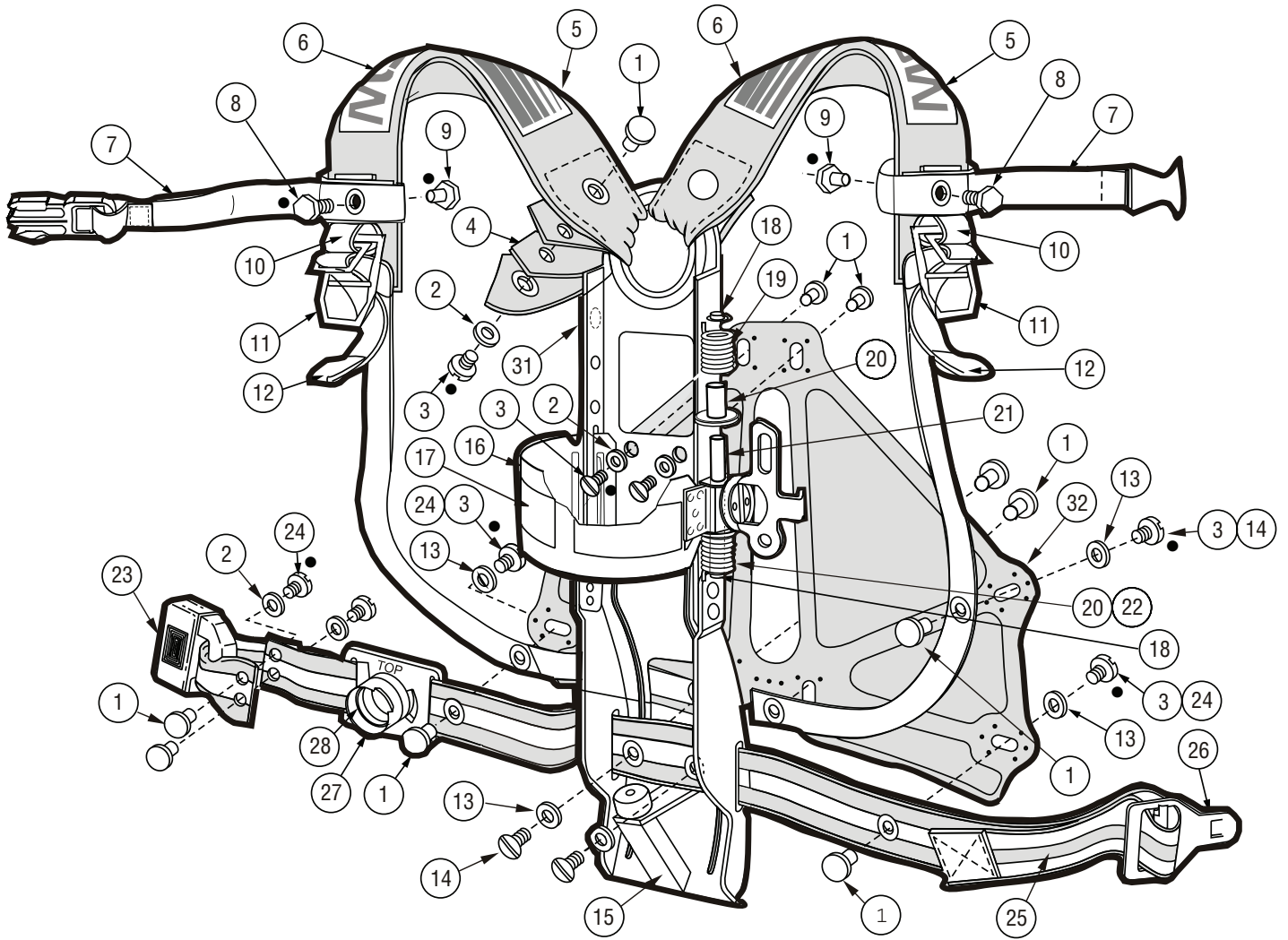


MINE SAFETY APPLIANCES COMPANY
PITTSBURGH, PENNSYLVANIA, U.S.A. 15230

BLACK RHINO CARRIER AND HARNESS COMPONENTS					
Item	Part No.	Description	Item	Part No.	Description
1	66833	Tee Nut, Capped # 10-32 (12 Req'd)	23	816618	Buckle Assembly
		Tee Nut, Capped # 10-32 (14 Req'd)*	24	66309	Screw # 10-32 X 3/8 (2 Req'd) ●*
2	59599	Washer, 10 (6 Req'd))			
3	65595	Screw, # 10-32 X 1/2 long (6 Req'd) ●	25	816631	Waist Strap Assembly
		Screw, # 10-32 X 1/2 long (8 Req'd) ●*	26	816624	Tongue Buckle
4	473261	Wear Pad (2 Req'd)	27	812837	Belt Mount, Quick Disconnect
5	816619	Left Shoulder Pad Assembly	28	10018222	O-Ring
	10005060	Right Shoulder Pad Assembly	31	Identification Label	
6	816617	Left/Right Shoulder Pad		10022080	Custom 4500, 1/4 Turn, Quick Disconnect
7	1004723	Chest Strap Assembly		10022081	Ultralite, 1/4 Turn, Quick Disconnect
8	816623	Screw, Chest Strap (2 Req'd) ●	32	806292	Back Pad
9	489188	Nut, Chest Strap (2 Req'd) ●	OPTIONAL		
10	816627	Friction Buckle Strap Assembly	33	817104	Lumbar Pad (Not Shown)
		Right/Left (2 Req'd)	34	638517	Crossbar Bracket (Not Shown)*
11	816670	Friction Buckle Assembly, Right/Left (2 Req'd)	SEALANT		
12	816614	Adjusting Strap (2 Req'd)		29787	Sealant Use (Loctite 222) ●
13	58866	Washer, (6 Req'd)	* CARRIERS WITH LUMBAR PADS		
		Washer, (8 Req'd)*		816486	Custom 4500, 1/4 Turn Q. D.
14	66315	Screw, #10-32 X 3/4 (2 Req'd)		816487	Ultralite, 1/4 Turn Q. D.
		Screw, #10-32 X 3/4 (4 Req'd)*		10009760	Ultralite, 1/4 Turn Q. D. w/Lumbar Pad
	66317	Screw # 10-32 X 1" (2 Req'd)*		10009761	Custom 4500, 1/4 Turn Q. D. w/Lumbar Pad
15	487562	Carrier Assembly	CARRIER AND HARNESS ASSEMBLIES (BMR)		
16	817153	Band and Latch Assembly		816488	Custom 4500 II
17	805430	Cylinder Band Label, Ultralite® Air Mask		816489	Ultralite II
	805265	Cylinder Band Label, Custom® 4500		10009762	Custom 4500 II, Dual Purpose
18	638537	Push Nut Cap (2 Req'd)		10009763	Ultralite II, Dual Purpose
19	817151	Right Spring		10009764	Custom 4500 II, Dual Purpose w/Lumbar Pad
20	818267	Spring Bushing (2 Req'd)		10009765	Ultralite II, Dual Purpose w/Lumbar Pad
21	817150	Spring Pin			
22	817152	Left Spring			

* Carriers with Lumbar Pads

Black Rhino Carrier and Harness



• Loctite 222

CARRIER AND HARNESS REPAIR

CARRIER AND HARNESS REPAIR (SCREW, WASHER, AND TEE NUT DESIGN)

The low pressure and high pressure carrier and harness assemblies are identical except for the approval plate, part number disc, and the labels on the cylinder band. See the INTRODUCTION Tab section in this binder for required tools.

1. Removing the shoulder straps from the carrier
 - a. **Right strap:** Disconnect the harness gauge hose from the first stage regulator.
 - b. **Left strap:** Disconnect the intermediate pressure hose from the first stage regulator.
 - c. Pull the two hoses through the shoulder strap pad.

d. Both Straps:

Remove the screw, washer, and tee nut where the strap attaches to the top of the carrier backplate. Note how the wear pad is installed.



- e. Remove the screw, washer, and tee nut at the friction buckle. If both shoulder straps are being removed, pay close attention to how the screws are installed and what length screws are used at each location.

2. Installing shoulder straps

Note: A drop of Loctite #222 thread sealant must be placed on all screws before they are threaded into tee nuts.

- a. Install the shoulder strap and wear pad on the carrier. Reinstall screw, washer, and tee nut.
 - b. Reattach the friction buckle to the shoulder strap.

Re-install screws, washers, and tee nuts.

- c. **Left strap:** Feed the intermediate pressure hose back through the shoulder strap.
 - d. **Right strap:** Feed the redundant alarm with harness gauge hose.
 - e. Reconnect the hoses to the first stage regulator.
3. Removing the adjusting straps
 - a. Remove the screw, washer, and tee nut where the strap joins the triangular backpad and the backplate (attached in two places).
 - b. Pull the adjusting strap through the friction buckle. Pay attention to the path the strap follows for reassembly.
4. Installing the adjusting strap
 - a. Feed the new adjusting strap through the friction buckle.
 - b. Secure the new adjusting strap to the triangular backpad and backplate using a screw, washer and tee nut.
5. Removing the waist straps
 - a. To remove the waist strap, remove the screws, washers, and tee nuts from the triangular backpad and backplate. Save the hardware for reassembly.
6. Installing the waist strap
 - a. Secure the waist strap with the screws, washers, and tee nuts saved on removal.
7. Removing the backpad
 - a. Remove the screws, washers, and tee nuts from the adjusting straps, backpad, and waist strap.
 - b. Save the hardware for reassembly.
8. Installing the backpad
 - a. Secure with the screws, washers, and tee nuts saved on removal.
9. Replacing the carrier assembly
 - a. Remove and replace the first stage regulator, shoulder pads, waist strap and backpad.
10. Installing the decals
 - a. Clean the cylinder band.
 - b. Peel the decals from the tack paper, orient, and press them into place on the cylinder band.