



Kirby Morgan Dive Systems, Inc.®

1430 Jason Way Santa Maria, California 93455

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Part #525-311 Side Block Rebuild Kit

Part #	Description	Qty	Loc. #
310-003	O-ring“B”	1	16
510-010	O-ring	2	8 & 14a
510-011	O-ring“ A”	1	12a
510-012	O-ring“B”	1	14b
510-015	O-ring	1	6
510-762	Air train Gasket	1	<i>See Inset</i>
520-024	Packing	1	20
520-030	Washer	1	4
520-031	Washer	1	7
520-033	O-ring, Teflon®	1	12b
520-524	Knob, Steady Flow	1	3
520-525	Knob, Emergency Valve	1	22
525-330	One Way Valve kit	1	25, 27, 29-31
540-095	Washer	1	19
550-023	Seat Assembly	1	10

MAINTENANCE SCHEDULE

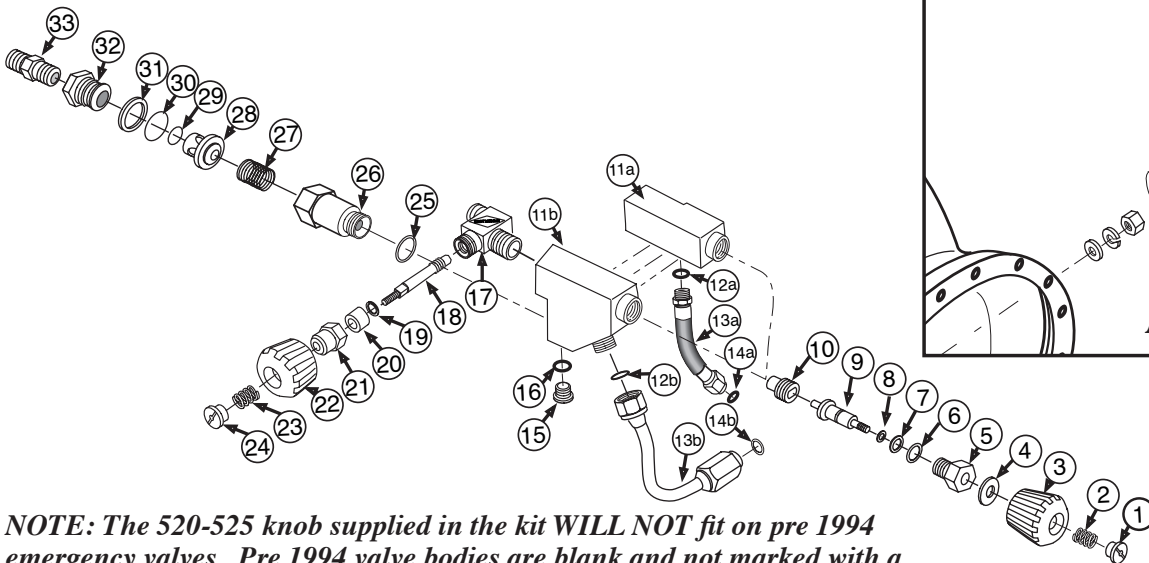
The side block on your helmet or mask should be inspected and/or serviced regularly (inspection in accordance with checklist A2.2, monthly) to ensure reliable operation.

The side block should be periodically disassembled and lubricated with silicone grease. At a minimum we suggest you service the side block at least once a year, in accordance with checklist A2.1.

⚠ CAUTION

Use only Kirby Morgan original replacement parts. The use of other manufacturers' parts will interfere with the performance characteristics of your life support equipment and may jeopardize your safety. Additionally, any substitutions will void any warranties offered by KMDSI. When ordering spares, always insist on Kirby Morgan Genuine Parts.

Lay out all the kit parts and locate their positions using the location numbers prior to any disassembly of the side block.



For reassembly of air train, see page 3 of instructions.

NOTE: The 520-525 knob supplied in the kit WILL NOT fit on pre 1994 emergency valves. Pre 1994 valve bodies are blank and not marked with a Kirby Morgan diamond. Current High-Flow emergency valve bodies have the Kirby Morgan diamond.



Side Block Rebuild Instructions

NOTE: The Side Block does not need to be removed to perform any of the following operations!

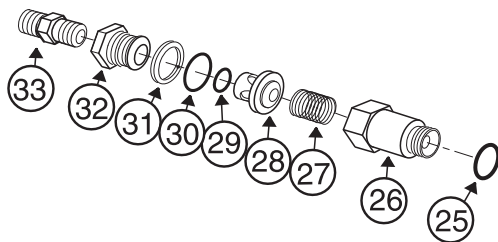
Disassemble and inspect the side block components in accordance with instructions in the KMDSI manual.

REASSEMBLY OF THE ONE-WAY VALVE

Tools Required:

Soft Jaw Vise
1 inch Open End Wrench

If no vise is available use a second 1 inch wrench.



Note: For torque specifications, refer to appendix 1, in the manual.

- 1) Slide the new O-ring (29) over the poppet (28).
- 2) Insert the new spring (27) into the valve body (26), followed by the poppet.

Note the position of the wiper.

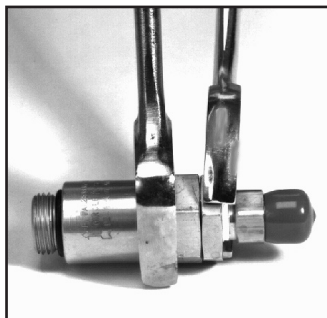
- 3) Next, install the new O-ring (30) and new wiper (31) on the seat (32). Thread the seat into the valve body.

- 4) Tighten the seat to 150 inch lbs. (17 newton meters) with a torque wrench while holding the body in a soft jaw vise or wrench.

CAUTION

Use two wrenches or hold the hex part of the body (26) in a vise while removing or torquing the seat (32) with a wrench. Do not use pliers on the main body of the one-way valve. You may damage the valve if pliers are

- 5) If the adapter has been removed, it must be cleaned and wrapped with Teflon® tape before reinstalling.



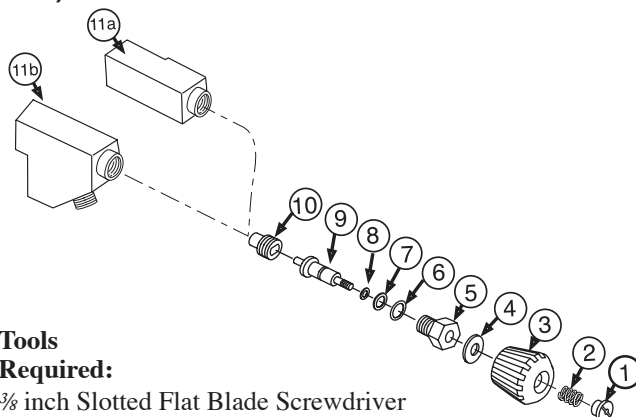
⚠ DANGER

Do not allow any Teflon® tape to cover the end of the adapter (33), or to enter the one-way valve. Loose pieces of Teflon® tape can interfere with the performance of the one-way valve or the regulator and may block the diver's air supply. This could lead to death through suffocation.

- 6) Test the operation of the valve.

- 7) Slide on new O-ring (25) before reinstalling the valve assembly in the side block (11a/b). Tighten to 150 inch lbs. with a torque wrench.

REASSEMBLY OF THE STEADY FLOW (DEFOGGER) VALVE



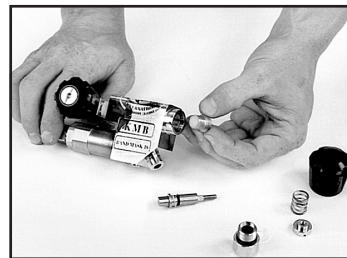
Tools

Required:

3/8 inch Slotted Flat Blade Screwdriver
13/16" Open End Attachment on Torque Wrench

Note: For torque specifications, refer to appendix 1, in the manual.

- 1) Screw in the new seat assembly (10) until it is even with the front of the side block body (11a/b).



- 2) Next, install the new Teflon® washer (7) and new O-ring (8) onto the stem (9).

- 3) Insert the proper end of the stem (9) into the seat assembly (10) and turn clockwise until the seat (10) lightly bottoms out. Leave the stem in place.

- 4) Lubricate the new O-ring (6) and install on the bonnet (5).



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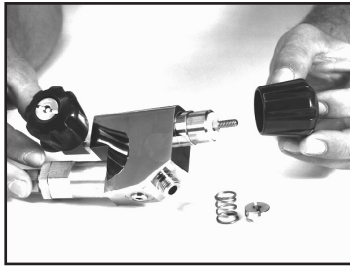
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5) Slide the bonnet (5) over the stem (9) and thread the bonnet (5) into the side block (11a/b).

6) Tighten the bonnet (5) with a torque wrench to 100 inch lbs.

7) Place the new Teflon® washer (4) and the steady flow knob (3) on the stem (9) and rotate the stem counterclockwise until the seat assembly (10) tops out fully open. The steady flow knob (3) must turn smoothly without any binding. Binding (or “hard spots”) in the rotation could be an indication of a bent stem (9) that should be replaced.



8) Install the spring (2), and locknut (1). Screw on the locknut (1) until it is flush with the knob (3).

REASSEMBLY OF EMERGENCY VALVE

Tools Required:

1/16 inch Open End & 1 inch Open End Torque Wrench Attachments & Torque Wrench

3/8 inch Slotted Flat Blade Screwdriver

Soft jaw vice

NOTE:

The emergency valve does not need to be removed from the side block to be rebuilt. If the valve is removed, refer to the manual for reinstallation. For torque specifications, refer to Appendix 1 in the manual.

1) With the exception of the tapered pipe thread end of the emergency valve body (17), lubricate all components with a light coating of silicone grease.

2) Place the new brass washer (19) and new packing (20) on the stem (18).

3) Holding these components in place on the stem (18), screw the stem into the emergency valve body (17).

4) Rotate the stem (18) until it is seated all the way in.

5) Thread the packing nut (21) onto the body (17). Run the nut in and tighten slightly with a wrench.

6) Place the knob (22) onto the stem (18) and rotate the stem all the way out, then back again. The rotation must be smooth. If “hard spots” or unevenness are felt during the rotation, the stem (18) may be bent and need replacement.

7) Tighten the packing nut (21) with a wrench until moderate

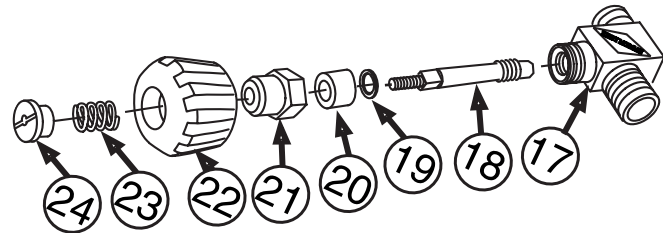
resistance is felt when turning the knob (22).

8) Place the spring (23), and locknut (24) onto the stem (18) securing the knob (22).

9) Tighten the locknut (24) until it is flush with the knob. The assembly is now complete and ready for testing.



10) Test the valve by attaching it to an emergency air supply source. There must be no leakage of gas past the stem (18) or through the packing nut (21). Turn on the bailout bottle and leave the supply on for several hours. There must be no drop in pressure in the system if the valve is operating properly.



⚠ DANGER

A leaking emergency valve assembly can cause the diver to exhaust his entire emergency air supply (bailout) without his knowledge. This may lead the diver to mistakenly assume his bailout supply is available when it is not. This could lead to panic or drowning in an emergency. Any worn component that causes an emergency valve to leak must be replaced.

REASSEMBLY OF AIR TRAIN

Note: For torque specifications, refer to appendix 1, in the manual.

1) Install the air train gasket on the air train cup that is held in position by the stud and nut. The gasket has a cut-out to accept the cup of the air train and a plug designed to cover the head of the alignment screw that helps to maintain the correct position for the side block.

2) Slip the air train over the stud. Align the air train with the upper edge of the view port opening in the helmet shell.

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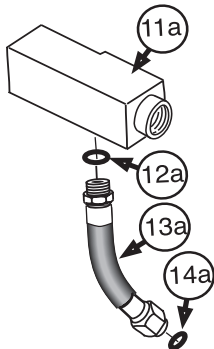


- 3) Place the washer on the stud and tighten the nut on the air train.
DO NOT OVERTIGHTEN.

REPLACEMENT OF MODEL "A" HOSE ASSEMBLY

Tools Required:

- 1/16 inch Open End Torque Wrench Attachment
- 13/16 inch Open End Torque Wrench Attachment
- 11/16 inch Open End Torque Wrench Attachment
- O-ring Removal Tool
- Torque Wrench



Note: For torque specifications, refer to appendix 1, in the manual.

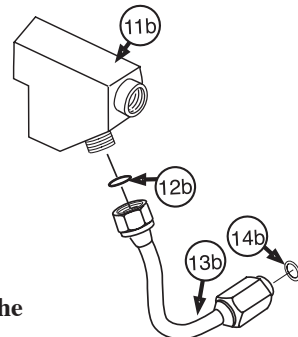
- 1) Remove the O-ring from the side block hose end and replace with the new O-ring supplied (12a.)
- 2) Remove the O-ring from the regulator end (14a). Wipe the new O-ring (14a) with a light silicone coating, stretch onto the fitting, and slide until the O-ring (14a) snaps into the groove on the hose fitting.
- 3) Always install the side block (11a) end first, and the regulator inlet nipple end last.
- 4) Tighten the side block end then tighten the regulator end. Use a backup wrench on the inlet nipple.
- 5) Test for leaks prior to use.

REPLACEMENT OF MODEL "B" BENT TUBE ASSEMBLY

The bent tube must be free of dents. If the Helmet/Mask has been used for burning (underwater cutting) jobs, carefully check for erosion of the metal. Replace if necessary. If a new bent tube is being installed or the side block has been removed, refer to the manual for installation.

Tools Required:

- 1/16 inch Open End Torque Wrench Attachment
- 7/8 inch Open End Torque Wrench Attachment
- 7/8 inch Open End Wrench
- Torque Wrench



Note: For torque specifications, refer to appendix 1, in the manual.

- 1) Replace the O-ring (14b) at the regulator end and the Teflon® washer (12b) at the side block end with the new ones supplied.
- 2) Push the O-ring end of the bent tube assembly into the regulator inlet nipple. Slide it in until the side block (11b) end is aligned with the threads for the mount nut.
- 3) Be sure the Teflon® O-ring (12b) is in place.
- 4) Tighten the bent tube assembly (13b) onto the side block.
- 5) Start the regulator to bent tube mount nut onto the inlet nipple. Run it in **HAND TIGHT ONLY**.
- 6) Hold the nut on the end of the bent tube (13b) with a wrench and tighten the jam nut against it with another wrench. The bent tube nut must not be bottomed out against the nipple.

