



# Kirby Morgan Dive Systems, Inc.®

1430 Jason Way Santa Maria, California 93455

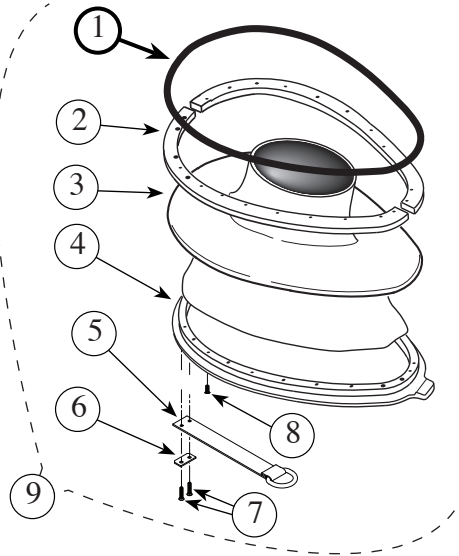
Phone: 805/928-7772 Fax: 805/928-0342

www.KirbyMorgan.com email: kmdsi@KirbyMorgan.com

## Part # 510-674/675/676/679/680/681 Cold Water Neck Dam

### Parts Needed:

	Part #	Description	Qty
1.	510-450	O-ring, Main Seal	1
2.	540-546	Split Rings, Stainless Steel	2
3.	<i>See Heading</i>	Neck Dam	1
4.	560-078	Stepped Ring	1
5.	530-808	Pull Strap	1
6.	540-115	Strap Plate	1
7.	530-220	Pull Strap Mount Screws	2
8.	530-024	Neck Dam Mount Screw	24
9.	<i>See Heading</i>	Neck Dam/Ring Assembly	1



### Tools Required:

1. 3/64" Allen Wrench.
2. #2 Phillips Screwdriver
3. Torque Screwdriver  
3/64" Allen wrench attachment  
2 point Phillips head screwdriver attachment.
4. Silicone Lubricant.
5. Sharp Razor Blade

### Neck Dam Removal:

1. Remove the O-ring from the neck ring assembly.
2. Use the 3/64" Allen wrench to remove the chin weight mounting screws.  
Remove chin weight.
3. Remove the pull strap mount screws with a #2 Phillips screwdriver. Remove pull strap and strap plate.
4. Remove the chin strap and adjustment buckle mounting screws.  
Remove chin strap and adjustment buckle.
5. Unscrew all of the neck dam mount screws from the step ring.
6. Remove the old neck dam with the split rings from the stepped ring.
7. Remove the 2 split rings from the old neck dam. Discard old neck dam.
8. Inspect for damage and clean all parts as needed.

Read all instructions prior to installing new neck dam.

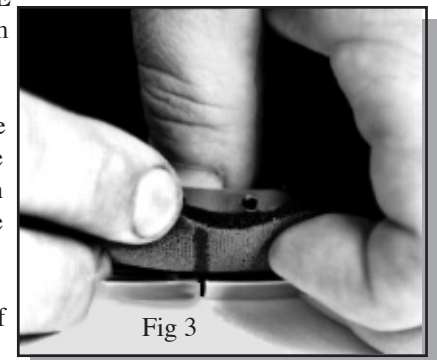
### Neoprene Neck Dam Replacement:

New Neoprene neck dams are nylon 2 side, 2 color, wetsuit material, 1/8" thick. Inside is BLUE, outside is BLACK. Both sides are marked at the front and back center lines to help with alignment for assembly.

1) On a flat level surface, align the proper ends of the split rings P/N 540-546. Using any type of tape available, duct masking etc., tape both ends together on the bottom side only, so they will not separate during assembly.

2) **MAKING SURE THE BLACK SIDE OF THE NECK DAM (2) IS FACING OUT**, place the dam on a flat level surface.

3) With the stepped ring P/N 560-078 side having the most holes, facing up, place the ring, on top of the neck dam, making sure the center of the ring at each end and the inside curve of the ring, line up with the marks on the neck dam. Figs 1 & 2



4) Holding the neck dam onto the stepped ring, lift the 2 parts together and place them on top of the 2 aligned split rings.

**NOTE:** The neck dam, stepped ring and split rings MUST be properly aligned in order to get all of the screws to thread correctly. When placing the neck dam & stepped ring on top of the split rings, be sure the center (straight) alignment marks on both ends are over the splits in the bottom rings.

# Kirby Morgan Dive Systems, Inc.®

1430 Jason Way Santa Maria, California 93455

Phone: 805/928-7772 Fax: 805/928-0342

www.KirbyMorgan.com email: kmddsi@KirbyMorgan.com



Also, align the inner curves of all of the rings. This is done by pressing on the neck dam to feel the split rings through the dam and align them to the inner curve of the stepped (top) ring. Fig 3

5) Apply a very small amount of silicone lubricant to the tip of all screws that will go through the neck dam material.

6) Double check that the alignment marks as well as the rings are properly positioned. Insert the Allen head screw P/N 530-024 into positions shown in fig 4 & 5. Using the 7/64" Allen wrench, apply slight pressure to the screw while turning to make it penetrate the material and tighten about 3 turns.

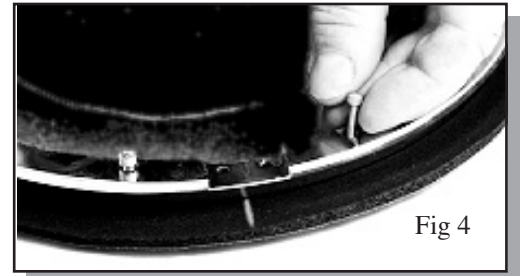


Fig 4

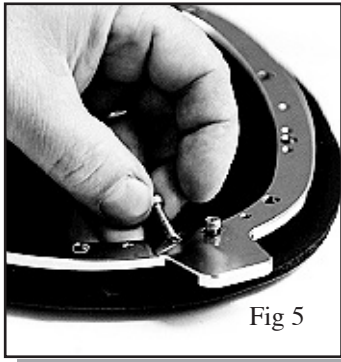


Fig 5

7) At this point the neck dam should be secured by 4 screws, and all rings and neck dam are held together.

8) Insert the remainder of the Allen head screws into the proper holes.

9) Lightly press down midway along the stepped ring and pull the neck dam through the rings enough to make the excess material about the same distance out from the rings as it is around the already screwed through area. (Fig 6) Once

it is even, turn the screw through the dam and tighten like the other screws. (Fig 7) Repeat this procedure until all screws are in place and tightened the same.



Fig 6

10) Install the pull strap assembly (see manual) using screws P/N 530-220, plate P/N 540-115 and strap P/N 530-808 as shown, and tighten to 14 in./lb. using the torque screwdriver.

11) Finish tightening the remainder of the screws to 14 in./lb. using the torque screwdriver. NOTE: Neoprene material will crush under compression and take a set, thus causing the torqued screws to loosen. If at all possible, allow the neck dam assembled to this point to set for at least several hours, better 24 hours, and retorque all screws. This will ensure the neck dam has sufficient squeeze to prevent the rubber from pulling out of position.

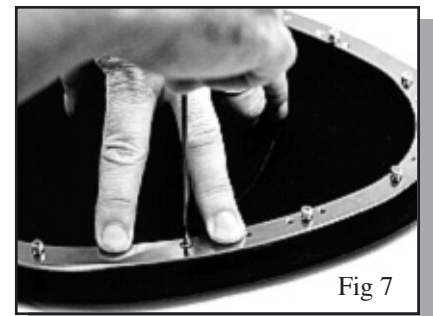


Fig 7



Fig 8

12) Install the chin strap assembly (see manual) and buckle using 4 screws P/N 530-022 and torque to 24 in/lb.

13) The SL-27 neck dam / ring assembly design has had the number of neck dam mount screws changed. The older rings used 16 screw placements. The new ones use 24 screw placements. On the newer rings, the ones with more holes, the 2 outer chin weight mount screws go through the chin weight, through the stepped ring, then through the neck dam and into the split ring. These screws need to be torqued accordingly. Install chin weight (see manual) using 4 screws. Torque to 14 in./lb.

NOTE: The center screws can not be torqued with a torque screwdriver; "hand torquing" these with a 7/64" Allen wrench is sufficient.

14) The excess neoprene must now be trimmed at the inner corner where it emerges through the rings. Use the sharp razor blade or X-acto knife to start the cut. (Fig 8) Once started, pull out and away on the neoprene while cutting into the corner. Be certain to get a clean cut on the rubber as loose pieces may interfere with the O-ring sealing.

15) Inspect O-ring P/N 510-450 for damage and replace if necessary. Lubricate the O-ring with silicone lubricant and reinstall.

Note: All screws on the neck dam assembly should be retorqued to the specified torque on a regular basis. This is important to prevent failure of the neck seal.

