



Kirby Morgan Dive Systems, Inc.®

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PART # 510- 528, 649, 650, 651 SL-17A/B NECK DAM REPLACEMENT

General

The neck dam-neck clamp assembly and yoke assembly are bolted together and used as one unit. Little maintenance is necessary for the yoke system. The neck clamp requires little maintenance, but can get out of adjustment and, occasionally bent in the handle area. The rubber neck dam requires frequent inspection and maintenance. The rubber neck dam is made from closed-cell foam neoprene. This is identical to the material used in wet suits and may be repaired in the same manner as a wet suit. Small repairs may be made while the neck dam is in place on the neck clamp or the neck dam can be removed from the neck clamp for repair or replacement.



Fig. 2 The yoke hinges open showing the rubber neck dam. The neck dam is always turned up as shown. Overpressure on the interior of the hat pushes outward on the neck dam, but the yoke prevents ballooning.

The yoke system is shown at the base of the helmet. The front of the yoke is released when the neck clamp lever is opened.



Fig.3 The neck dam/yoke system is removed completely from the helmet.

Removal of the Neck Dam



1) The hinge sleeve is first removed by unscrewing one of the two hinge bolts (Fig. 3) and sliding the hinge sleeve out by using a pair of pliers to pull on the other bolt. (Fig. 4)

2) Unscrew the four yoke hinge mount screws and washers.

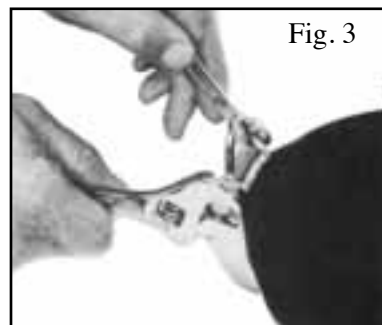


Fig. 3



Fig. 4

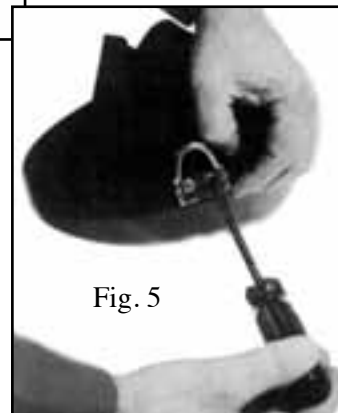


Fig. 5

(Fig. 5) Once the four yoke hinge mount screws are out, the yoke is free from the neck clamp and neck dam.

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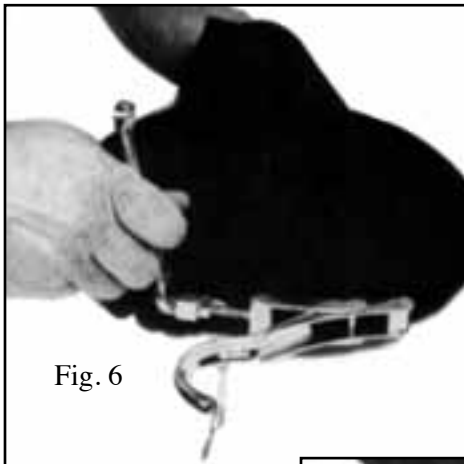


Fig. 6

3) Remove the neck clamp lock nut (Fig. 6) and slip the threaded neck clamp adjustment bolt out of the retaining block. (Fig.7) Then remove the lock

washer and nut from the threaded neck clamp adjustment bolt. The nut can be left in place if desired, but be sure to remove the lock washer or it may be lost.

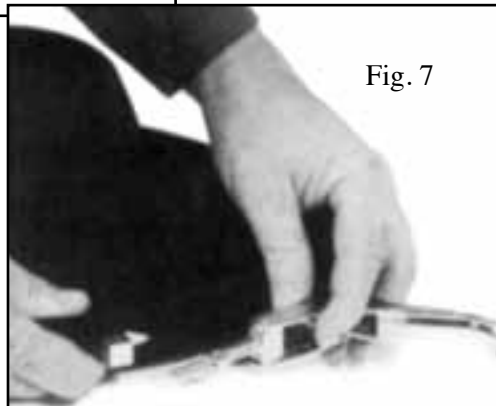


Fig. 7

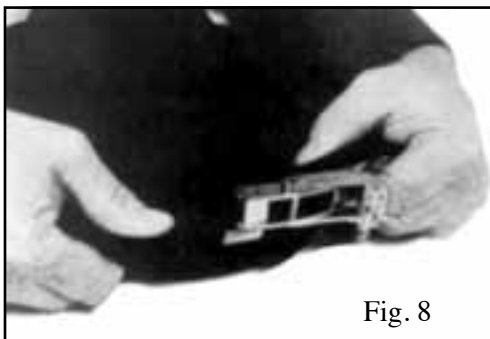


Fig. 8

4) The neck clamp has guide tracks that guide and hold together the two ends of the neck clamp. With the lock nut off the threaded neck clamp adjustment bolt, pull the front of the neck clamp apart. The base of the lever is one end of the neck clamp and the other end overlaps inside for about 5 or 6 inches.

While pulling apart, press down on the block end of the neck clamp and up on the lever end. (Fig.8) The base of the lever mount stops the lower track at the end and a jog in the pull apart motion is necessary.

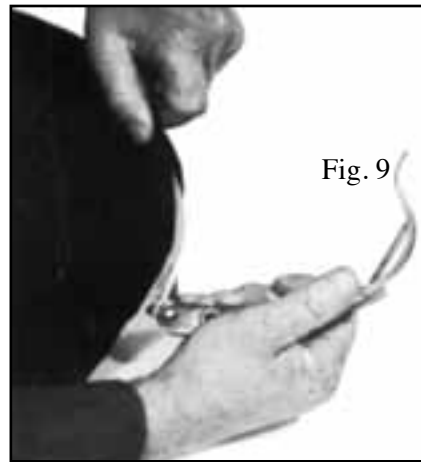


Fig. 9

Fig.9 Start working the neck dam around the neck clamp until the neck clamp is completely out.

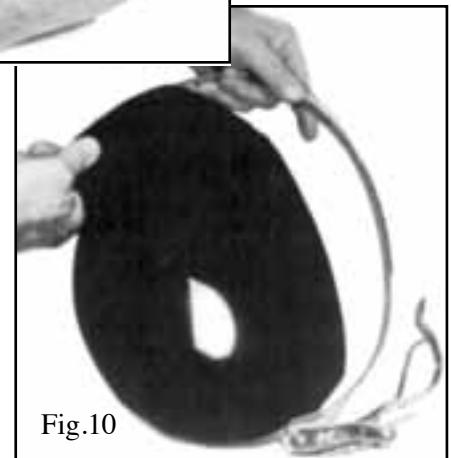


Fig.10

5) Next, after the two ends of the neck clamp are free from each other, slide the rubber neck dam so that the lever end of the neck clamp starts coming out (Fig. 9) of the neck dam through the hole in the glued sleeve of the neck dam. Keep working the rubber around until the neck clamp is free of the neck dam.

Replacement of the Neck Dam :

1) A new neck dam has only one hole in the upper sleeve to start the neck dam. A used neck dam has 2 holes near the front and four small holes at the rear for the yoke hinge tab . The starting hole for the neck clamp is the front hole next to the sewn (and glued) seam.



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Fig. 11

2) Set the neck clamp down with the open ends facing you. The lever end is on the right with the locking loop down. Set the neck dam (in the position it should be when assembled) in the center of the neck clamp. (Fig. 11)

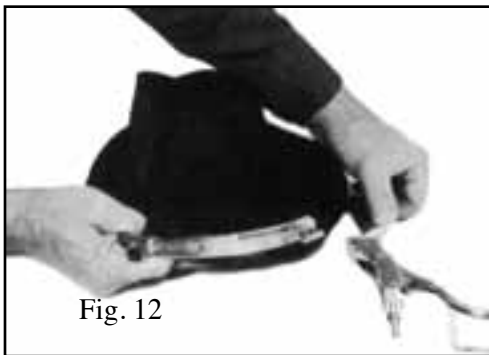


Fig. 12

Fig. 13 Keep working the rubber neck dam around onto the neck clamp.

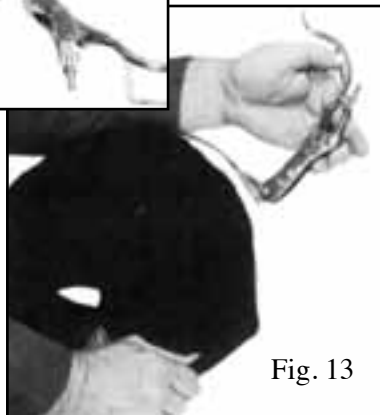


Fig. 13

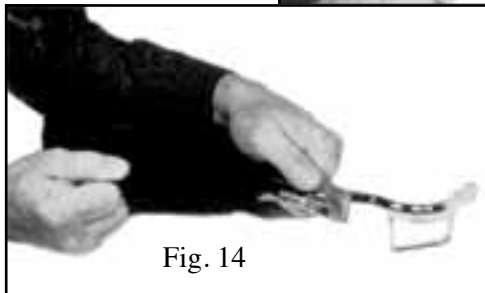


Fig. 14

Fig.14 After the neck dam is completely on even out the rubber.

3) Start feeding in the end of the neck clamp that does not have the lever. (Fig. 12) Work the rubber around, helping it over the block and keeping the end running in the sleeve. (Fig. 13) When the rear sewn seam is just past the hinge tab mount plate on the rear of the neck clamp stop feeding the rubber. This is the correct position. Even out the rubber on the neck dam so it is uniform in stretch all about the neck clamp. (Fig. 14)

4) The two ends of the neck clamp are now overlapping. The block that receives the threaded adjustment arm is protruding on the rubber sleeves on a new neck dam and should be in the correct position on a previously used neck dam, sticking out of the second hole.(Fig. 15) The lever end of the neck clamp must now be inserted into the guide tracks of the other end.

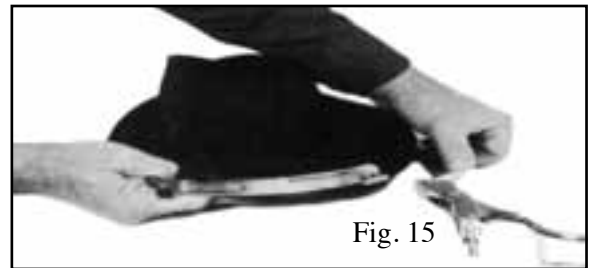


Fig. 15

5) Next, make sure the sleeve is not stretched unevenly (the hole at the base of the handle should not be pulling or stretched into elongation) cut a very small hole for the adjustment bolt block to stick through the rubber sleeve if a new neck dam is being installed.

(6) Run the nut onto the threaded adjustment bolt arm about 1/2 inch. Slip on the lock washer. Place the threaded adjustment bolt, with the nut (5) and lock washer (6) in place through the block and run on the locknut..

(7) Work the lever of the neck clamp back and forth. Check that the ends of the clamp are tracking correctly.

(8) Make sure the rear sewn seam of the neck dam is next to, but not on the hinge tab plate at the rear of the neck clamp. Punch 4 small holes for the mount screws. A red hot nail is best for this. Using the screw and lock washers mount the hinge tab. Then the yoke is bolted to the hinge tab by installation of the hinge sleeve.



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Neck Clamp Adjustment

Place the neck dam-neck clamp assembly on the helmet. Place the neck clamp lever in the locked (or closed) position. If it will not close, loosen the adjustment nut until it does.

Loosen the nut by turning it so that it travels toward the lever. Tighten the lock nut until some tension is present. At this point test the lever action. You should be able to pull the lever open about an inch and have it snap closed. Do not have the yoke in place during the neck clamp adjustment. The lever should open without excessive force if pulled out several inches.

The Neck Dam Assembly is retained on the Helmet at three (3) locations; (Fig 8) the Rear Alignment Sleeve and two Helmet "front ears". The Rear Hinge Tab straddles the Rear Alignment Sleeve, mounted on the Rear Weight, as the Neck Clamp & Dam assembly is pushed over and past the Helmet ears. The Neck Clamp must be open enough to clear the Helmet ears. The Neck Clamp must travel beyond the thickness of the Helmet ears before clamping around the Helmet and sealing against the O-Ring Seal. The Neck Clamp should be adjusted so that the Neck Dam seals against the O-Ring Seal with **NO VISIBLE GAP** between the Neck Dam and the Helmet after clamping. If time permits, clamp the Neck Dam Assembly to the Helmet and let set for a 24 hour period; after which, remove the assembly, put it back on and check the clamping adjustment. If the Helmet is to be used immediately, the clamping and sealing action **MUST** be checked for readjustment after 24 hours. This adjustment should be checked prior to each dive.

Test it open and closed several times. When the adjustment is correct, tighten the nut against the lock washer. If a new neck dam is used readjustment may be necessary after a few days due to compression of the neck dam rubber.

Now try the Neck Clamp & Neck Dam on for comfort. If the Neck Dam has been mounted correctly the blue side will be against your neck. Slide the Yoke onto the neck from behind; spread the opening of the Neck Dam and pull it down over the head. The Neck Dam should be moderately easy to pull over the head and fit snug enough to prevent leaking, but not so tight that it limits or restricts circulation. If the Neck Dam is too tight on the neck or too hard to get over the head, the Neck Dam **MUST BE TRIMMED**. Trim 1/4 inch at a time (Fig 9a & 9b) until the proper fit is attained.

Do not trim more than 1/4 inch at a time.



Do not use a loose fitting Neck Dam. It may allow leakage and possible flooding of the helmet. If the helmet is to be used by more than one diver, we recommend that each diver have a Yoke / Neck Dam assembly that fits them. Each diver must check the fit of the Neck Dam prior to each dive.