

**Kirby Morgan Dive Systems, Inc.**

425 Garden Street

Santa Barbara, California 93101

Telephone (805) 965-8538 **Fax** (805) 966-5761**Email** info@KMDSI.com **Web** www.KMDSI.com

Caution Bulletin

Number 1 of 2004

JULY 28, 2004

Subject: Possible damage to emergency valve main body (550-140) between male pipe threads and the "B" side block body's (550-029) as well as the manifold block body (350-050) at the mating female pipe threads.

Products Affected: Any Kirby Morgan helmets or masks incorporating a side block or manifold block, or separate manifold block assembly

An incident has occurred where an emergency valve assembly, 505-070, had cracked causing an air leak, then upon inspection, broken off from the side block assembly, (505-024) on a KMB 18 mask. Extensive tests have been performed by KMDSI, to try and determine what if anything during assembly or manufacture, may have led to this happening. Also, metallurgical analysis has been performed to determine if the proper material was used based on the material certification on file. Nothing in the testing points to anything obvious being wrong either before or after testing. The material analysis performed, provided a match with what is stated on the material certificates of Conformance

In looking into the fit of the mating parts taken from inventory, the parts as brass "RAW" condition were consistent with the fit and function requirements of KMDSI as well as other referenced industrial standards. However, some Variations were found between the parts that were chrome plated. This extra plating may lead to misalignment of the parts when using KMDSI recommended procedures, and possibly cause an overstress condition while trying to tighten far enough to obtain proper valve handle alignment.

The emergency valve body assembly (505-070) must be indexed (clocked) enough to allow access to the control knob for proper use of the valve. If there is excess plating between the side block/manifold block body pipe threads, and the emergency valve body pipe threads, this may cause the end user, during any scheduled maintenance, to go beyond normal procedure in tightening these threads. Overstressing and weakening the parts may result. Make certain to carefully follow recommended procedures in the KMDSI operations and maintenance manuals. If excess chrome interference is found, it is acceptable to have the control knob slightly misaligned to keep from applying too much force to the valve body, as long as the user can reach the emergency valve.

Recommended Procedure:

Before installing any pipe sealant, check the fit of the valve assembly pipe threads to the mating threads of the side block. There should be 2 turns of hand make up before needing to use a wrench. If there is less make up, then the threads will need to be chased with a 1/4" NPT tap to obtain the proper make up, If tapping is required, the bent tube assembly, the one way Valve assembly and steady flow components must all be removed and the side block body must be thoroughly cleaned to remove any loose particles. Remove the valve assembly from hand tight.

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Recommended Procedure Continued:

Before installing the valve assembly, wrap the pipe threads with 1-1/2 turns of teflon tape starting after the first thread. The amount of tape used should be based on what is found in the fit check. Apply the tape with slight tension to allow the tape to fill into the threads. If another type of sealant is used, it must be oxygen compatible as well as not pose any health hazard to the diver. Hand tighten the valve, then continue an additional 1-1/2 to 2 turns with a wrench keeping in mind the proper alignment of the control knob to the side block. Also, there should be at least one male thread visible. Check to be certain the valve is tight by trying to loosen the fit by hand. **DO NOT TIGHTEN THE VALVE BODY TIGHTER THAN NECESSARY!!! OVER TIGHTENING MAY OVERSTRESS THE PART AND CAUSE THE PART TO FAIL.**

If there are any questions please call or Email KMDSI