

Malfunction of Kirby Morgan B17 side block non-return valve

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A Member has reported that it has experienced several failures of KM B17 side block non-return valves which have had little or no in-water service.

To date, defects have been encountered in the following batch numbers:

- P214-180 12/04
- P214-180 02/05

This may suggest potential of other batches which may exhibit similar faults.

The incidents to date have been as follows:

- **Scenario 1** – It would appear that the random inability of the valve to seat was due to material peeling off the seal wiper (part #34). The material has been found to be bypassing the 'o'-ring seal (part #33) and lodging in the seat. This has occurred each time the seat has been connected or disconnected from the body. This is not a single unit occurrence and appears to be prevalent in batch P214-180 12/04. Further investigations are ongoing.
- **Scenario 2** – During further investigation of non-return valves on the worksite, it was found that batch number P214 180 02/05 failed during bell checks and was subsequently found to 'stick' whilst shaken.

The diving contractor has had extended conversations with its supplier, which has contacted Kirby Morgan Dive Systems International – the diving helmet manufacturer (although we understand the manufacture of the non-return valve is sub-contracted). Discussions are ongoing, but the diving contractor feels an interim alert should be issued to all IMCA members and industry, identifying the potential problem and obvious severe consequences should umbilical services fail.

Kirby Morgan has subsequently issued the attached notice, which it has asked IMCA to distribute as soon as possible.

Safety Notice # 1 of 2005
Defective One Way Valve Recall
July 12, 2005

Subject:
Circle Seal Controls, Inc. One-Way Valve Part P214-180.
Defective Valve Dates 12/04 thru 2/05

Products Affected:
Kirby Morgan helmets, BandMasks and replacement parts.
KMDSI P/N 555-195 One Way Valve and P/N 505-060 One Way Valve Assembly.

URGENT SAFETY NOTICE!

Kirby Morgan Dive Systems, Inc. (KMDSI) has learned that a single batch of non-return (oneway) valves manufactured by Circle Seal Controls, Inc. may be defective. These valves are used on all Kirby Morgan masks and helmets manufactured for surface-supplied diving. The valves in question are date stamped on the valve body and fall within the date range 12/04 to 02/05. If you have a valve like this on your helmet, **YOU SHOULD STOP USING IT IMMEDIATELY** and replace it with a valve that does not fall within this date range.

The purpose of these valves is to prevent a back-flow of breathing gas up the diver's hose in the event that the hose is severed between the diver and the surface. If a diver's hose is severed, a properly functioning non-return valve will automatically close and prevent the air within the helmet from being lost. The valve also prevents the diver's emergency gas supply (bail-out) from venting out through the non-return valve.

In the defective valves, small slivers of the Teflon wiper (used in these valves as part of the sealing mechanism) may be cut off the Teflon wiper and interfere with the poppet that seals the valve. When this occurs it is possible for air from the helmet or emergency gas supply to be lost through the valve if the diver's umbilical has been severed or umbilical pressure is lost for any reason. This could lead to the diver suffering severe personal injury, known as a "squeeze," or death.

Kirby Morgan has used the Circle Seal non-return valve in its commercial diving masks and helmets for over 30 years. Kirby Morgan tests every non-return valve on completed units prior to shipment, but the damage to the wiper may occur when the valve has been overhauled, disassembled and re-assembled.

Since this valve is also an industry standard, you may find it on other manufacturer's helmets as well. If this is the case, you should contact that manufacturer for a replacement.

If you have one of these valves on your helmet, or are carrying a valve like this as a spare, **DO NOT DIVE WITH IT!** Please return it immediately to KMDSI, or any of its dealers, for a free replacement. KMDSI can be reached at 1430 Jason Way, Santa Maria, CA 93455. Telephone 805-928-7772, FAX 805-928-0342. Email kirwin@kirbymorgan.com. Website www.kirbymorgan.com.

Photo Caption: Please note the date stamp of 12/04 on the valve shown here. This is where to locate the date on your valve. All valves within the date range 12/04 to 2/05 should be replaced immediately.



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