

SAFETY ALERT-JROTC

DATE: 1 MARCH 2004

FROM: HQ US ARMY CADET COMMAND

SUBJECT: Safety Alert- Improper Air Cylinder Removal, Fienwerkbau P70 Jr. Air Rifle

WARNING

* SERIOUS INJURY CAN OCCUR IF ACTIONS SPECIFIED IN THIS MESSAGE ARE NOT IMPLEMENTED*

1. REFERENCE: Fienwerkbau (FWB) P70 Jr Owner's Manual

2. DISTRIBUTION: This is a "Safety Alert" for all units subordinate to HQ, USA Cadet Command.

3. PROBLEM DISCUSSION:

a. On 4 DEC 03 a JROTC cadet at an Alabama high school was injured while attempting to remove a Compressed Air (CA) cylinder from a P70 Jr precision air rifle to refill it. The threaded portion of the cylinder base froze in place in the P70 receiver, and continued attempts to unscrew it with the special wrench supplied with the rifle (referred to in the owner's manual as "special key for cylinder") resulted in the cylinder tube unscrewing from the cylinder base. This ultimately resulted in the tube becoming a projectile and striking the cadet in the jaw, causing lacerations and fractured facial bones.

b. **Subsequent investigation of the parts and procedures involved showed accident was caused by ongoing usage of the supplied tool in an improper manner.** According to the SAI, the procedure used by this school was to both install and loosen the CA cylinder with the supplied wrench under the mistaken impression that tighter was better. This wrench is only intended to loosen the cylinder in the rare cases when hand strength alone will not suffice, and normally will only need about ¼ to ½ of turn to break it free and allow subsequent removal by hand. Examination of the parts in question revealed wear and markings not found on cylinders with normal usage. The marks shown on this cylinder were indicative of excessive pressure being applied in two directions, meaning the wrench was being regularly used to both install and loosen the cylinder. ***This excessive use of force caused the threads on the cylinder to gall with the threads on the gun receiver and freeze the base of the cylinder to the gun itself.***

c. The owner's manual states in the section *Safety notes for handling of rifles*, "Never use force when handling, disassembling, cleaning and assembling the rifle. Disassemble the rifle only as far as described in the manual." The extreme amount of force that would have been required to disassemble the tube from the base of the cylinder with even a low amount of internal air pressure (approximately 1000 psi) should have served as warning to the operator in this instance that something was wrong and alerted him to seek qualified assistance.

d. Current production FWB cylinders have a small vent hole drilled at approximately 7/8" from each end of the cylinder that will release any remaining air in the cylinder should it start to unscrew from

the cylinder base. The cylinder involved in this incident was of an earlier design without said vent hole. Feinwerkbau has made the following statement regarding retrofitting older cylinders.

“Basically it is possible to retrofit compressed air-cylinders of former design stages with vent holes. Due to the time and effort involved we recommend that retrofitting should be carried out in conjunction with the required 10-year (formerly five year*) inspection of cylinders.

*According to the “German Regulations of Technical Gases” we have adjusted the inspection cycle of the compressed air-cylinders from five to ten years. It has been proven today that the design and used materials will meet and exceed the requirements set forth in the aforementioned regulations. This is based on normal use of the compressed air-cylinder. This applies to all compressed air-cylinders manufactured by FEINWERKBAU.

Remark: Retrofitting of cylinders can only be carried out by persons or companies authorized by FEINWERKBAU.

4. PARTS TO BE INSPECTED: All units using P70-type FWB rifles (P70 Jr, P70, P700) should inspect their CA cylinders for a manufacture date. This is etched on the threaded end of the cylinder in the format of a Roman numeral one through four indicating the quarter of the year followed by slash and two digits indicating the year of manufacture, i.e., III/ 97 would mean a manufacture date in the third quarter of 1997. At 10 year intervals, as prescribed in the current owner’s manual, the cylinder should returned to a qualified inspection station for inspection and a new date stamp.

5. USER ACTIONS FOR THOSE USING THE WRENCH TO TIGHTEN CYLINDERS

a. For those units or personnel who have been improperly using the wrench to install and tighten cylinders beyond hand strength, it is recommended that all such cylinders be taken out of service immediately and be replaced with a new cylinder. Purchase of a new cylinder(s) can be made through Beeman Precision Air Guns or through other authorized FWB outlets.

b. Immediately review the maintenance procedures in place to insure they follow manufacturer guidance.

6. OTHER USER ACTIONS

- a. Perform date inspection of each cylinder and forward them to Beeman or other qualified agent as required by the **ten-year** interval.
- b. Coaches or instructors should control supplied cylinder wrenches to ensure they are used only for exceptional removal requirements.
- c. In an effort to minimize the number of cylinder installations and removals, recommend that the compressed air cylinders not be filled to capacity at every usage during training sessions, but rather be filled only as necessary due to diminished shots.

7. POINTS OF CONTACT:

A. HQ, US Army Cadet Command, Safety and Occupational Health Manager, Mr. Charles Betoney, (757) 788-4615, e-mail charles.betoney@monroe.army.mil

B. Inspection and Technical Information: Beeman Precision Air Guns (Dani Navickas) (714) 890-4800