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### **IMPORTANT NOTICE**

We are currently compiling a list of those who would prefer to receive the Fletcher Product Newsletter by E-Mail. If you are interested, please email [krowe@jhfletcher.com](mailto:krowe@jhfletcher.com). Include your name, address, phone number, company and job title..

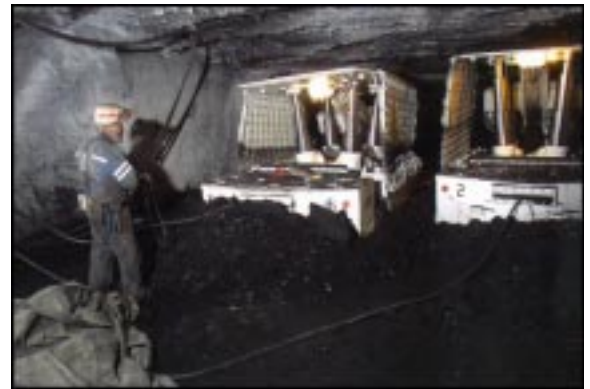
## MRS Roof Support Cylinder Set and Operating Pressures

Safe and efficient use of a Mobile Roof Support (MRS) system requires an understanding of the functions the system has been designed to perform. Additionally, it is important to understand the difference between an MRS support system and an Automated Temporary Roof Support (ATRS) system.



The primary function of a roof drill operator is to install permanent roof support (roof bolts). The ATRS system is provided to make it safe for the operator to perform his job. When properly set, the ATRS system is designed to automatically maintain firm contact with the mine roof, without the need for further operator attention. Therefore, from the operator's standpoint, the ATRS system is a *passive support system*.

The operator of an MRS is responsible for setting, monitoring and re-pressurizing the system throughout the mining cycle. This is, from the operator's viewpoint, an *active support system*, in that it requires constant operator attention.



All of this brings us to the questions of why do the MRS units need to be re-pressurized and what is the correct set pressure? Also, why not make the MRS operate like an ATRS – just set the system and forget it until it needs to be moved?

Let's answer the last question first. The MRS system actually performs two functions. The first, and most obvious function, is to support the roof and provide a breaker barrier between the mined area and the outby area. The second, and equally important, function is to

provide a constant indication of roof loading (by means of the pressure developed in the roof support cylinders). A decrease in roof support cylinder pressure indicates that the machine has settled into the floor and needs to be re-pressurized. Stable, or slightly increasing, pressure in the roof support cylinders indicates that the roof load is remaining constant or increasing somewhat and mining can continue. A significant increase in the pressure in the roof support cylinders indicates an elevated roof load which may require a change in mining (pulling the equipment back and allowing the roof to fall). Of course all of these pressure changes must be observed and interpreted by a properly trained and experienced individual. Therefore, if the MRS system had been designed to automatically maintain constant roof contact pressure, the operator would lose the ability to accurately monitor roof loading – one of the important benefits of the system.

To facilitate monitoring of the roof support cylinder pressures, large illuminated pressure gauges have been provided.



To further assist in monitoring of the roof support cylinder pressures, Fletcher has developed a MRS LOAD MONITORING SYSTEM. This system consists of a pressure sensor (which converts hydraulic pressure to electrical current), electronic control unit and a set of colored lights (green, amber and red) along with a strobe light. When the pressure in the roof support cylinders reaches pre-set levels, a green, amber or red light appears. Additionally, when the pressure changes from one pressure range to another, the strobe light flashes for five sec-

onds to call attention to the fact that there has been a change in pressure. When the pressure approaches the cylinder yield pressure, the red light appears along with a constantly flashing strobe light.



Since an MRS system is an *active support system* the operator must apply set pressure, monitor the roof support cylinder pressure and re-pressurize the system as required. The question then becomes, what should the set pressure be?

Determining the correct set pressure is a trial and error process. The set pressure must be high enough to eliminate the need to re-pressurize the system more than once (or at the most twice) after initial setting, yet not high enough to over stress the roof. Experience has shown that the set pressure should be between 500 and 1,500 psi. Starting at 500 psi, increase the set pressure until the point is reached where constant re-pressurizing is no longer required – without over stressing the roof.

If you would like to obtain more detailed information on MRS operation, ATRS operation or our MRS Load Monitoring System, please contact our Risk Management Department at (304) 525-7811 or on line at [jhfletcher.com](http://jhfletcher.com).

FOR IMMEDIATE RELEASE

## J. H. Fletcher & Co. Purchases WDM Technologies

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Huntington, WV  
 01/2004



J. H. Fletcher & Co., a leading designer and manufacturer of custom drilling and roof control equipment for underground mines, has completed its purchase of equipment designs, drawings and goodwill from WDM Technologies, LLC of Claremont, NH. The move extends the line of **Fletcher Industrial Minerals Division (IM)** mining equipment to include single and dual boom face and bench jumbos and hydraulic percussive drills. The Huntington, WV based Fletcher is well established in the design and manufacture of manual, remote-operated and automatic roof drills, and scalers with reaches up to 50 feet.

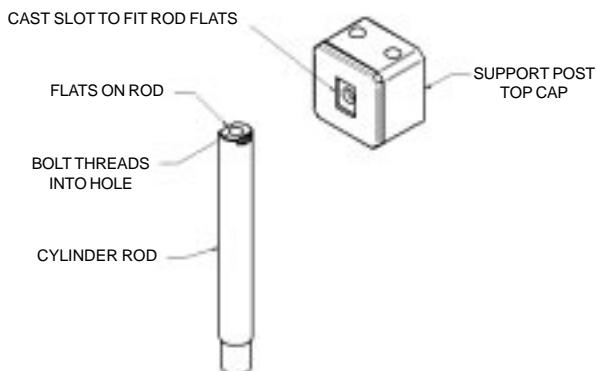
In addition to acquiring the products from WDM, Fletcher announced that Ward Morrison, WDM President, is joining Fletcher as Product Manager for the Face Drill line. Morrison was an original founder, Vice President and Chief Engineer at Cannon Industries, now part of the Oldenburg Group, prior to opening WDM three years ago. Design Engineer Paul Bigoney, Sales and Service Representative Bill Johnson, and District Sales Manager Mike O'Leary have also been added to the Fletcher IM Division's team.

For further information, contact Billy Goad, General Manager, Industrial Minerals Division - J. H. Fletcher & Co. at 304-525-7811 ext. 227 or email [bgoad@jhfletcher.com](mailto:bgoad@jhfletcher.com).

## Q & A

**Question:** Should the operator's canopy cylinder rod move when I torque the bolt on top of the canopy?

**Answer:** In 1992 J.H. Fletcher & Co. modified the rod and the canopy block. The rod end now incorporates a lip (milled end) and the canopy block has a milled groove that will accept that lip (see illustration). The rod will move until the rod lip fits into the groove. The matting of the groove and the lip will then secure the rod, preventing it from turning.



**Question:** If I were to make my own drill canopy, or ATRS extensions, would their manufacturing still fall under my original machine approval?

**Answer:** NO, the drill canopy or ATRS extensions are an integral part of an approved and certified system. The "homemade" extension will void the original certification of these components and may expose your operator to an unsafe condition.



*ATRS Extension (OEM)*

## MEET OUR EMPLOYEES



Sean Farrell joined Fletcher full time in June of 2003 after earning a Bachelor's degree from Perdue University in Interdisciplinary Engineering.

Sean worked during the summers for Fletcher in our Parts Book Department and in Engineering. Currently he works in our Research and Development Department.

### *Your E-Mail*

J.H. Fletcher & Co. appreciates you sending us E-mail and answering our web site survey. However, if you are sending in E-Mail requests, we ask that you provide us the following information: NAME , A FULL ADDRESS, PHONE NUMBER, AND YOUR E-MAIL ADDRESS. PLEASE ADDRESS YOUR E-MAIL TO:  
dcooper@jhletcher.com



**J. H. Fletcher & Co.  
Booth #2627**

**September 27-30, 2004  
Las Vegas, Nevada**

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