

# Fletcher

Product  
Newsletter

**J. H. Fletcher & Co.**

HUNTINGTON, WEST VIRGINIA

Volume 2, Issue 1

March 31, 1990

## RAIL RANGER PERSONNEL CARRIERS

Recognizing the need for a smoother riding and easier to maintain mantrip, J.H. Fletcher & Co. has developed, in the last two years, the Rail Ranger line. This new line of equipment has been designed around specific customer comments. Through those requests J.H. Fletcher has incorporated the following items into its mantrip program:

Eight coil spring suspension needs no lubrication; each truck floats independently.

Double sealed, double row axle bearings with labyrinth outboard seal increase bearing life and drastically reduce frequency of lubrication.

Heavy axle assembly lowers center of gravity.

Major components easily reached under bolt-down compartment covers.

All Rail Ranger equipment, upon request by our customers, can be easily adapted with additional safety equipment (covered passenger compartments).

J.H. Fletcher & Co. now offers a wide range of CUSTOMER PROVEN RAIL RANGER EQUIPMENT. Each vehicle is closely monitored to ensure that you, as a customer, are getting the quality and customer satisfaction you have learned to depend upon for 50 years.

For further information contact your local Fletcher representative or call our sales department at (304) 525-7811.

Located on p.2 you will find two good examples of the diversity of equipment J.H. Fletcher & Co. has to offer in its Rail Ranger Program.

## HOW TO KEEP OIL IN HYDRAULIC SYSTEMS COOL

Hot oil in a mining equipment's hydraulic system is one of the primary causes of poor operation, component failure, and downtime. The oil in the hydraulic system of mobile equipment was designed for operation within a specified temperature range. The equipment can be run at hotter temperatures for short periods of time, intermittently, without bad effects, but if run continuously with oil that is too hot, the equipment will operate poorly and eventually key components will fail and bring the machine to a stop. Here are some pointers on keeping the oil cool, from the staff engineers of Parker-Hannifin Corporation, Cleveland, Ohio.

### HOW HOT IS TOO HOT?

The term "hot oil" is a relative one. In most cases, 120°F at the reservoir is considered an ideal operating temperature. Thus it is always best to take an oil temperature reading at the reservoir and not at a component of any of the piping.

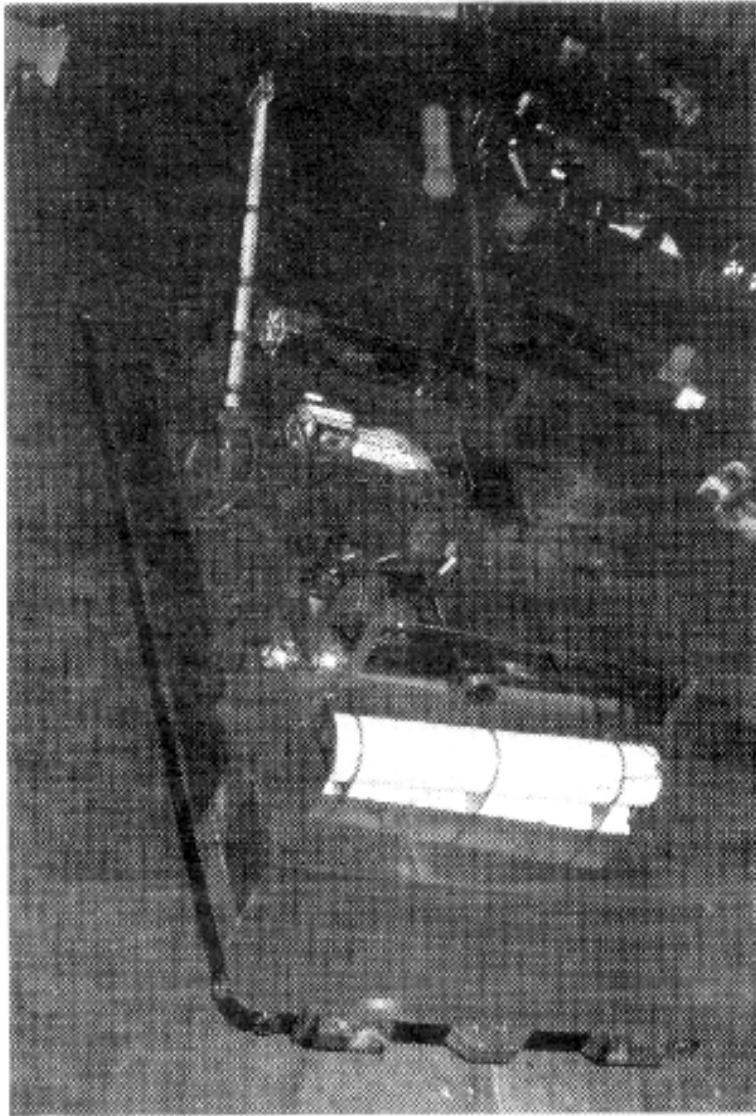
Some hydraulic systems are designed to operate at 150°F or higher. If the maximum operating temperature for the equipment is not known, check the operator's manual, or ask the equipment dealer.

**RECOMMENDED TEMPERATURE RANGE FOR MOST FLETCHER EQUIPMENT IS FROM 150°F TO 190°F. CONTACT YOUR SALES/SERVICE REPRESENTATIVE FOR ADDITIONAL INFORMATION.**

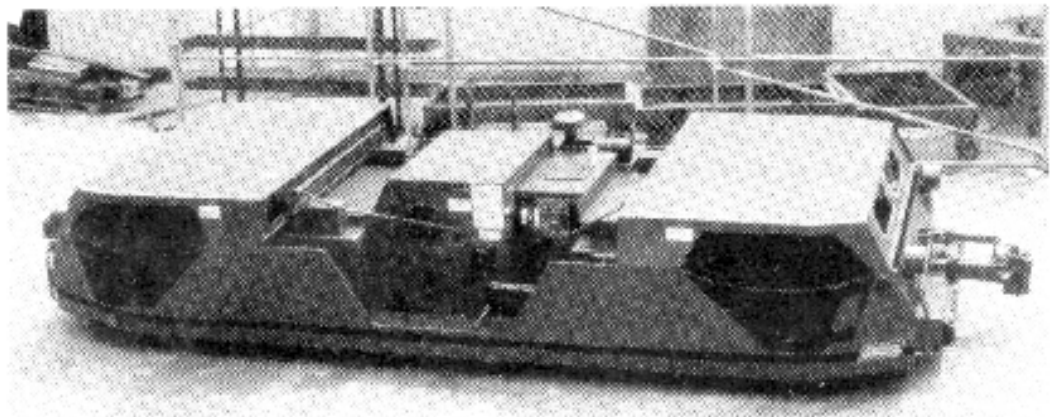
There are several ways to check the temperature of the oil. The best, most accurate method is by means of a thermometer. On some machines this is mounted on the reservoir. Make it a habit to check the thermometer periodically after the equipment has been running for more than an hour.

If the machine does not have a reservoir thermometer, use the palm test. First, check the tank with your fingertip. If it is not too hot to touch, place your palm on the tank. You'll be able to hold it there without discomfort if the oil temperature is about 150°F or below.

## RAIL RANGER PERSONNEL CARRIERS



MECHANIC'S SPECIAL



Hot Oil cont. from p.1

### ISOLATING TROUBLE SPOTS

To determine which components are running hot and overheating the oil, feel the outlet fittings and lines at the valves, pumps, and motors. If the oil is normal going into a component, but hot coming out, this could be one of the troublemakers.

A sticking valve can cause excessive heat. If a spool does not return promptly to the neutral position, the pump flow will be dumped continuously. This builds up heat rapidly. If a relief valve is set to low, part of the oil will be dumped across the valve with every cycle. This, too, generates excessive heat. Even when all valves are set properly, they may not be operating well because of worn orifices or seals.

For a good comparison test, check the temperatures of the valve outlets against that of the pump outlet. If any valves are running hotter than the pump, they need attention. Always remove and check the hot components first, before the others.

### LOOK, SMELL, AND FEEL

Checking oil temperature periodically is good preventive maintenance. So, too, is the practice of periodically siphoning an oil sample from the reservoir and comparing it with a sample of clean, new oil.

Oil that has been running too hot will look darker and feel thinner than new oil. It will also smell burnt. Chances are it will contain more contaminants because hot oil leads to accelerated wear of component parts.

**PREVENTIVE MEASURES**

How can the hydraulic system of a particular piece of equipment be kept from running too hot?

HERE'S WHAT PARKER-HANNIFIN RECOMMENDS:

- ✓ Set up a regular schedule for checking oil temperature, appearance, smell, and feel. Change oil as recommended.
- ✓ Be prompt about removing, checking, and repairing or replacing those valves, pumps, or other components that are running hot.
- ✓ If relief or flow-control valves are running hot, check and adjust their settings. Follow the equipment owner's manual.
- ✓ Break in new components gradually. Their new, close-fitting parts expand at different rates, and tend to seize when too hot.
- ✓ Start a cold pump or motor on hot oil by jogging just enough to draw the hot oil into the compartment. Then wait a few minutes to allow the temperature to equalize in all the pump's parts. Repeat until the temperature on the outside of the pump is the same as that on the piping.
- ✓ Keep the equipment clean. A thick layer of caked-on mud or dirt acts as insulation. It will prevent the hydraulic system from getting rid of heat.

Printed from an article produced by the Parker-Hannifin Corporation, Cleveland, Ohio.

## **POLICY STATEMENT APPROVALS AND CERTIFICATION OF REBUILT FLETCHER MACHINES**

We recognize that Fletcher machines are, from time to time, rebuilt or modified either in a customer's facilities or in an independent rebuilders' facility.

A rebuild is defined as an extensive repair or overhaul procedure which returns the machine or a major component thereof to a "like new" condition. A modification is defined as a procedure which changes, in some way, the original design, composition, or manufacture of some component or subassembly within the machine.

Federal and state statutes require certain certifications and approvals with reference to safety related items. In addition, certain industry standards must be met. In order to maintain the validity of these certifications, approvals, and standards, the original design and component parts must be used.

J.H. Fletcher & Co. is unable to accept responsibility nor authorize official approvals and/or certifications on any Fletcher manufactured machine where that machine has been modified or rebuilt by any party other than a) J.H. Fletcher & Co. or b) Fletcher's authorized rebuild and modernization facility.

We will be willing to work with our customers to resolve any issues which may arise as a result of this policy.

# DANGER

*Remain seated and keep all parts of body inside when vehicle is moving*

DO NOT REMOVE LABEL



J.H. Fletcher & Co.      3189554

# NOTICE

## S.C. S.R.

STORED BEHIND SEAT

DO NOT REMOVE LABEL



### **NEW WARNING LABELS AVAILABLE**

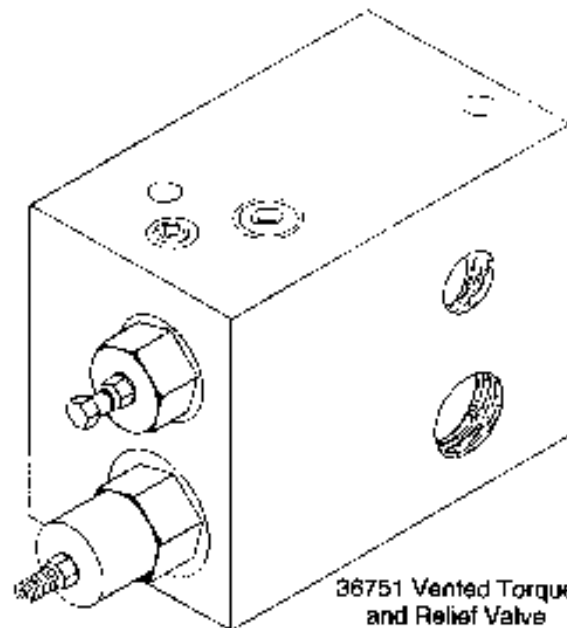
J.H. Fletcher & Co. has recently redesigned two warning labels that are presently being used on our mantrips. The first label (P/N: 159554) warns all passengers while riding in a mantrip to keep all parts of their body inside the mantrip during travel. The second warning label (P/N: 159645) quickly notifies all employees the location of S.C.S.R. that are stored in mantrips. These labels are laminated with a reflective tape on a strong pre-holed metal tag approximately 3" x 8" long. Both warning labels are now available at a minimum charge.

## SETTING AND CHECKING ROOF BOLT TORQUE

Setting and checking the bolt torque should only be performed by authorized personnel at your mine location. To check and set the bolt torque it will be necessary first to adjust the bolt torque relief valve to its lowest setting. After installing a few bolts, the operator can gradually increase the setting until the desired torque is reached.

After this torque has been achieved, continue installing bolts and checking the installed torque until it appears reasonably certain that the proper torque setting has been achieved. Proper torque setting on a bolt varies with each mine and bolt type.

If it becomes necessary to stall the circuit for trouble shooting purposes, the hoses should be plugged securely. Mechanically fouling the drillhead rotation is not recommended during any stage of setting bolt torque pressure.



36751 Vented Torque and Relief Valve

The information contained in this newsletter has been obtained from sources believed to be reliable, and the editors have exercised reasonable care to assure its accuracy. However, J.H. Fletcher & Co. does not guarantee that contents of this publication are correct, and statements attributed to other sources do not necessarily reflect the opinion or position of J.H. Fletcher & Co.

Editor: David Thomas  
Asst. Editor: David Cooper  
Published by J.H. Fletcher & Co.  
Box 2187 / Huntington, WV 25722

Currently, we are only sending the Fletcher newsletter to a selective readership. If you know of someone in your company who wishes to get on our mailing list, please let me know. Below is a form that may help us get them on our mailing list more quickly. Just fill out the form and return it to J. H. Fletcher & Co., Box 2187, Huntington, WV 25722.

**FREE SUBSCRIPTION FORM**

Name: \_\_\_\_\_ Job Title/Description \_\_\_\_\_  
 Company \_\_\_\_\_ Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone: \_\_\_\_\_

**J. H. Fletcher & Co.**

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

Box 2187  
Huntington, WV 25722  
(304) 525-7811