

GH-BETTIS
OPERATING INSTRUCTIONS
M8
HYDRAULIC SPEED
CONTROL SYSTEM

PART NUMBER: 074975

REVISION: "A"

RELEASE DATE: January, 1992

1.0 SYSTEM DESCRIPTION

The M8 Hydraulic Speed Control System is a compact, modular system designed for use with GH Bettis spring return and double acting actuators. The system has dual speed controls and a make-up oil reservoir necessitated by the differential volume of the hydraulic cylinder due to the piston rod.

THE UNIT MUST BE MOUNTED UPRIGHT WITH RESERVOIR MOUNTED VERTICAL. THE RESERVOIR FILL PLUG MUST BE REMOVED AND REPLACED WITH THE BREATHER SUPPLIED BEFORE OPERATION.

2.0 SPEED CONTROL

Individually adjustable, integral speed controls are provided. Loosen the locknut and adjust the control with a screw driver until the desired normal operating speed is attained. Turn the adjustment clockwise to reduce the speed; counterclockwise to increase the speed. Tighten the locknut. Maintain the reservoir fluid level within approximately 1-1½ inches (25 to 40 mm) of the top with actuator stroked to its full counter-clockwise position.

3.0 FLUID REQUIREMENTS

- 3.1 Standard and high temperature service (-35°F to 350°F) use Dexron II Automatic Transmission Fluid.
- 3.2 Low temperature service (-65°F to 180°F) Use Exxon Unavis J13 Hydraulic Fluid.

4.0 SYSTEM REFILLING INSTRUCTIONS:

- 4.1 Refilling of the M8 control system and actuator cylinder is best accomplished using a pressure pump.
- 4.2 On the hydraulic cylinder to which the M8 system is connected, the piston must be stroked toward the outboard side of the hydraulic cylinder.
- 4.3 Remove the breather from the reservoir.
- 4.4 Attach the pump discharge line to reservoir breather port (3/8" NPT port).
- 4.5 Loosen the hex jam nuts on both speed control valves.
- 4.6 Open (turn out or counter-clockwise) both speed control valves.
- 4.7 Open the two bleed valves located at each end of the hydraulic cylinders.

- 4.8 Slowly pump hydraulic fluid into the reservoir. Approximately 3 to 5 psi will be required.
- 4.9 As the fluid passes through the M8 control module into the cylinder, air will be displaced.
- 4.10 Close each bleed valve when the air has been displaced and hydraulic fluid appears.
- 4.11 Add or remove fluid in the reservoir so that the level is at least 1-1½ inches (25 to 40 mm) from the top of the reservoir with the actuator in the same position as step no. 4.2.
- 4.12 Install the reservoir breather.
- 4.13 Connect power supply to the actuator power cylinder and cycle the actuator.
- 4.14 Adjust the speed control valves for desired operating speed. Tighten the hex jam nuts on the speed control valves.
- 4.15 The actuator is ready for normal service.

5.0 ALTERNATE SYSTEM REFILLING INSTRUCTIONS:

- 5.1 Refilling the M8 control system during field service often must be done without the use of a pressure pump. Proceed as follows:
- 5.2 On hydraulic cylinder on which M8 system is mounted, the piston must be stroked toward outboard side of the actuator.
- 5.3 Fill hydraulic cylinder(s) with fluid by removing bleed valves at the top of the cylinder.
- 5.4 Remove the breather from the reservoir port.
- 5.5 Fill the reservoir. Maintain at least 1-1½ inches (25 to 40 mm) of fluid within the reservoir at all times.
- 5.6 Replace the bleed valves at the top of the hydraulic cylinder.
- 5.7 If needed add hydraulic fluid to the reservoir. Maintain at least 1-1½ inches (25 to 40 mm) of fluid within the reservoir at all times.
- 5.8 Install the reservoir breather.
- 5.9 Connect power supply to the actuator power cylinder and cycle the actuator.
- 5.10 Adjust the speed control valves for desired operating speed. Tighten the hex jam nuts on the speed control valves.
- 5.11 The actuator is ready for normal service.

6.0 MAINTENANCE:

GH-Bettis does not recommend periodic field maintenance for the M8 module. The **only** time the M8 module should be disassembled is when the M8 fails to perform its control function. If maintenance is required and when possible the M8 package should be returned to the factory for maintenance.

More detailed information, concerning your particular application, may be obtained by writing or faxing GH Bettis, P.O. Box 508, Waller, Texas 77484, U.S.A., Telephone: 713/463-5100 or 409/372-3606, FAX: 713/463-5103, Telex: 686804

ECN	DATE	REV		BY *	DATE
Released	January, 1992	A	COMPILED	B.C.	14 January 1992
			CHECKED	B.C.	14 January 1992
			APPROVED	RMM	14 January 1992

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