SERVICE ENGINEERING REPORT NO: NTSB14AUG06-MX243442	REV. NO. INITIAL RELEASE

SERVICE ENGINEERING REPORT

Report Title	Motorpump Test Evaluation
Eaton Motorpump Part Number	354744
Motorpump Model Number	AA-19089
Motorpump Serial Number	MX243442
Pump Model Number	PF24-3906-15BCE-S628-4
Pump Serial Number	AVM0217846
Electric Motor	EEMCO (Model No. D1291-1)
Customer	NTSB
NTSB ID:	WPR13LA310
Aircraft Registration:	XB-RSC
Eaton Report Number	NTSB14AUG06-MX243442
Date Prepared:	August 6, 2014
Prepared by:	John Schuerman

Eaton Corporation
Fuel & Motion Control Division
[redacted]
Jackson, MS 39205-3449
Tel: [redacted]
Fax:

1.0 PURPOSE AND SCOPE

The purpose of this report is to detail the test results from a factory performance test of an AA-19089, 24VDC Motorpump. The motorpump was removed from a Rockwell NA-265-65, Mexican registered XB-BSC aircraft following an incident of a reported loss of control while taxiing at McCarran International Airport (LAS) Las Vegas, Nevada.

Representatives from FAA witnessing the test and evaluation were:
Robert F. Mahaffey – Flight Safety District Office

2.0 FINDINGS

The motorpump was visually inspected and no obvious damage was noted, but some contamination was evident (See pictures 1-5 attached). The pump was separated from the electric motor and was flushed to remove any contamination. (a small stone was found in the pump inlet port). Both the pump and electric motor were checked for smooth operation and confirmed that there was not binding or unusual noises. The pump was then connected back to the electric motor.

The motorpump was then mounted on a motorpump test stand and tested to test procedure 6447. The performance test requirements and test results are summarized in the table below.

Test Parameter	Test Requirements	Test Results
Pressure	3000 +/- 10 psig	3000 psig
Flow	2.2 gpm	2.06 gpm
Current Draw	235 amperes	185 amperes
Case Leakage	431 cc/min	336 cc/min

This lower level of flow is typical of pumps with some service life.

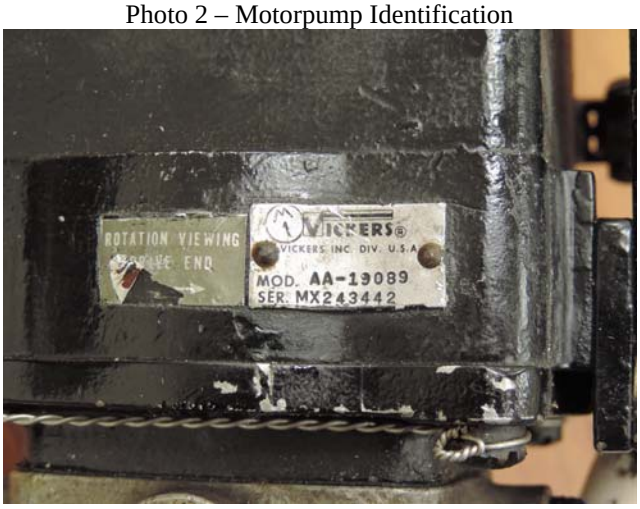
3.0 CONCLUSIONS

The motorpump does not appear to be the cause for loss of control on the aircraft. The motorpump did not meet new print flow requirements (2.2 gpm), but did provide substantial flow (2.06 gpm) needed to develop 3000 psig. Motorpump operated as designed, but did have a slightly low output flow.

Figure 1 – AA-19089 Motorpump as Received

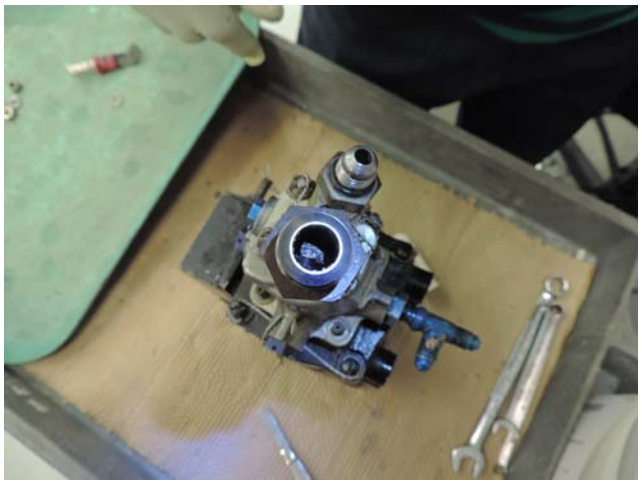
The motorpump was removed by just cutting the power leads to the electric motor. There were no protective caps on ports to prevent contamination from getting into the pump.

Photo 2 – Motorpump Identification



The motorpump ID plate was mounted on the electric motor.

Photo 3 – Port Contamination

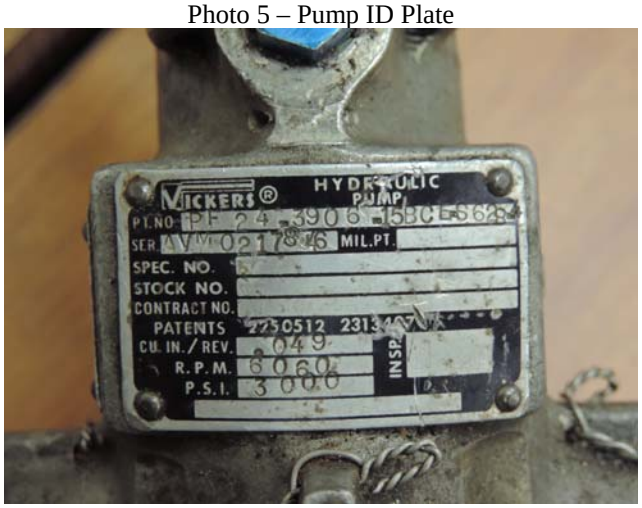


There was a small stone in the inlet port.

Photo 4 – Pump End of Motorpump

There was evidence of contamination on the ports – One of primary reasons for flushing the pump before test.

Photo 5 – Pump ID Plate



Pump serial number indicates the pump was manufactured approximately 50 years ago.