



## ENGINE SYSTEMS, INC.

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March 8, 2001

U.S. Nuclear Regulator Commission  
Document Control Desk  
Mail Stop 0P1-17  
Washington, DC 20555

Subject: 10CFR21 Reporting of Defects and Non-Compliance -  
Engine Systems, Inc. Report No. 10CFR21-0081  
  
Refurbished Woodward EGB governor/actuators

Dear Sir:

The enclosed report addresses a reportable defect and the corrective action to be taken by users with some refurbished Woodward EGB governor/actuators.

Should you have any questions, please feel free to call.

Please sign below, acknowledging receipt of this report, and return a copy to the attention of Document Control at the address below (or, fax to number 252/446-1134) within 10 working days after receipt.

Yours very truly,

ENGINE SYSTEMS, INC.

Susan Woolard  
Document Control

**Please let us know if ANY of your mailing information changes - name of recipient, name of company/facility, address, etc. Mark the changes on this acknowledgment form and send to us by mail or FAX to the number above.**

(95)

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**Report No. 10CFR21-0081**  
Rev. 0: March 6, 2001

## 10CFR21 REPORTING OF DEFECTS AND NON-COMPLIANCE

COMPONENT: Refurbished Woodward EGB governor/actuators

SYSTEM: Diesel generator control systems

CONCLUSION: Defect is reportable in accordance with 10CFR21.

PREPARED BY:

*J. Miller*  
Engineering Manager

DATE: 3/8/01

REVIEWED BY:

*Michael Nuding*  
Quality Assurance Manager

DATE: 3/8/01

**DISCUSSION:**

Engine Systems Inc. (ESI) has received notification about a potential problem with some refurbished Woodward EGB governor actuators. One problem was recently reported by V.C. Summer Nuclear Station, via Power Reactor Event Number 37788. Apparently, a governor experienced binding of the terminal shaft due to incorrectly applied clamping screws. ESI was not notified about this occurrence until after the Event Report was issue; therefore, ESI was not able to verify/evaluate the actual components involved. Another problem was also reported by J.A. Fitzpatrick Nuclear Plant with this governor. Operability problems were observed and an investigation revealed that the droop lever pivot pin retaining rings were omitted during reassembly of the governor. Due to the missing retaining rings, the pins eventually backed out, releasing the droop lever. This caused the mechanical speed setting to drop and interfere with electric governor operation (limited load carrying capability). A parts breakdown for the EGB is provided in Exhibit 1 with the above parts annotated.

Both governor refurbishments orders were processed by ESI and the refurbishment activity occurred at Woodward. Further investigation by ESI, with cooperation from Woodward, has determined that both EGB's were assembled by the same technician within Woodward's mechanical repair department. Woodward has determined that this individual worked on a total of seven (7) nuclear governors (all were EGB's) between October 1999 and August 2000. Activity is limited to refurbished units only.

**COMPONENTS AND CUSTOMERS AFFECTED:**

Woodward EGB governor actuators refurbished between October 1999 and August 2000. Not all refurbishments during this period are suspect, only those handled by one (1) Woodward repair technician are of concern. These are listed below:

<b>Woodward Customer</b>	<b>Cust PO to Woodward</b>	<b>End-user &amp; End-user Purchase Order</b>	<b>Part Number and type</b>	<b>Serial Number</b>
Cooper Bessemer	3921N6317	<b>*Unknown at this time</b>	9903-008 (EGB-10C)	2019337
Cooper Bessemer	3921N6220	<b>*Unknown at this time</b>	9903-505 (EGB-35P)	11493336
New York Power Auth.	4500012418	<b>NYPA – Indian Point</b> Direct / P.O. 4500012418	9903-152 (EGB-35C)	880894
South Texas Project (STP)	07142	<b>South Texas Project</b> Direct / P.O. 07142	9903-483 (EGB-50P)	1547640
ESI	38378	<b>SCE&amp;G - V.C Summers</b> P.O. SR707715	9903-036 (EGB-50C)	1391786
ESI	38590	<b>NYPA – Fitzpatrick Plant</b> P.O. 4500017657	D9903-173 (EGB-13C)	2185499
ESI	40239	<b>FP &amp;L – Turkey Point #3.</b> P.O. 00044413	9903-564 (EGB-13P)	2272578

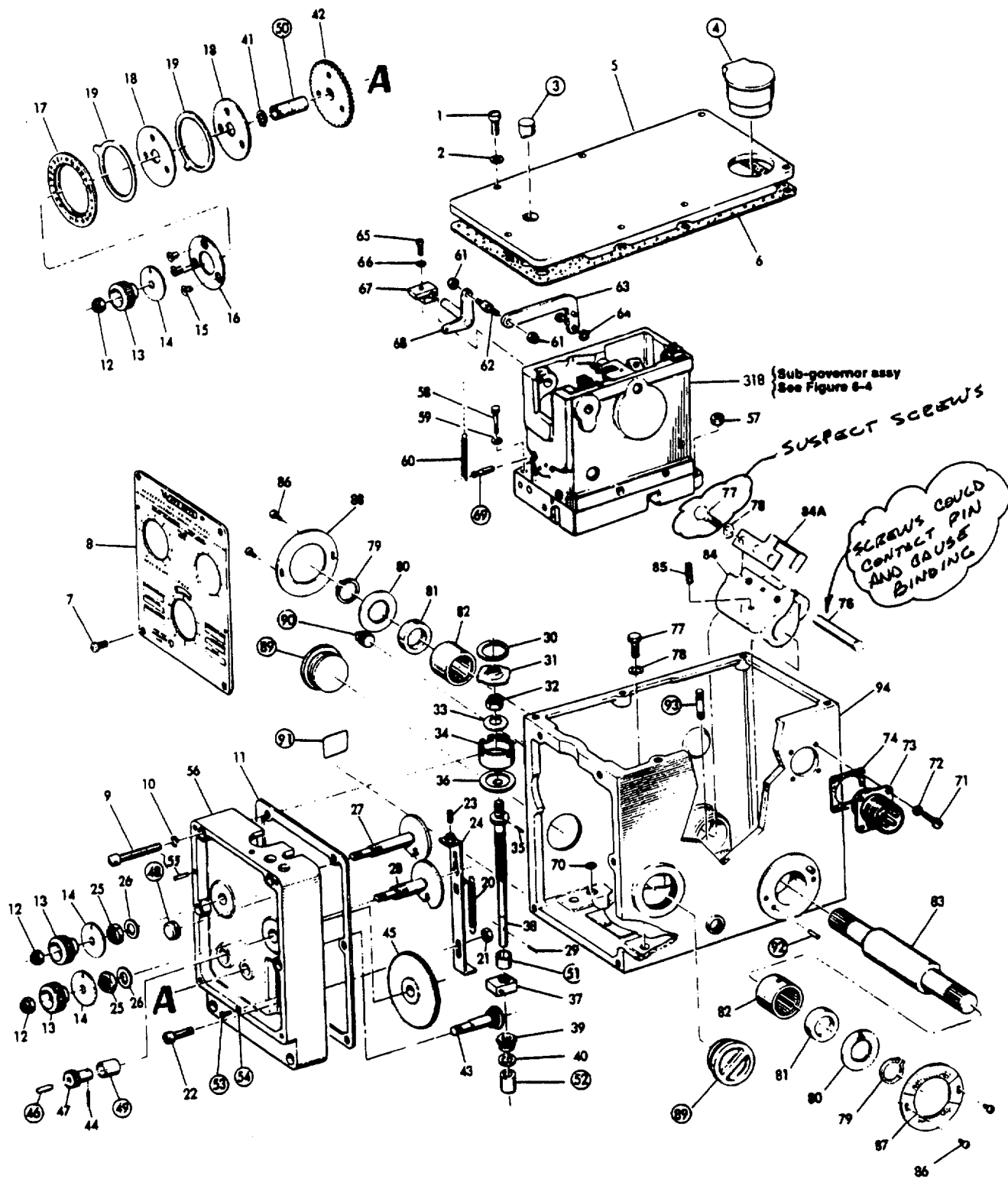
\* ESI has contacted Cooper to determine which sites received these units. Once this information is received, ESI will send notification to the affected users.

**CORRECTIVE ACTION:**

ESI recommends returning the suspect governors to ESI for a completed tear-down inspection. ESI will reassemble and functionally test to Woodward specifications. NOTE: Even though the V.C Summer governor screw length issue was corrected, we still recommend a complete tear-down to verify all refurbishment activity is within specifications. The Fitzpatrick unit (s/n 2185499) was recently returned to ESI to replace the missing terminal shaft retaining rings. A complete tear-down inspection was performed at that time; no further action on this governor is required. Contact ESI's Customer Service Department for return instructions.

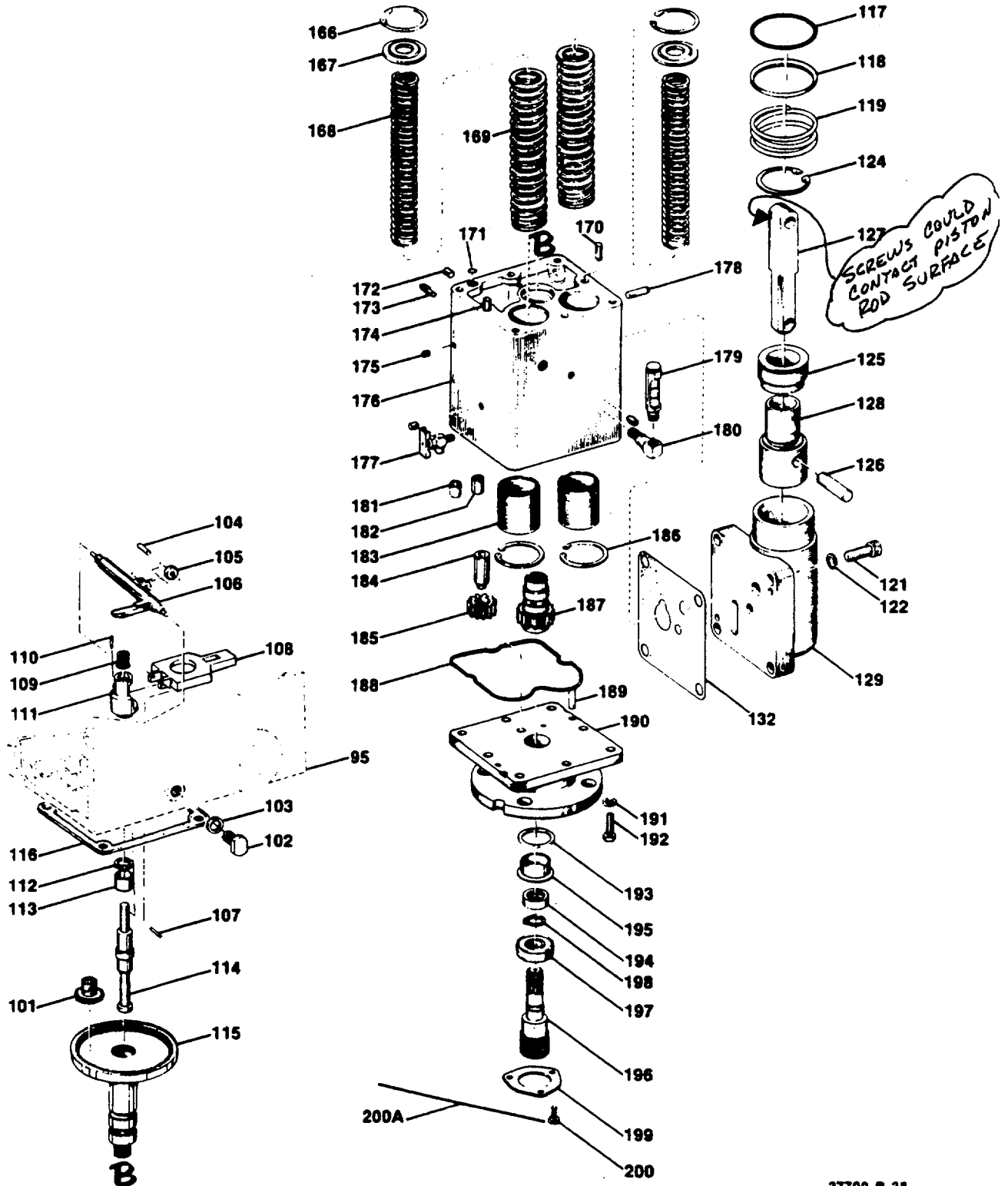
EXHIBIT 1

EGB PARTS BREAKDOWN



82500-C-33

Figure 6-5. Column Assembly Parts for EGB-10P, 13P



37700-B-38

Figure 6-6. Power Case, Power Piston for EGB-10P, 13P

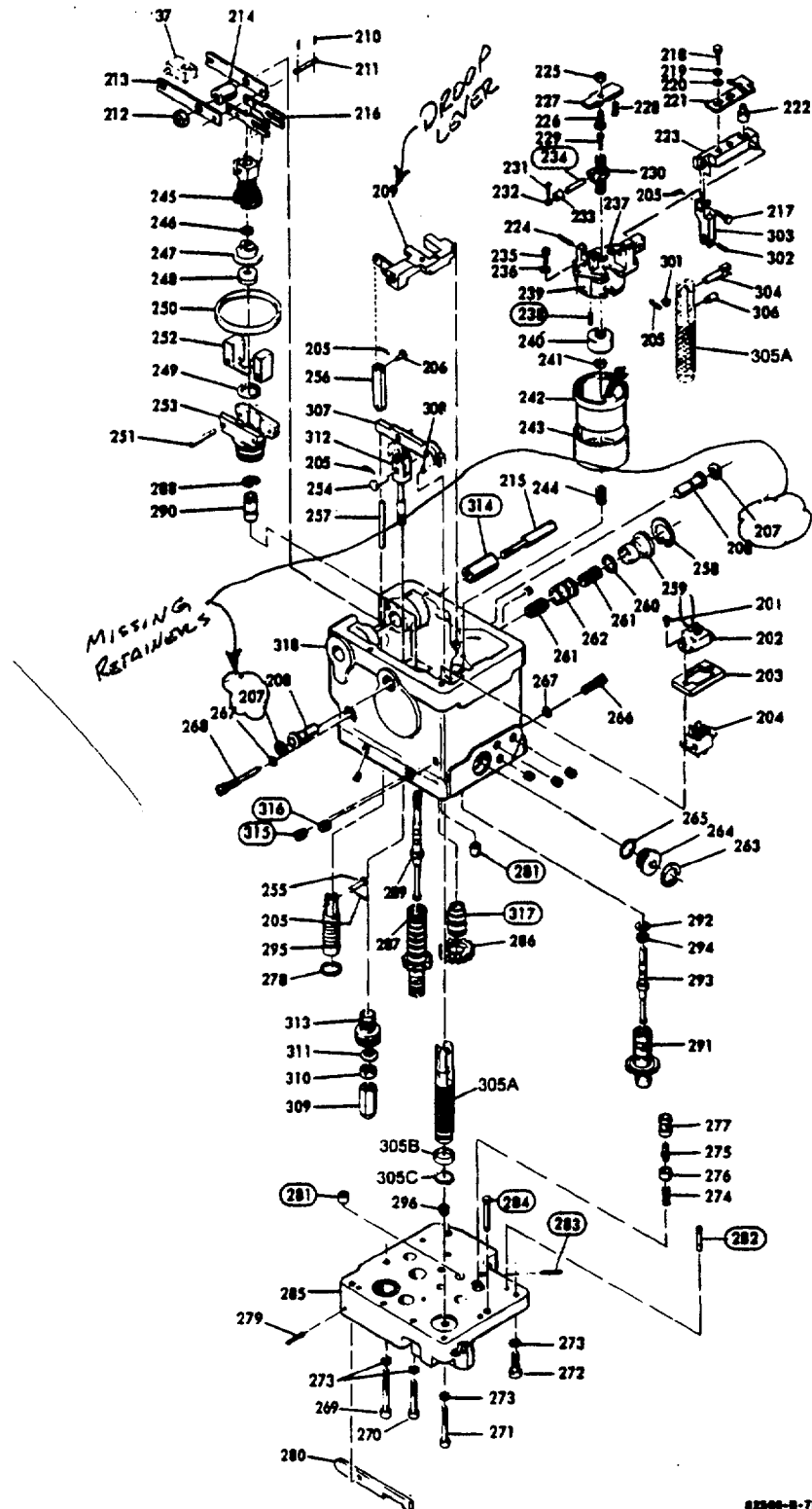


Figure 6-7. Sub-Governor Parts, EGB-10P, 13P