



NUMBER: S.I. M20-65

DATE: 2-24-83

SUBJECT: SYMBOLIC DISPLAYS INC., (S.D.I.) FT-101 FUEL FLOW MEASURING SYSTEM, MOONEY M20J and M20K

MODELS/S/N AFFECTED: Mooney Model M20K, S/N 25-0001 & ON, M20J, S/N 24-0001 & ON with FT-101 system installed.

TIME OF COMPLIANCE: At owners convenience or at next scheduled maintenance action.

INTRODUCTION: Reports have been received from some owners of Mooney M20J and M20K aircraft concerning fuel flow reading inaccuracy or loss of the fuel totalizer memory on the FT-101 fuel flow measuring system.

It has been determined that certain manufacturing lots of the Flo-Scan Transducer, Model 201B, Serial Numbers 23300 through 28962, are affected by engine heat and altitude. These units may cause erratic readings during flight conditions.

INSTRUCTIONS:

1. Determine if the FT-101 system is working correctly; the majority of the units are very accurate and display reliable fuel flow and fuel used data.
2. If the system is giving erratic fuel flow readings, it is recommended that the Flo-Scan transducer be checked for one of the above serial numbers per the following instructions:
 - a. The firesleeve must be removed from around the transducer.
 - b. The attaching bolts must be removed.
 - c. Carefully pull the transducer away from the bracket to check the serial number.

NOTE: When checking the serial numbers observe the Alpha character following the serial number, ie., 22933M. This Alpha number either an L, M, H or HH, indicates the "K" factor for which the transducer and the FT-101 panel mounted unit must be attached to function properly.

- d. If the transducer serial number is one of the above listed numbers it is recommended that the unit be removed and replaced with a known good transducer of the same "K" factor. The "K" factor value must be specified when ordering a new transducer.
3. If the serial number is not one of the suspect serial numbers listed above and the flow readings are erratic the transducer should be changed noting "K" factor per paragraph 2, c.

4. The following symptoms may have been observed; if so, the corrective action recommended should be taken.

SYMPTOM

RECOMMENDED ACTION

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| <p>A. 1) Fuel totalizer memory loss or unrealistic readouts.
2) Steady but inaccurate fuel flow readings.</p> | <p>A. Replace the FT-101 panel mounted unit with a new modified unit, which can be identified by an "M" stamped following the serial number.</p> |
| <p>B. FT-101 displays erratic readouts - skipping back and forth (common with changes related to temperature or altitude).</p> | <p>B. Remove and replace the fuel flow transducer located on the engine. Specify the "K" factor displayed on the serial number of the old unit. (See paragraph 2, c.)</p> |
5. Enter compliance note in the aircraft log book.
 6. Warranty claims should be processed through the nearest Mooney Marketing or Service Center prior to September 1, 1983. The warranty policy for this S.I. effort is as follows:
 - A. Aircraft in warranty - zero to 6 months. Parts and labor will be provided to aircraft owners at no cost within the following labor time frames:

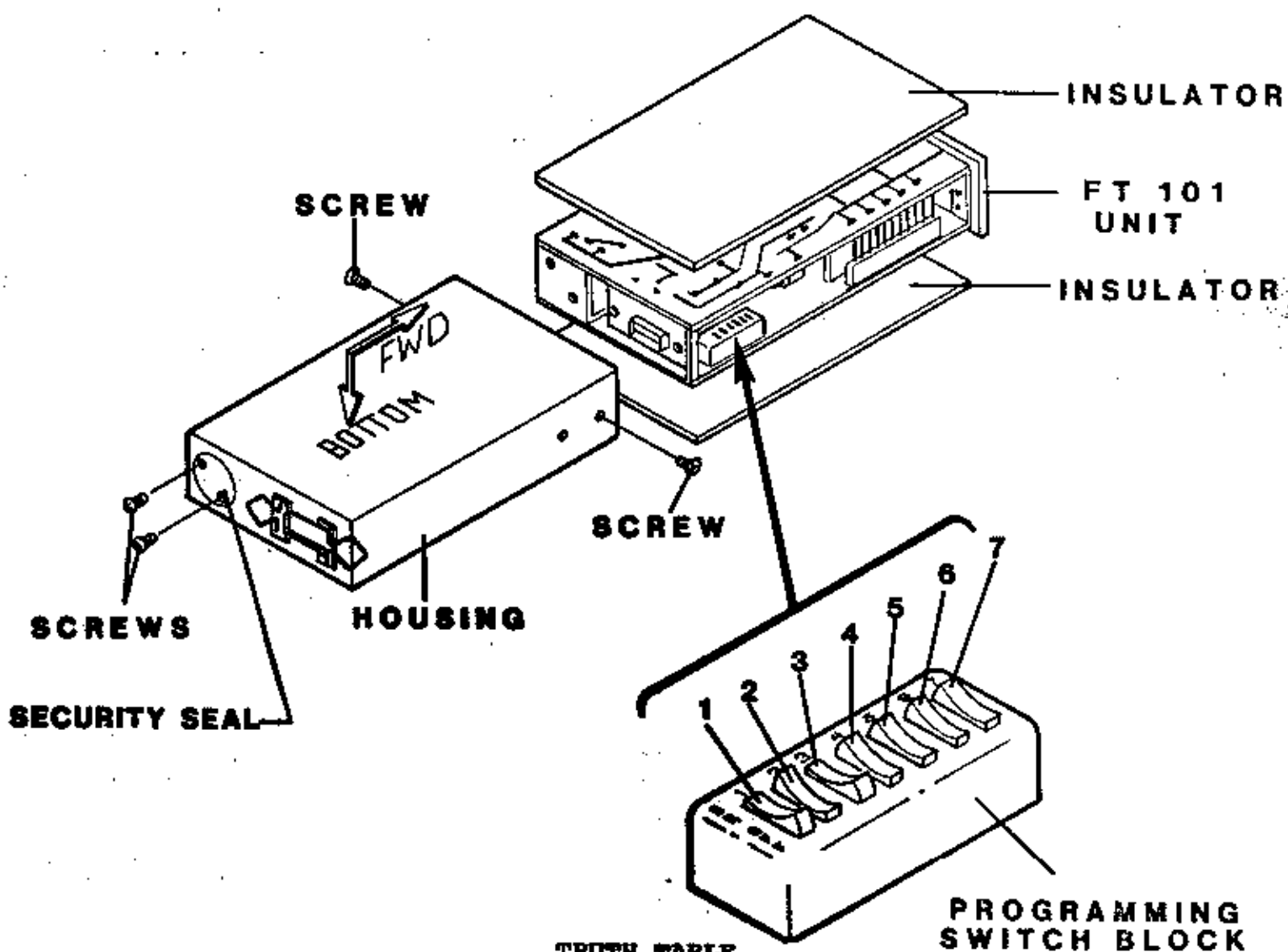
Transducer - Remove and Replace - 1.0 hours.
FT-101 unit - Remove and Replace - .5 hours.
 - B. Aircraft out of warranty. Parts will be provided at not cost for an additional six months beyond the warranty period.
 - C. Aircraft beyond periods specified in A and B above.

Parts and labor will be the responsibility of the aircraft owner with the following exception:

 - 1) If the installed transducer is within the serial number parameter of paragraph 2 of Introduction, the new transducer will be provided at no cost to the aircraft owner.

REFERENCE DATA: N/A

Parts List:	QTY.	P/N	DESCRIPTION
Kit No. S.I. M20-65-1	1	880034-501	Panel Unit (Modification)
Kit No. S.I. M20-65-2	1	880030-501	Transducer (Hoskins)



TRUTH TABLE

K-FACTOR	S1	S2	FUNCTION	S3	S4	S5	S6	S7
L	ON	ON	GALLONS	ON	OFF	OFF	NA	NA
M	ON	OFF	POUNDS	OFF	ON	OFF	NA	NA
H	OFF	ON	LITERS	OFF	OFF	ON	NA	NA
HH	OFF	OFF					NA	NA

TRANSDUCERS ARE CATEGORIZED BY THE NUMBER OF PULSES PER SECOND OUTPUT FOR A GIVEN GPH FLOW RATE ("K FACTOR"). THIS WILL BE NOTED AS: L, M, H, OR HH SCRIBED ON THE END OF THE SERIAL NO. FOR ACCURATE READINGS, THE FT-101 INTERNAL SWITCHES MUST BE MATCHED TO THE TRANSDUCER. SEE TRUTH TABLE ABOVE.

NOTE: S.D.I. HAS STATED THAT IF A WRITTEN STATEMENT CONCERNING SWITCH EVALUATION AND ADJUSTMENT MADE TO CORRECT AN ERROR IN FUEL FLOW READOUT ACCOMPANIES EACH UNIT THAT HAS HAD THE S.D.I. SEAL BROKEN, THEY WILL CONSIDER WARRANTY ACTION. IF NO STATEMENT IS RECEIVED WITH A UNIT WHERE THE SEAL IS BROKEN, NO WARRANTY WILL BE CONSIDERED ON THAT UNIT.