



Mooney Aircraft Corporation

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SPECIAL LETTER 92-1
DATE: April 20, 1992

SUBJECT: Mooney M20J 2900 POUND GROSS WEIGHT INCREASE, RETROFIT KITS

MODEL/S/N
AFFECTED: M20J, Mooney 205, 201, ATS, MSE; S/N 24-1686 thru 24-3200, 24-3202 thru 24-3217

TIME OF
COMPLIANCE: At owners discretion.

INTRODUCTION: The gross weight of 1991 and later M20J aircraft has been increased from 2740 pounds to 2900 pounds. This increase in useful load is retrofitable to some earlier M20J aircraft. See S/N's listed above. The incorporation of this retrofit is up to the discretion of the aircraft owner/operator.

Five kits are provided for incorporation of: (1) the proper airspeed indicator, (2) the applicable AFM Supplement required for each listed series of S/N aircraft and (3) the inspection of the rudder static balance limits.

CAUTION

This Special Letter is to advise M20J owners (for S/N's listed above only) of the opportunity to incorporate this new configuration, if desired. HOWEVER, it is essential that the Serial Number of each aircraft and the number of the Pilot's Operating Handbook and Airplane Flight Manual (POH/AFM) being used for each aircraft be provided to the Service Parts Dept. at the time of the retrofit kit order. This will assist in assuring that the proper set of components are being provided for your aircraft.

INSTRUCTIONS:

1. Procure correct retrofit kit listed below. (Refer to S/N and POH/AFM of existing aircraft)
2. Retrofit Kit (for specific aircraft serial numbers) may be ordered direct from Mooney Service Parts Department, (512) 257-8601, using Master Card, Visa or C.O.D. The kits are priced at \$1,750.00 net.
3. See instructions shown on field of Mooney 940071 drawing.
4. Install correct airspeed indicator supplied in appropriate kit.
5. Incorporate **proper** AFM Supplement into the appropriate POH/AFM for aircraft S/N

In addition:

6. Refer to Mooney Service Bulletin M20-252, dated 4-6-92. The INSTRUCTIONS shown therein MUST be followed for the above S/N aircraft to complete retrofit incorporation of the 2900 pound gross weight increase for these M20J's.

NOTE

When complying with this Special Letter, the instructions of SB M20-252, dated 4-6-92 or subsequent revision, must be accomplished on the above serial numbered aircraft even though the Serial Numbers on SB M20-252 do not specifically refer to the above aircraft.

WARRANTY: N/A

REFERENCE: DATA:

1. Mooney drawing number 940071
2. Mooney Service Bulletin M20-252, dated 4-6-92 (or subsequent revision)
3. M20J Service and Maintenance Manual, No. 121, Chapter 27.

PARTS LIST: **CAUTION – ORDER CORRECT KIT FOR YOUR AIRCRAFT – REFER TO S/N & POH/AFM LISTED**

Mooney Kit Number SL92-1-1 (for S/N's 24-1686 THRU 24-2999)			
ITEM	P/N	DESCRIPTION	QUANTITY
1.	940071-501	RETROFIT DRAWING	1
2.	POH/AFM # 3210 (Rev. A or B)	AFM SUPPLEMENT PAGES	1
3.	820308-537	INDICATOR, AIRSPEED	1

Mooney Kit Number SL92-1-2 (for S/N's 24-3000 THRU 24-3056)			
ITEM	P/N	DESCRIPTION	QUANTITY
1.	940071-503	RETROFIT DRAWING	1
2.	# POH/AFM # 1233(A)	AFM SUPPLEMENT PAGES	1
3.	820308-539	INDICATOR, AIRSPEED	1

SUBJECT: Mooney M20J 2900 POUND GROSS WEIGHT INCREASE, RETROFIT KITS (con't.)

PARTS LIST: (con't.)

Mooney Kit Number SL92-1-3 (for S/N's 24-3000 THRU 24-3078)			
ITEM	P/N	DESCRIPTION	QUANTITY
1.	940071-503	RETROFIT DRAWING	.1
2.	# POH/AFM # 1233(B)	AFM SUPPLEMENT PAGES	.1
3.	820308-539	INDICATOR, AIRSPEED	.1

POH/AFM #1233(B) MAY BE USED FOR 24-3000 THRU 24-3078 AIRCRAFT. HOWEVER, AIRCRAFT SERIAL NUMBER'S 24-3000 THRU 24-3056 MAY BE USING POH/AFM # 1233(A). BE SURE WHICH POH/AFM IS BEING USED PRIOR TO ORDERING THE APPROPRIATE KIT.

Mooney Kit Number SL92-1-4 (for S/N's 24-3079 THRU 24-3153)			
ITEM	P/N	DESCRIPTION	QUANTITY
1.	940071-503	RETROFIT DRAWING	.1
2.	POH/AFM # 3200(A)	AFM SUPPLEMENT PAGES	.1
3.	820308-539	INDICATOR, AIRSPEED	.1

Mooney Kit Number SL92-1-5 (for S/N's 24-3154 THRU 24-3200, 24-3202 THRU 24-3217)			
ITEM	P/N	DESCRIPTION	QUANTITY
1.	940071-505	RETROFIT DRAWING	.1
2.	POH/AFM # 3201	AFM SUPPLEMENT PAGES	.1
3.	820308-535	INDICATOR, AIRSPEED	.1

FIGURES/
 TABLES:

Refer to M20J S & M No. 121, Chapter 27, Figure 27-18 and 27-19 for the rudder balance inspection portion of the procedures.

CAUTION

Use the balance limits specified in Service Bulletin M20-252. The S & M will be revised in the near future to reflect the new limits for the 2900 pound gross weight aircraft.

MOONEY AIRCRAFT CORPORATION

PO BOX 72 KERRVILLE, TX 78029-0072

SERVICE BULLETIN

THIS BULLETIN IS FAA APPROVED FOR ENGINEERING DESIGN

SB M20-252

DATE: 4-6-92

SUBJECT: MOONEY M20J RUDDER BALANCE WEIGHT INSPECTION

MODEL/
S/N AFFECTED: 24-3201, 24-3218 THRU 24-3256 (EXCLUDING 24-3239 & 24-3251)

TIME OF
COMPLIANCE: WITHIN NEXT 15 FLIGHT HOURS

INTRODUCTION: The continual evaluation of data and testing of various systems on M20 Series aircraft models has led, among other things, to the introduction of the 2900 pound gross weight M20J aircraft. An analysis of computer data has determined that a slight change to the rudder static balance limits are necessary on the 2900 pound gross weight M20J. These new limits are listed in INSTRUCTIONS below. The possibility exists that the rudders on some of the affected aircraft listed herein may be outside these new limits. Therefore, it is mandatory that this Service Bulletin be complied with as indicated.

INSTRUCTIONS:

1. Remove rudder from empennage of the aircraft per M20J Service and Maintenance (S & M) manual, No. 121, Section 27-20-00, paragraphs 2, A, B, C,
2. Check rudder balance per M20J S & M, Section 27-92-00 thru 27-93-01 & Tables 27-18 and 27-19 (See **CAUTIONS** below).

CAUTION: Table 27-18 - Use GAUGE WEIGHT DISTANCE LIMITS of: + 6.69 in. to + 10.68 in. for 2900 pound aircraft. - The + 3.37 in. to + 10.68 in. limits remain in effect for 2740 pound gross weight aircraft.

CAUTION: Table 27-19 - Use ABSOLUTE BALANCE LIMITS of: + 15.50 in. lbs. to + 12.50 in. lbs. for 2900 pound aircraft. - The + 18.00 in. lbs. to + 12.50 in. lbs. limits remain in effect for 2740 pound gross weight aircraft.

3. If rudder balance falls within the above limits, re-install rudder on the aircraft per M20J S & M, Section 27-20-00, paragraph 2, D. Proceed to Step 8.

If rudder does not fall within the above limits, proceed to Step 4.

4. Temporarily add additional weight (washers or any other items) until static balance falls within limits. Remove temporary weights and weigh them to see approximately how much additional weight was needed to balance within limits. If 2.66 oz. or less is needed, the addition of washers described in Step 5 will provide the necessary added weight (ie. 16 each AN970-3 washers weigh 2.66 oz.)
5. If balance just exceeds limit, one method is to remove the balance weight attach screws, one at a time and add washers under screw head (up to two under each screw) as required to balance rudder within the 2900 pound limits. If necessary, proceed to each attaching screw and add washers. It is recommended that the washers be distributed among all 8 attaching screws for a neater appearance. Either AN960-10 or AN970-3 washers may be used. However, for **each washer** added under screw head, the length of the NAS623-3 screw **MUST BE** increased by one dash number. (See Service Bulletin Kit for Part Numbers. You will need to request the quantity of washers and/or screws desired)
6. If greater than 2.66 oz. is required, remove the balance weight and weigh it together with the temporary weights. The total weight of these should be the specified weight of the new 460011-503 balance weight ordered. The maximum 460011-503 balance weight available is 2.88 pounds.
7. Re-check rudder after each change to the balance weight per S & M manual procedures until within limits.
8. Enter compliance statement in Airframe log book and return aircraft to service.

WARRANTY: Mooney Aircraft Corporation will allow up to 2.5 hours labor to inspect the rudder balance. If the rudder is out of balance, up to an additional 2.0 hours will be approved to balance and repaint as necessary. The necessary weights and hardware can be ordered through the nearest Mooney Service Center. Warranty credit will be allowed for this Service Bulletin effort if necessary paperwork is received by Service Parts within 180 days of the date of this Service Bulletin.

REFERENCE
DATA: N/A

PARTS LIST: KIT PART NUMBER - SB M20-252-1

ITEM	P/N	DESCRIPTION	QTY	
1.	460011-503	WEIGHT, BALANCE	.1	*
2.	AN960-10	WASHER	.16	**
3.	AN970-3	WASHER, LARGE OD	.16	**
4.	NAS623-3-2	SCREW	.8	**
5.	NAS623-3-3	SCREW	.8	**

* Order weight as needed. 2.88 pounds is heaviest weight available from MAC.

** Use as required per Step 5

FIGURES/
TABLES: Refer to M20J Service and Maintenance Manual, No. 121, Chapter 27, FIGURE 27-18 and 27-19.

CAUTION

Use the limits depicted in this SB for 2900 pound gross weight aircraft until S & M can be revised.