SERVICE INSTRUCTION SIM20-133

Date: AUGUST 30, 2018

SUBJECT: OPERATION OF OVERWEIGHT AIRCRAFT

MODELS/ SN AFFECTED:
M20M - ALL
M20R - ALL
M20S - ALL
M20TN - ALL
M20U - ALL
M20V - ALL

TIME OF COMPLIANCE: **AS REQUIRED**

INTRODUCTION: In order to ferry an aircraft beyond the range of standard capacity fuel tanks and to carry required survival equipment it becomes necessary to exceed the aircraft's certified gross weight. The purpose of this Service Bulletin is to outline the limits of weight, center of gravity, aircraft's velocity and load factors for flights exceeding certified gross weight.

A Special Flight Permit is required and is downloaded from the FAA's website at www.faa.gov Mooney recommends to review the most current revision of FAA AC No. 21- 4B and FAR 21.197(b) when required.

The attached compliance card needs to be filled out and returned to Mooney International Corporation upon compliance of this Service Instruction SIM20-133.

WARNING:

MOONEY AIRCRAFT WEIGHT CANNOT EXCEED THESE NUMBERS LISTED IN THIS SERVICE INSTRUCTION SIM20- 133. MOONEY RECOMMENDS THE INSTALLATION OF A RECORDABLE G-METER FOR FLIGHTS EXCEEDING CERTIFIED GROSS WEIGHT.

INSTRUCTIONS: **Read entire procedures before beginning work.**

WEIGHT & BALANCE:

1.1. The existing center of gravity envelope at and below 3368 pounds remains unchanged. The structural weight and balance envelope will be expanded as shown in ***Figure SIM20-133-1.***

115% OVER WEIGHT C.G. POINTS		
POINT	C.G (IN.).	WEIGHT (LB)
OVER WT. FWD.	48.0	3870
OVER WT. AFT.	51.0	3870

TABLE 1.1 - CENTER OF GRAVITY

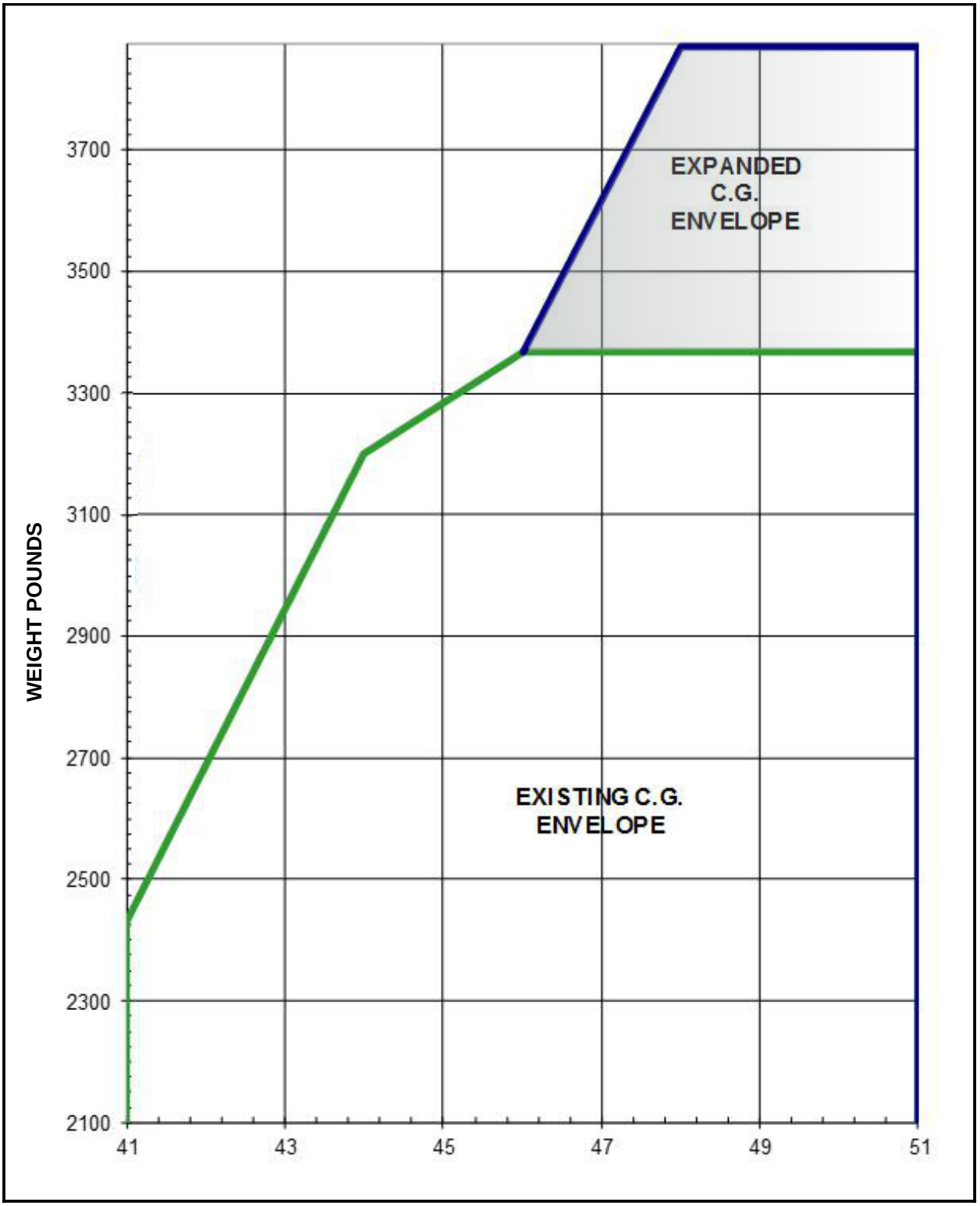

FIGURE SIM20-133-1 - STRUCTURES CENTER OF GRAVITY ENVELOPE

OVERWEIGHT LIMITATIONS:

1.1. LOAD FACTORS: +2.5G, -1G negative

1.2. MANEUVERING SPEEDS: V_A 101.5 KIAS

1.3. PERFORMANCE SPEEDS: V_Y 115 KIAS

1.4. STALL SPEEDS: See Table 1-2 - Stall Speeds

		Bank Angle							
		0 deg		30 deg		45 deg		60 deg	
Weight (lb)	**Gear and Flap Positions**	KCAS	KIAS	KCAS	KIAS	KCAS	KIAS	KCAS	KIAS
3873	Gear Up, Flaps 0 deg	71.7	71.6	77.1	76.8	85.3	84.9	101.5	100.9
	Gear Down, Flaps 10 deg	71.2	71.2	76.5	76.6	84.7	84.9	100.7	101.1
	Gear Down, Flaps 33 deg	64.6	64.7	69.4	69.5	76.8	76.8	91.3	91.2
3368	Gear Up, Flaps 0 deg	66.9	66.8	71.9	71.7	79.6	79.3	94.6	94.1
	Gear Down, Flaps 10 deg	66.4	66.4	71.4	71.4	79.0	79.1	93.9	94.2
	Gear Down, Flaps 33 deg	60.2	60.4	64.7	64.8	71.6	71.7	85.1	85.1
3000	Gear Up, Flaps 0 deg	63.1	63.1	67.8	67.7	75.1	74.9	89.3	88.9
	Gear Down, Flaps 10 deg	62.7	62.6	67.3	67.3	74.5	74.6	88.6	88.6
	Gear Down, Flaps 33 deg	56.8	57.0	61.1	61.2	67.6	67.7	80.4	80.4
2700	Gear Up, Flaps 0 deg	59.9	59.9	64.4	64.3	71.2	71.1	84.7	84.3
	Gear Down, Flaps 10 deg	59.5	59.3	63.9	63.8	70.7	70.7	84.1	84.3
	Gear Down, Flaps 33 deg	53.9	54.1	57.9	58.1	64.1	64.2	76.2	76.3

TABLE 1-2 - STALL SPEEDS

CAUTION:

MOONEY RECOMMENDS THE INSTALLATION OF A RECORDABLE G-METER FOR FLIGHTS EXCEEDING CERTIFIED GROSS WEIGHT. IF LOAD FACTORS HAVE BEEN EXCEEDED, CONTACT MOONEY SUPPORT AT support@mooney.com WITH RECORDED DATA.

RECOMMENDED HARD LANDING AND OVER WEIGHT INSPECTIONS

1.2.0 The following are areas recommended to be inspected when a “hard landing” or over weight landing has occurred. Since a “hard landing” is a relative term and an overweight landing may have occurred, it is up to the owner/operator to advise maintenance personnel when the inspections are to be accomplished. However, since this may be overlooked during preliminary discussions, the mechanic/technician should inspect the aircraft for the following:

1.2.1 Mud shield missing or damaged on either or both main landing gear.

1.2.2 Main landing gear shock biscuits condition, compressed or extruded rubber.

1.2.3 Tail skid damage or damage to bulkhead that attaches tail skid.

1.2.4 Propeller strike marks or other visual damage.

1.2.5 Engine or engine mount damage.

1.2.6 Nose landing gear leg assembly damage near steering lugs.

1.2.7 Pilot/Co-Pilot's seat adjustments supports/tubes bent from excessive G-loads.

NOTE:

If any evidence of damage or abnormal observations are found, it is recommended that a thorough inspection of all the above areas be done and repairs be made as necessary. Contact FAA personnel for incident report requirements.

1.3. Return aircraft to service.

NOTE:

Fill out compliance card and send by MAIL, FAX or EMAIL to Mooney International Corporation as indicated on the attached Compliance Card (see to Figure M20-133-2).

1.4. Procedure complete.

WARRANTY: N/A

REFERENCE DATA:
1. Mooney Service and Maintenance Manual (applicable A/C)
2. Mooney AFM/POH (applicable A/C)
3. Mooney MMR-51 115% Over Gross Ferry Weight Company Report
4. Federal Aviation Administration - Advisory Circular 21.4B
5. Federal Aviation Administration - FAR 21.197 - Special Flight Permits

PARTS LIST: Refer to Mooney Service Parts Department for part procurement.

Parts Kit P/N: **Service Instruction Kit**

Item	P/N	Description	Qty
		N/A	

MOONEY INTERNATIONAL CORPORATION

KERRVILLE, TEXAS 78028 - FAX 830-257-4635

SERVICE (BULLETIN) (INSTRUCTION) NO._____HAS BEEN COMPLIED

WITH ON AIRCRAFT MODEL _____ SERIAL NUMBER _____

Tach. Time: _____ N-Number _____ (Reg. No.)

Owner: _____ Date of Compliance: _____

_____ Complied By: _____

_____

Inspection Report: _____

_____

_____

_____

Form 07-0001

_____

_____

_____

PLACE STAMP HERE

MOONEY INTERNATIONAL CORPORATION
ATT'N: TECHNICAL SUPPORT
165 Al Mooney Road, North
Kerrville, Texas 78028

SEND TO: Mooney International Corporation
165 Al Mooney Road North
Kerrville, TX 78028
FAX: (830) 257-4635 or EMAIL support@mooney.com

Figure SIM20-133-2 - Compliance Card