MOONEY AIRCRAFT CORPORATION

LOUIS SCHREINER FIELD
KERRVILLE, TEXAS 78028

FAA APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT

FOR

MOONEY M20J, K, L, M, R

WITH

D R E SYMPHONY AIRCRAFT INTERCOM SYSTEM
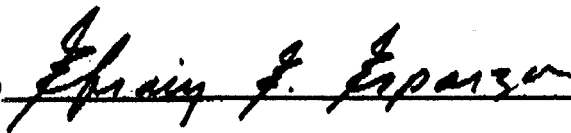
Model No._____

Reg. No._____

S/N_____

This Supplement must be attached to the FAA Approved Airplane Flight Manual when the DRE Symphony Intercom System is installed in accordance with Mooney Aircraft Corporation drawing number 810202. The information contained herein supplements or supersedes the information of the basic Airplane Flight Manual only in those areas listed herein. For Limitations, Procedures and Performance information not contained in this Supplement, consult the basic Airplane Flight Manual.

FAA APPROVED_____

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DATE: *November 20, 1996*

ISSUE DATE: 6 - 96

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LOG OF REVISIONS

Revision Number	Revision Pages	Description of Revisions	FAA Approved	Date

The revised portions of affected pages are indicated by vertical black lines in the margin.

FAA APPROVED

SECTION I - GENERAL

The DRE Symphony aircraft intercom system is designed as a high-quality, full-featured intercom system. It features high-quality squelch, automatically accommodates any mix of Mono or Stereo headsets, automatic fail safe, two different stereo music inputs, customizable default settings, volume limiters, digital solid-state recorder for message playback, annunciator tones or LED for most settings, stuck PTT warning and other features.

SECTION II - LIMITATIONS

No changes to this Section.

SECTION III - EMERGENCY PROCEDURES

No changes to this Section.

SECTION IV - NORMAL PROCEDURES

The DRE Symphony Aircraft Intercom System has certain functions that require explanation before complete utilization of all features can be obtained. Some of the most commonly used are described in the following paragraphs.

SQUELCH

Keep microphone in close contact with lips. A thin foam windscreen on microphone may be necessary if severe noise conditions exists.

1. Squelch-up key . . . . PRESS briefly to raise squelch threshold one level; a short BEEP is heard in Pilot & Co-pilot earphones
2. Squelch-down key . . . . PRESS briefly to lower squelch threshold one level; a short BEEP is heard in Pilot & Co-pilot earphones.

There are 16 possible levels to choose from in the squelch threshold range. If either key is held in for more than one-half second, the automatic repeat will begin. The threshold will go up or down about four levels per second, slowly enough to count. When the end of the squelch range is reached, a lower-pitched beep sounds to indicate that no further change took place.

3. To check Squelch level . . . . PRESS BOTH squelch keys simultaneously . . . . Beeps (in groups of four) will sound. . . The number of beeps indicates the squelch level number, from one to sixteen.

NOTE
It is recommended that matched headsets be used at all intercom locations.

VOLUME

The Volume control works much the same way that the squelch control does. It also has sixteen possible levels. An additional benefit is included; a limiter will quickly turn volume down temporarily on any intercom location where someone talks too loudly or begins to cough. The volume will ease back to the set level after the excess volume condition ceases.

1. To adjust Master Volume . . . Turn volume controls on each headset full UP

2. Adjust volume control on the intercom, radio, and entertainment for the person hardest of hearing or with the least sensitive headset (earphones)

3. If volume gets too loud . Turn individual headset volume control DOWN as needed

NOTE
There should be at least one headset whose volume control is turned all the way up.

CAUTION
**When volume setting is very high and one of the headsets, plugged in , is
lying on a seat, being put on, removed, or otherwise not completely on the
user's head, a loud oscillation (or squeal) is possible.**

NOTE
**The Volume control adjust intercom volume only. The volume of the radio
and entertainment must be adjusted at their sources.**

RADIO

The pilot always hears the radio audio, regardless of intercom mode. If the pilot is getting music, his music will always get dropped into the background when there is radio reception.

There is a mute feature which allows the radio to be cut from the passengers and the co-pilot in the ALL intercom mode. To select one of the radio mute modes available:

Radio Mute Mode   .   .   .   .   .   PRESS both MODE keys simultaneously

The radio mute mode is indicated by the center LED (PAX RADIO MUTE). This can be either OFF, RED or GREEN.

To Cycle through Radio Mute Mode   .   .   .   PRESS both MODE key's repeatedly
    Radio to passengers-MUTED   .   .   .   .   LED - GREEN
    Radio to passengers & co-pilot-MUTED   .   .   .   .   .   .   LED - RED
    Radio heard by all (if not isolated from pilot) .   .   .   .   .   .   LED - OFF

If co-pilot can hear the radio, that station can also transmit. In this case PTT priority goes to the co-pilot. This allows a CFI to override a student pilot.

If Pilot wants PTT control back   .   .   .   .   PRESS yoke-mounted mode button
    .   .   .   .   to get into Pilot-isolated mode.

This eliminates the co-pilot's access to the radio, until another mode is selected.

DIGITAL RADIO RECORDER (OPTIONAL)

If installed, the ACR (automatic clearance recorder) acts like a tape recorder with an endless loop of tape allowing about 40 seconds record time (dead air time is not included). This is a digital recorder with no moving parts, therefore, no "rewind" nor "fast-forward". The ACR records only the audio coming from the radio. It does not record entertainment, conversation nor dead radio time. The recording begins automatically when there is radio reception, and stops about 1 second after reception ends.

To Playback recording   .   .   .   . PRESS ACR button briefly

Playback will begin from 5 - 10 seconds in time before the button is pressed. If ACR button is pressed before playback is finished, the recorder will "rewind" another 5 - 10 seconds each time from when the ACR button is pressed.
When the playback is finished the ACR will produce a low-pitched beep and go back into the automatic record mode.

To end playback prematurely .   .   .   .   .   .   PRESS & HOLD ACR button
    .   .   .   .   for more than one second.

Continue to hold ACR button IN to prevent further recording. Then automatic record mode will be resumed when you release the button.

NOTE
**If there is radio reception occurring when the intercom is turned ON, sometimes
the ACR will start playing back unwanted noise. To stop it, press the ACR button
for approximately one second (until the low-pitched beep signaling the end of
the recording is heard), then release.** To avoid the situation, turn the intercom
system ON first and allow 1-2 seconds for the ACR to fully reset itself, then turn
aircraft radio ON.

MUSIC

The DRE Symphony intercom has two music inputs, called MAIN & AUXiliary. Either or both can be used at a time, independently of the intercom mode.

To select Music mode options   .   .   .   .   PRESS MUSIC mode key

Each time the MUSIC mode key is pressed, the unit will cycle through the following options:

**MAIN
MAIN + ISO
SPLIT
SPLIT + ISO**

MAIN Mode   .   .   .   .   Only the MAIN music gets distributed
SPLIT Mode   .   .   .   .   .   .   Audio input to the intercom through AUX music
.   .   .   .   will be directed to passengers, audio brought into the
.   .   .   .   Main music input will be directed to the pilot & co-pilot.

SPLIT Music mode does not require pilot nor crew-isolate intercom mode to be in effect. When SPLIT music mode is selected, the LED by the AUXiliary music input jack illuminates., indicating its readiness to accept input.

MAIN + ISO   ⎯⎯⎯⎯⎯⎯   When either ISO LED is ON,
SPLIT + ISO ⎯⎯⎯⎯⎯⎯   all crew members will still get music

Isolated pilot or crew does not want music   .   PRESS MUSIC mode key three times
.   .   .   .   to turn the ISO music OFF

MUSIC MUTING

Other than annunciator beeps from a key press, there are three sources of audio any given person might hear from the intercom system. These are: 1) aircraft radio, 2) music, and 3) someone talking to them over the intercom. Normally, music has lowest priority, and its volume drops into the background when voices come over the radio or intercom. A choice can be made to make the music level remain constant instead of dropping into the background. This choice is available for all intercom users except the pilot. There are no LED's associated with these choices, only by what you hear in the earphones.

Music Muting selection   .   .   .   .   PRESS MUSIC & VOL-UP keys
.   .   .   .   or   PRESS MUSIC & VOL-DN keys
MUSIC & VOL-UP keys makes the music volume stay up
MUSIC & VOL-DN keys makes the music volume drop into the background.

NOTE
If the SYMPHONY 468 intercom is in the ALL mode, and if the passengers are set to hear the radio (PAX RAD MUTE LED is OFF), and if they are listening to music, and if they are not set to 'SING-A-LONG', and if the ACR system is played back, their music will be muted even though passengers never hear the playback. This is normal. To prevent music-muting, simply activate 'SING-A-LONG' for the passengers.

DEFAULTS

The preset defaults are automatically downloaded when the DRE intercom is turned ON.

This includes the following:
    Intercom Mode
    Music Mode, including "isolate" music mode an music muting mode.
    Volume and Squelch settings
    Passenger and Co-pilot radio mute mode

Defaults can be set to the pilot's preference. Turn DRE Intercom ON.

1. Set intercom the way you want it to set itself up when it is turned ON
2. Simultaneously   .   .   .   .   .   .   PRESS ICS mode & SQUELCH-UP keys
    .   This will store the current set-up, keeping it until the next time a change is made.

The DRE intercom does not need power to remember the default settings.

Restoration of DRE Intercom to original defaults:
Simultaneously . . . . PRESS ICS mode & SQUELCH-DN keys

NOTE
**It is recommended that the volume of any default setting be set to a lower
volume level than you will actually fly with. This will avoid squeals and
reduce noises as passengers are getting setup and plugged in.**

PUSH TO TALK (PTT) SWITCH STUCK WARNING

The stuck-mic LED flashes if a PTT is pressed for more than approximately 20 seconds, or
if a similar PTT malfunction arises. At the same time, there will be a beeping in the crew's
earphones (regardless if on ISO or not). Both pilot and co-pilot will hear the PTT warning
beeps.

AUDIO OR VIDEO TAPE RECORDING

The RECORDER OUT jack provides an output for recording clearances, instruction, etc.
A plugged in recorder will record what is delivered to the pilot's earphones, even if the in-
tercom is not ON.

AUTO-FAILSAFE

The pilot's headset (both mic and earphones) is automatically connected directly to the
radio in the event of a power failure. In the event of any other type of intercom failure,
turning the power to the DRE Intercom OFF will provide the same automatic connection.

SECTION V - PERFORMANCE

No change to this Section.

SECTION VI - WEIGHT AND BALANCE

See current weight and balance data.

SECTION VII - AIRPLANE & SYSTEM DESCRIPTIONS

See brief descriptions in this AFM Supplement, SECTION IV, for the DRE system or the
DRE SYMPHONY AIRCRAFT INTERCOM data, No. 00515-A (or subsequent), for a more
complete description of the intercom system.

SECTION VIII - HANDLING & SERVICE

No change to this Section.

SECTION IX - SUPPLEMENTAL DATA

No change to this Section.

SECTION X - SAFETY INFORMATION

No change to this Section.