This Supplement must be inserted into the applicable FAA Approved Pilot's Operating Handbook and Airplane Flight Manual (POH/AFM) when the Hartzell PHC-J3YF-1RF/F7693DF(B)-2, 3 blade propeller and A-2295-10(P), spinner is installed in accordance with Mooney Drawing No. 680037. The information contained herein supplements or supersedes the basic manual only in those areas listed herein. For limitations, procedures and performance information not contained in the supplement, consult the basic POH/AFM. The pilot should become thoroughly familiar with this Supplement as well as the Pilot Handbook for this equipment, if applicable, issued by the manufacturer of the equipment covered by this Supplement.

FAA APPROVED: __________

Michele M. Owsley
Manager, Airplane Certification Office
FEDERAL AVIATION ADMINISTRATION
2601 Meacham Boulevard
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SECTION I – GENERAL

DESCRIPTIVE DATA

PROPELLER
Number...................................................................................................................... 1
Manufacturer..................................................................................................... Hartzell
Model Number .......................................................................................... PHC-J3VF-1RF/F7693DF(B)-2
Number of Blades .......................................................................................... 3
Diameter (MAX.) .......................................................................................... 76 in. (193 cm.)
(MIN.) .......................................................................................... 75 in. (190.5 cm.)
Type ...................................................................................................... Constant Speed
Governor Model (McCauley) ................................................................. Hydraulically Controlled by Engine Oil
Blade Angles @ 30.0 inch radius
Low................................................................. 16.5 +/- 0.2 degrees
High................................................................. 38.0 +/- 1.0 degrees

SECTION II - LIMITATIONS

NOISE LIMITS
The certificated noise level per 14 CFR Part 36, Appendix G, Amendment 36-22 of the Federal Aviation Regulations for the Mooney M20R, with the Hartzell 3 blade propeller installed at 3368 lbs (1528 Kg.) maximum weight is 78.67 dB(A). No determination has been made by the Federal Aviation Administration that the noise levels of this airplane are or should be acceptable or unacceptable for operation at, into, or out of, any airport.

POWERPLANT LIMITATIONS
Propeller Manufacturer ................................................................. Hartzell
Propeller Hub/Blade Model Number .................................................. PHC-J3VF-1RF/F7693DF(B)-2
Number of Blades .......................................................................................... 3
Propeller Diameter: Hartzell
(MAX.) .......................................................................................... 76 in. (193 cm.)
(MIN.) .......................................................................................... 75 in. (190.5 cm.)
Hartzell – Propeller Blade Angles @ 30.0 inch radius
Low................................................................. 16.5 +/- 0.2 degrees
High................................................................. 38.0 +/- 1.0 degrees

Propeller Operating Limits (Hartzell) ............................................................. 2500 RPM

DECALS AND PLACARDS

NOTE: Decal 150056-1003 is required only when the McCauley 2 blade propeller is installed on aircraft.
SECTION III - EMERGENCY PROCEDURES

EMERGENCY DESCENT PROCEDURE

GLIDE
The Hartzell propeller increases descent rate and decreases glide distance approximately 7%. When computing glide distances with the Hartzell propeller installed, subtract 7% from ground distance taken from “Maximum Glide Distance Model M20R” chart in SECTION III of basic AFM/POH.

SECTION IV - NORMAL PROCEDURES

No Change

SECTION V - PERFORMANCE

PERFORMANCE CONSIDERATIONS
Performance with the Hartzell three-blade PHC-J 3YF-1RF/ F7693DF(B)-2 propeller installed is as follows:

For Mooney M20R, Ovation, aircraft S/N 29-0001 thru 29-0182, 29-0184 thru 29-0199, utilizing AFM/POH Number 3600 (*) with performance data for McCauley three-blade propeller model 3A32C418/(G)-82NRC-9:

Takeoff Distance:............................................................................................ Same as AFM/POH 3600(*)
...................................................................................................Takeoff Distance Chart
Climb Performance:.........................................................................................Exceeds handbook performance
.........................................................................................................................(Use attached chart in AFM Supplement, Page 8)

For Mooney M20R, Ovation 2, aircraft S/N 29-0183, 29-0200 thru 29-TBA, utilizing AFM/POH Number 3600 (*) with performance data for McCauley two-blade propeller model 2A34C241/(G)-82NRC-9:

Takeoff Distance:...............................................................................................Exceeds handbook performance
.....................................................................................................................(Use attached chart in AFM Supplement, Page 7)
Climb Performance:.......................................................................................... Same as AFM/POH 3800(*)
.................................................................................................................................Maximum Rate of Climb Chart

SECTION VI - WEIGHT AND BALANCE

The three-blade Hartzell propeller is approximately 4 pounds heavier than the thee-blade McCauley propeller (Ovation) and is approximately 15 pounds heavier than the two-blade McCauley propeller (Ovation 2).

(*) = Current AFM/POH Revision
SECTION VII - AIRPLANE AND SYSTEMS DESCRIPTION

PROPELLER
The propeller is a three-blade, 76 inch (193 cm.) diameter, constant speed unit that features aluminum blades in an aluminum hub. The spinner is fabricated from aluminum alloy.

A more detailed description can be found in Hartzell Manual 115N (Propeller Owners Manual).

SECTION VIII - HANDLING AND SERVICE

MAINTENANCE
PROPELLER CARE
Routine propeller servicing is described in the latest revision of Hartzell Manual 115N (Propeller Owners Manual).

SECTION IX - SUPPLEMENTAL DATA
Add this Supplement to this section.

SECTION X - SAFETY TIPS
No Change.

(*) = Current AFM/POH Revision
ASSOCIATED CONDITIONS

POWER   FULL THROTTLE/2500 RPM
LDC GEAR  DOWN UNTIL OBSTACLE CLEARED
WING FLAPS  10°
RWY SURF.  PAVED
LEVEL, DRY

EXAMPLE:

OAT  17°C
PRESSURE  5000 FT
ALTITUDE
WEIGHT  3250 LBS (1474 KG)
HEADING
SPEED COMPONENT
GROUND ROLL 1550 FT (472 M)
TOTAL TAKEOFF DISTANCE  2900 FT (884 M)
(50 FT OBSTACLE)