

Accident/Incident Field notes

August 10, 2022

Accident

Task: T-SO13-FY22-1766
Activity: SO13202203045
ATQA: ASO1322032
NTSB: ERA22LA319
Location: Charleston, SC
Date of accident: June 12, 2022
Time: 0150
Operator: Private (part 91)
Registration: N9158D
Aircraft: Mooney M20J
Serial: 24-3261

Participants

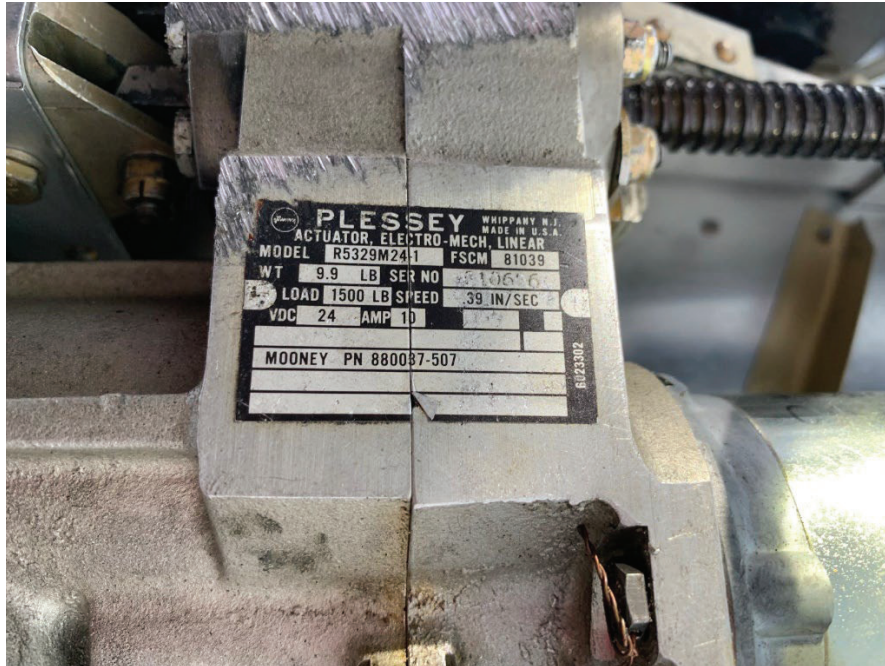
IIC: James Jackson
FAA

Participant: Bob Herman
Registered Owner N9158D

Participant: Dan Berkey
Mechanic, Charleston turbine management LLC.

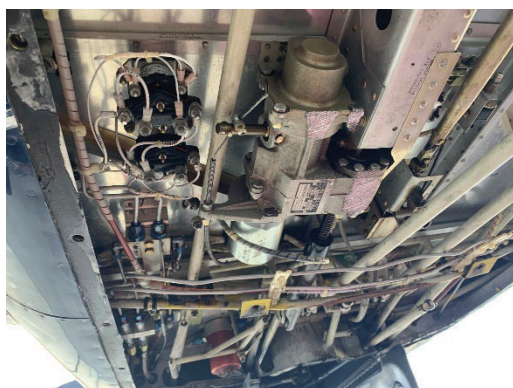
Summary

A teardown of the landing gear actuator was conducted to determine probable cause of landing gear extension failure. The involved part is a Plessey linear actuator, Model R5329M24-1 Mooney PN 880037-507 Serial number (could not determine). The technical data used to conduct the analysis was Mooney Service Instruction M20-02 Dated 01/15/2002.

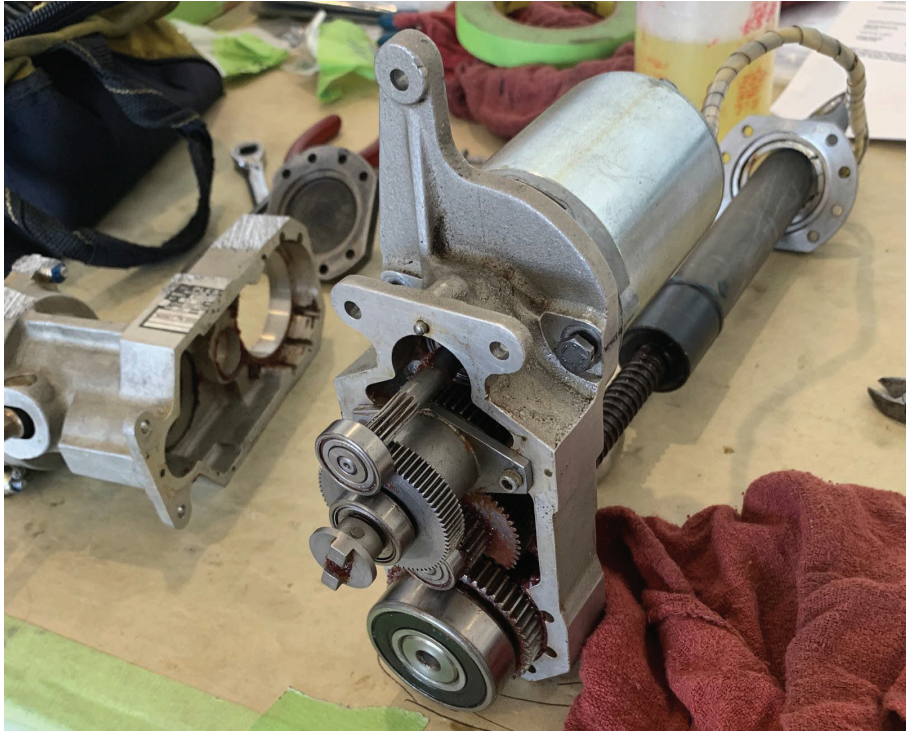


Details

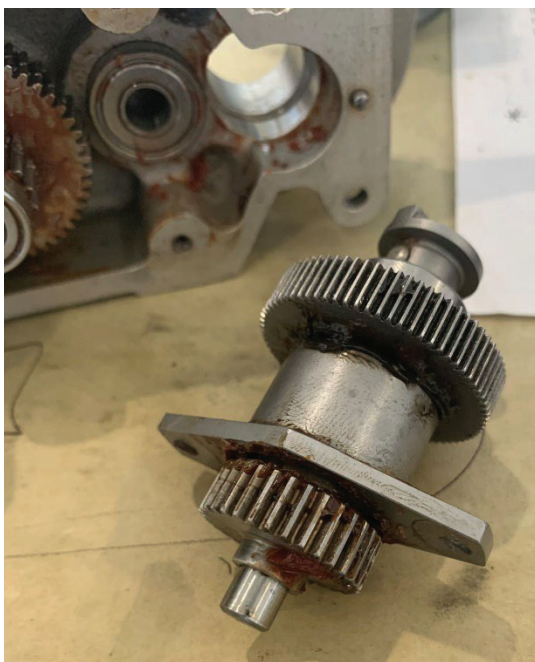
The actuator was removed from the airframe to facilitate teardown. Overall visual inspection of manual release system was conducted, cable was measured and tension noted prior to removal. No visible deficiencies with manual release system noted prior to removal. Jack screw was inspected for visible failure or issues.

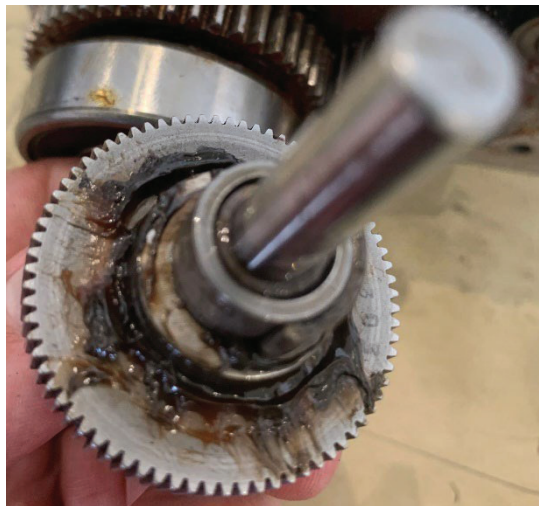


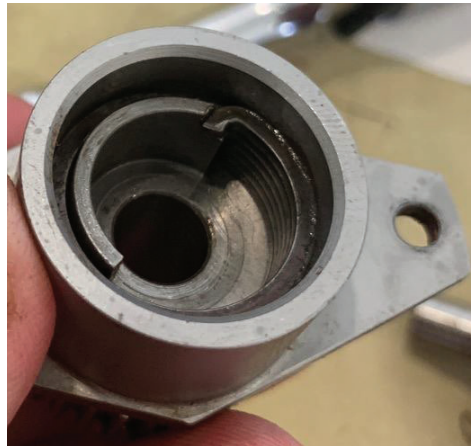
After removal of housing no visible damage noted to gears or bearings. Upon manual operation by hand the actuator would operate in one direction and not the other. The direction in which the actuator would freely turn would indicate a gear “retraction” and would not operate to “extend” the landing gear.



The drive clutch assembly was then removed, disassembled, cleaned and inspected for failure.







Conclusion

With the clutch assembly removed the actuator jack screw assembly would rotate in either direction freely without any resistance. Once clutch assembly was reinstalled the original issue reappeared, and the actuator would only operate in one direction with the clutch assembly engaged or disengaged.

The actuator was reassembled and placed in the aircraft with an identification tag notating the disassembly and data used to conduct the maintenance. No definite root cause was determined at this time. The cause of failure does appear to originate from the clutch drive assembly.

James Richard
Jackson III

Digitally signed
by James Richard
Jackson III