

# SERVICE BULLETIN

## CITATION BRAKE - SHUTTLE VALVE ASSEMBLY AND PORT, INSPECT AND REPLACE

- EFFECTIVITY:** All Parker Hannifin P/N 30-161A, 30-189A, and 030-18902 Brake Assemblies. All Spares Inventory of Shuttle Valve Assembly P/N 111-09800.
- APPLICABILITY:** All Cessna Model 500, 501, 550, 551, S550 and 552 (T-47A) aircraft equipped with Parker 30-161A, 30-189A or 030-18902 Brake Assemblies from the factory or per Parker conversion kit 199-164 (STC SA1297GL or SA1298GL), 199-177 (STC SA1441GL), or 199-18000 (New Flight Corp.) shipped from Parker prior to June 22, 1995.
- REASON:**
1. It has been discovered that all valve bodies used in Shuttle Valve Assembly 111-09800 have an internal surface condition which could cause the shuttle seal to abrade during operation of the Emergency Brake System. As a result, this seal could wear out, and possibly leak, sooner than normally expected. All Shuttle Valve Assemblies, P/N 111-09800, must be removed and replaced by new Shuttle Valve Assembly P/N 111-09801.
  2. Functional Verification (Brake Models 30-189A and 030-18902 only) - Brake Cylinder P/N 061-12900 may have been manufactured with a blind passageway in the Shuttle Valve inlet port. This would prevent Emergency Brake System pressure application to the brake.
  3. Supersedure - Shuttle Valve Assembly 111-07800 is now inactive, and unavailable for spares support. This document replaces PRM56, which optionally replaced 111-07800 with 111-09800.
- DESCRIPTION:** This document provides the necessary instructions and hardware requirements to replace the Shuttle Valve Assembly, and to inspect the Shuttle Valve inlet port.
- COMPLIANCE:** Mandatory - Inspect and replace Shuttle Valve Assembly P/N 111-09800 at next Brake Overhaul, or at next annual inspection, but no later than June 30, 1996.
- Optional - For Brakes equipped with Shuttle Valve Assembly 111-07800, replacement with 111-09801 is required only on an "as needed" basis. Operation of aircraft with one 111-07800 Shuttle Valve and one 111-09801 Shuttle Valve is not recommended.
- APPROVAL:** The contents of this Service Bulletin are FAA DER approved.
- WEIGHT & BALANCE:** No change.
- PUBLICATIONS:** The contents of this Service Bulletin are to be incorporated into the 30-161A, 30-189A and 030-18902 Overhaul Manuals at next revision.



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**MATERIALS:** Shuttle Valve P/N 111-09801, 2 each per aircraft. These are provided at no charge, only for replacement of 111-09800, provided the replacement is made prior to June 30, 1996. Credit will be applied upon return of the 111-09800 shuttle valves. Cost of labor is not included.

Standard shop tools.

**INSTRUCTIONS:**

**I. For Brake Assemblies Installed on Aircraft:**

1. Chock wheels and assure that all hydraulic (Normal System) and pneumatic (Emergency System) pressure is removed from both brakes.
2. Disconnect both inlet lines to the brake.
3. Remove the Emergency System inlet fitting (P/N 104-05200) and the Shuttle Valve Assembly.
4. For Brake Models 30-189A and 030-18902 only, inspect to insure that a passageway exists between the shuttle valve port and the emergency system inlet port of the brake cylinder. If this passageway is missing, the brake assembly must be replaced. Contact Parker Technical Services for coordination. This is a "No Charge" replacement.
5. Assure that the Shuttle Valve Assembly is Part Number 111-09800 or 111-07800 (the part number is impression stamped on the shuttle body hex). If the Brake is equipped with 111-07800, replacement of the Shuttle Valve Assembly is optional.
6. Replace existing Shuttle Valve Assemblies with New P/N 111-09801. Prior to installation, coat both exterior o-rings on the Shuttle Valve Assembly with Dow Corning 55 O-ring Lubricant. Torque to 200 in-lbs. Return defective Shuttle Valve Assemblies (P/N 111-09800) for credit.
7. Reinstall emergency system inlet fitting. Torque to 150 in-lbs.
8. Reconnect hydraulic lines.
9. Repeat steps 1 through 8 for both sides of aircraft, then bleed brakes.
10. Make a Log Book entry referencing this activity, noting that this is a "one - time" operation.

**II. For spares inventory of Brake Assemblies:**

Same as above, except omit steps 1., 2., 8., 9., and 10. Then functionally test brake operation per applicable overhaul manual prior to storage or installation on aircraft.

**III. For spares inventory of Shuttle Valve Assemblies:**

Replace all P/N 111-09800 with P/N 111-09801.