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SERVICE BULLETIN

SB016-0033

Subject: Hydraulic In-line Velocity Fuse Valve

Date: July 10, 2017

Status: Mandatory

Background:

In April, we sent a letter informing the Evolution owners that we are working on another optional safety measure that can be added to the hydraulic system. We have completed testing and have a new velocity fuse valve & hardware for installation. As we have stated previously, if you have already installed Service Bulletin SB016-0032 please leave it in the system as there is nothing wrong with it. This letter explains the workings of the new valve and the installation.

Service Bulletin SB016-0032 (previously announced) the solenoid valve closes when power is removed from the aircraft; this will hold the pressure in the down line. The velocity fuse valve is placed in the up line of the system; this allows the up line to vent volume as the pressure builds, keeping the pressure low on the up line allowing the actuators to rely on the internal locking.

Both valves will accomplish the same thing and keep the actuators locked. The primary difference is that while flying if the pump loses power the solenoid valve removes the accumulator from the system, while the velocity valve allows it to still be a part of the system. Please note that if the aircraft loses power while flying the accumulator is cut out of the system and the gear can only be lowered with the dump valve.

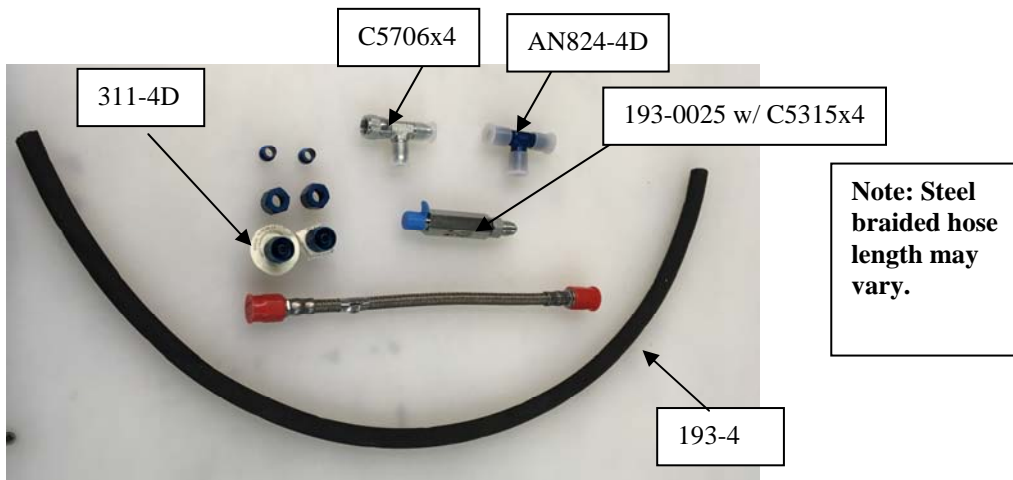
Note:

This velocity valve, along with the optional solenoid valve, remove the need to open the emergency dump valve or turning on the battery before towing, please make a note of this in your Pilot's Operating Handbook. The current nose decal instructions for handling the nose gear are still applicable.

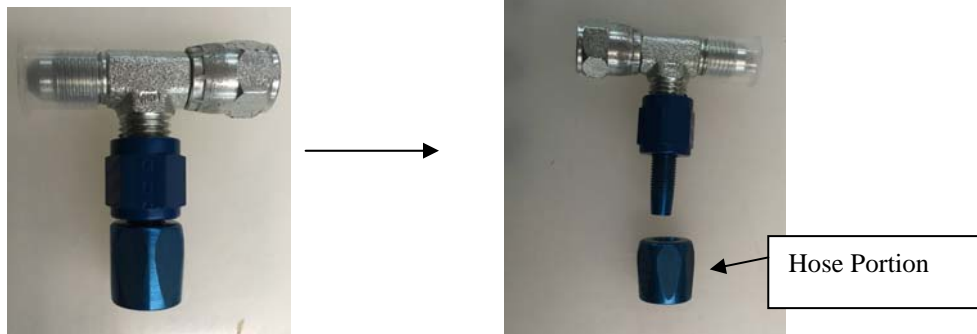
In the event of an emergency, the current emergency gear extension procedures are still in place.

Action

The velocity fuse valve kits will start shipping to owners the week of July 24, 2017. Install no later than your next condition inspection. The installation instructions are as follows:



1. Jack up the aircraft.
2. C5315x4 fitting has been installed into the end of the 193-0025 valve such that the o-ring on the port side seals against the valve and the AN side is out.
3. *Create Drain Line*
 - a. Screw the C5706x4 into the 311-4D fitting until tight. Using the C5706x4 as leverage, un-thread hose portion.



- b. Reverse thread the hose portion onto the 193-4 hose, this fitting threads on COUNTER CLOCKWISE.
 - c. Thread the rest of the fitting into the hose using the tee for leverage.
4. Remove the dump line from the union that connects it to the reservoir, add C5706x4 tee fitting to the union and replace the dump line connection.



5. Locate the main up line leading from the forward manifold to the aft manifold where it connects to the manifold in the bay. Cut into this line a section that will fit the AN824-4D tee. Use 2 of the AN818-4D and AN819-4D to create new ends in the tubes.
6. Attach the AN824-4D tee to the new lines created.
7. Connect the AN824-4D tee to the 193-0025 valve with steel braided line. The valve has an arrow pointing flow and that arrow should be pointed toward the line leading back to the reservoir.
8. Route the drain line from the tee on the reservoir to the valve.
9. Zip tie the lines to add stability to the installation.
10. Service the hydraulic system, including gear swings.

Hydraulic Schematic

010-0026A Hydraulic Schematic

