

# FIELD SERVICE BULLETIN

*Navion*



**RYAN AERONAUTICAL COMPANY, LINDBERGH FIELD, SAN DIEGO 12, CALIFORNIA**

NAVION FIELD SERVICE BULLETIN NO. 8 - MANDATORY

JULY 11, 1949

TO: OWNERS OF 1949 NAVIONS, ALL NAVION DISTRIBUTORS AND DEALERS

SUBJECT: END FITTING - HYDRAULIC POWER AND CONTROL UNIT SHAFT -  
LANDING GEAR SELECTOR VALVE.

EFFECTIVITY: NAV-4-1790 THROUGH 1899; 1901 THROUGH 1910; 1912 THROUGH 1916;  
1918; 1921 THROUGH 1927; 1931 THROUGH 1936; 1941, 1942 AND 1947  
AND ALL EARLIER AIRPLANES EQUIPPED WITH RYAN LANDING GEAR  
FAIRING KITS AND THREE POSITION FLAP SELECTOR VALVES.

The installation of the landing gear fairings on the 1949 model Navion has increased the load on the landing gear control lever when moved from the "up" to the "down" position. The increase in force necessary to operate the control has, in a few instances, caused the threaded end fitting (item No. 3109) on the gear selector control rod to bend. Manufacturing procedures made it possible to obtain a hardness reading on certain areas that met specifications; other areas, including the threaded portion, in some instances, were found to be soft. A replacement rod end, thoroughly checked for hardness in all areas, which has been identified by a dark gray-black color over the plating, is now being used and must be installed as soon as possible on the airplanes listed in the effectivity above. Rigging of up-lock cable system must also be checked as follows:

## SECTION I.

Inspect rigging of the landing gear up-lock system as follows:

1. With landing gear control handle in the "up" position, adjust cable (between control valve and torque tube on pilot's floor) so there is 3-3/8 inches vertical distance between center of cable attachment point (on torque tube arm) and cabin floor.
2. Set adjustment bolt on torque tube arm so there is .005 to .010 inch clearance between bolt and hook when gear is up and hook fully engaged.
3. Adjust cable between forward torque tube and main gear lock torque tube, so that cable just starts to pull against spring tension on torque tube.
4. Adjust rods between torque tube and hooks so there is 1/32 to 3/32 inch clearance between back face of hook and roller on gear, when gear is up and locked.

NOTE: Refer to page 47 of the 1949 model Navion Service Manual for illustrated instructions.

5. Inspect the nose gear up-lock to determine that there is 1/16 inch clearance between the roller and the upper edge of the up-lock hook slot. This check must be performed with the gear fully retracted and hydraulic power turned "off". If there is insufficient roller clearance, file upper edge of slot as necessary to obtain the desired 1/16 inch clearance.

SECTION II.

1. Replace the threaded end fitting of the landing gear hydraulic power and control unit shaft, part No. 145-58145-3, item No. 3109, with Ryan furnished new fitting. Approximately two man hours are required for this change.
2. Jack up the aircraft and operate the gear through several operations, using the hand hydraulic pump. Adjust the newly installed fitting, (item No. 3109), so that the gear will drop freely without excessive drag being felt when operating the selector handle.

NOTE: Item 2 above must be checked by using a normal movement of the selector handle. A rapid or snap movement of the selector handle should not be used for this check.

3. If a catch or bind in the selector handle operation is noted, check adjustment of the threaded end fitting, item No. 3109.

The following is a revised emergency landing gear lowering procedure, superseding those instructions on page 7 of the C.A.A. Approved Operating Limitations Manual and page 55 of the Airplane Operation Manual furnished with each 1949 model Navion.

NOTE

Should landing gear fail to lower normally, turn hydraulic power "OFF" and push Landing Gear Emergency Handle "DOWN". Hold handle "DOWN" until all three green landing gear position lights are "ON". If landing gear fails to lock down, yaw airplane to lock main wheels and bring airplane to near stall while working rudder pedals to lock nose wheel.

Since it is desirable to have hydraulic power "ON" when landing and taxiing, after above procedure has been completed, the Landing Gear Control Lever should be placed in the "GEAR DOWN" position and hydraulic power turned "ON". If landing gear will not stay down and locked, turn hydraulic power "OFF", repeat above emergency procedure and land with hydraulic power "OFF". If flaps are required for landing, they should be operated BEFORE hydraulic power is turned "OFF" to facilitate above emergency procedure.

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Revision pages covering this change for both the C.A.A. Approved Operating Limitations Manual and Airplane Operation Manual will be forwarded under separate cover to all 1949 model Navion owners.