

#22

CULVER AIRCRAFT CORPORATION
WICHITA, KANSAS

SERVICE MEMORANDUM

SUBJECT: Adjustment of and Operation of Landing Gear Throttle Inter-connection

TO: Owners of Culver Model LCA & LFA Airplanes

1. This memorandum is issued for the purpose of reminding Culver owners of the importance of adhering to the inspection and maintenance procedures outlined in Culver Memorandums Nos. 1 and 2, as well as to more clearly impress the importance of acquainting yourself with the operation of the throttle stop on the subject airplanes. There have been instances where a knowledge of the operation of the throttle stop would have averted a forced landing.

The greatest cause for lack of understanding of the operation of the retractable landing gear and throttle stop has been the failure often times of an owner, upon selling his airplane, to pass on all of the Service Memorandums to the new owner.

2. Operation of Throttle Interconnection.

The operation of the throttle interconnection was explained in Memorandum No. 2 but will be reviewed here.

The throttle interconnection is provided for the purpose of preventing inadvertent landings with the gear retracted, or with the gear extended but not locked. This purpose is accomplished by mechanically connecting the landing gear lock pin control to a device on the carburetor throttle which restricts the rearward or idling travel unless the gear is extended and locked. The adjustment at the factory provides for a minimum level flight R.P.M. of 1750, when the gear is retracted, which corresponds to a level flight speed of approximately 70 M.P.H. This device consists of a plate which is fastened by two screws to the throttle arm at the carburetor and a flexible push-pull control which is actuated when the landing gear lock pins are operated from the cockpit. The flexible control causes a plunger to slide in back of the plate on the throttle arm when the landing gear is retracted and the lock pins are not in the locked position. This plunger prevents closing the throttle below a level flight R.P.M. of 1750. When the landing gear is extended and the lock pins are moved to the lock position, the plunger is withdrawn from behind the throttle arm allowing the engine to be idled. One point which has not been stressed before and which has been the cause of some operational trouble, is that the landing gear should never be unlocked when the engine is throttled back to idling. The reason for this is that the plunger will bend the plate on the throttle arm and may cause the throttle to jam in the idling position. See Figure 1. In order to prevent such an action from occurring, it has been deemed advisable to install a placard on the instrument panel which shall read as follows: "NEVER UNLOCK LANDING GEAR WITH THROTTLE RETARDED BELOW CRUISING SETTING". Placards will be available at no cost upon request.

3. Inspection and Adjustment of Interconnection.

A careful inspection should be conducted to determine that all connections are in proper order. The clamps at either end of the cable housing should be checked to make absolutely sure that they are holding the housing secure against any possible chance of slippage. For this inspection to be sufficiently thorough, the airplane would be blocked up and the gear retracted, observing the action of the interconnection. The plunger position should be so adjusted that the throttle cannot be pulled back unless the gear is down and locked. There will be considerable play in the flexible control which operated the plunger. When the flexible control was new there was approximately 1/8th inch play but undoubtedly time and usage have increased this value. The plunger should be adjusted to clear the throttle arm plate by approximately 1/8th inch. This 1/8th inch value should be measured with the plunger pulled out with the fingers until all the slack is taken up. See Figure 2. The plunger must not be able to go in front of the plate on the throttle arm when the throttle is closed. See Figure 3.

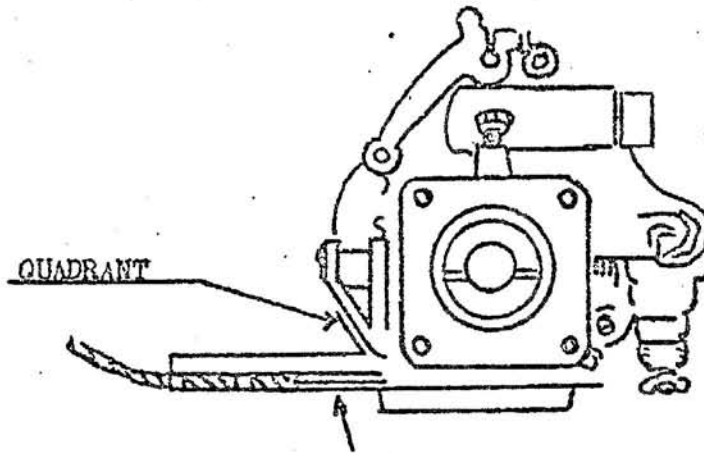
4. The above inspection and adjustments should be performed or supervised by a certificated mechanic. An entry of compliance with this inspection and installation of placard should be made in the Aircraft Log Book.

5. If you have recently sold your airplane, please forward this memorandum to the new owner.

ENGINEERING DEPARTMENT

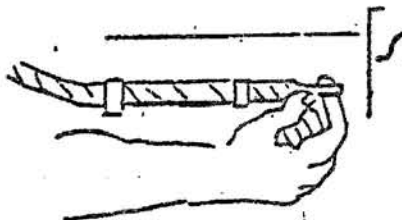
ROBERT B. SHORT
Chief Engineer

Approved October 26, 1945

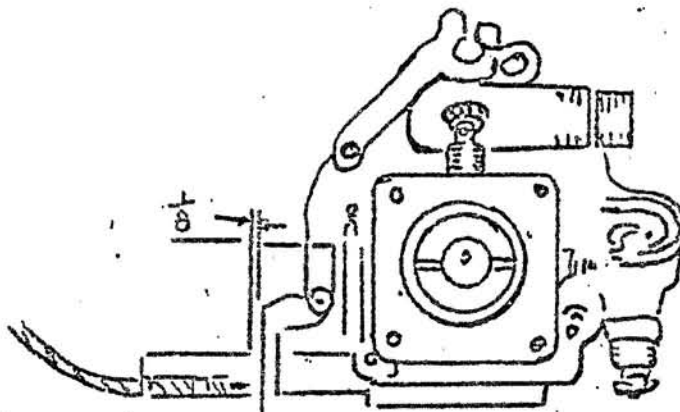


PLUNGER
Plunger bends quadrant into
carburetor bowl causing throttle
to jam.

FIG 1.

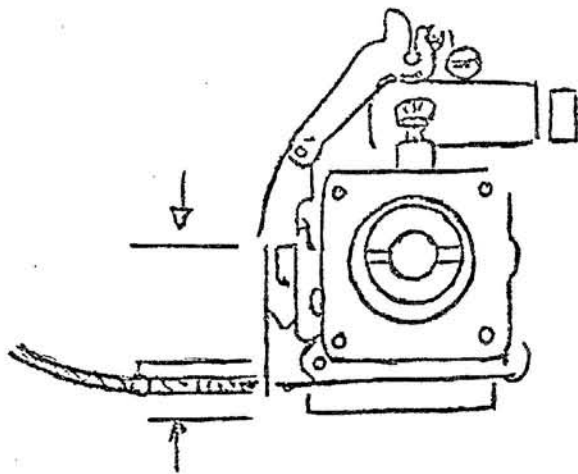


Pull all slack out of
plunger while adjusting.

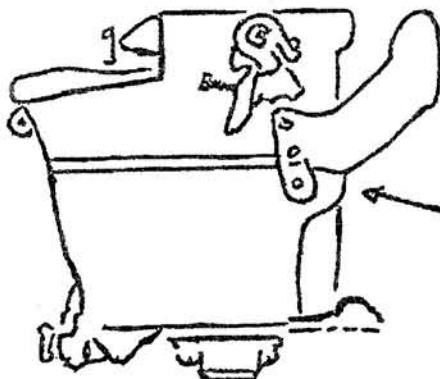


Adjust for clearance
shown with slack pulled
out of plunger.

FIG 2



Plunger to be in area
shown when idling.
WARNING: Never in front
of plate.



Adjust position of quadrant
by loosening screws and shift-
ing quadrant to correct position
and tighten screws.

FIG. 3