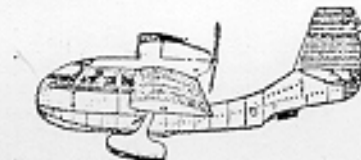


PROCEDURE FOR REPLACEMENT OF FUEL CELLA. REMOVAL OF CELL

1. Drain all gas.
2. Take up floor in baggage compartment.
3. Remove vent line, carburetor feed line and filler-neck tube above tank.
4. Remove emergency fuel shut-off valve and bracket above tank.
5. Disconnect electric plug on liquidometer and remove liquidometer being careful not to bend liquidometer arm.
6. Remove nut holding tank drain tube in place being sure not to lose the washer and gasket. This is on aft side of hull step.
7. Tape edges of hole in floor to prevent chafing of cell.
8. Remove seven nuts holding the tank and tank cover to the deck.
9. Push down the six clips holding the top of the cell to the deck and remove cell. There are also clips on the bottom which must be pulled out.
10. After the tank has been removed, remove the cover assembly sufficiently to reach inside to get at the bolts holding the drain assembly. Remove drain assembly and then remove cover complete with intake hose and screen.

B. INSTALLATION OF FUEL CELL (Use no sealing compound on tank fittings)

NOTE: United Carr No. 99204 stud fasteners have been used on this fuel cell. These fasteners require .281 inch diameter openings in the fuselage. Therefore, if this cell is used on an airplane previous to Serial Number 386, the present .206 inch diameter openings must be enlarged. Care should be taken to remove all chips after the holes are enlarged to prevent damage to the cell.

1. Clean out all foreign matter such as chips, loose hardware, etc, from the hull fuel cell compartment.
2. Cover all sharp edges of metal and burrs on top of screws with tape. Use long pieces of tape so that ends will not curl and rub cell.
3. Replacement of the cell should be the reverse of the removal. The use of safety wire to guide the six clips on top of the cell into the holes in the floor is recommended. Care should be taken not to damage these clips when inserting them in the holes. Also be sure no dirt gets into the new cell on assembly or installation.
4. Remove tape around edges of hole in floor being careful not to drop it in tank.
5. Check calibration of the liquidometer by filling tank in increments of five gallons.

REPAIR AND MAINTENANCE BULLETIN FOR BLADDER FUEL CELLS

The B. F. Goodrich Company bladder cell is a two ply construction consisting of a synthetic inner ply, reinforced by nylon fabric. The inner ply is of thin gauge, backed up by a nylon barrier. The outer ply is of light gauge, high strength, nylon frictioned and coated with gasoline resistant synthetic. The outer coating of the fabric reinforcing ply has a high degree of abrasion resistance and should resist ordinary abrasion encountered at installation and in service.

In repairing damaged sections, the procedure is quite simple and consists of the following steps:

1. On small ruptures 1/8" or less, repair with one patch applied to inside of cell. On all other repairs use two patches, one on inside and one on outside of cell.
2. Cut repair patch one inch larger on all four sides than rupture in cell. Use B. F. G. repair material for patch.
3. Wash large area around repair with gasoline before beginning repair work.
4. Roughen or buff lightly with fine carborundum paper one side of repair patch and area around rupture on cell. Be sure buffed area on cell is slightly larger than patch.
5. Swab both surfaces thoroughly but lightly with Methyl-Ethyl-Ketone. Excess solvent should be avoided.
6. Apply three thin coats of B. F. G. EC-678 cement to each surface making sure that the cemented area is slightly larger than that to be actually used on the fuel cell.
7. Allow each coat of cement to dry approximately ten minutes before applying next coat. The knuckle test may be used to check the dryness of the cement. There should be slight tackiness upon touching with the knuckle.
8. After third coat of cement is dry, swab with M-E-K the entire cemented area on cell and patch using a piece of clean cheesecloth as a swab.
9. Apply patch into position on cell and roll down using roller stitcher.
10. Apply two thin coats B. F. G. EC-678 (diluted three to one with M-E-K) cement over entire area and 1/2" beyond.
11. Allow to stand for twenty-four hours to set cement. (page 2 of 3)
12. If cell is not put into immediate service, oil lightly the inside surface with SAE 10 oil.

DIRECTIONS FOR REFINISHING ENTIRE SURFACE OF
RC-3 FUEL CELL IN ORDER TO ELIMINATE POROUS CONDITION

(page 3 of 3)

Construct a wooden framework and suspend tank, with opening at side, by lines attached to retaining clips. If the cell still retains its original pliability, it should be turned inside out, a cover plate applied over each cell opening and inflated just sufficiently to give it a firm working surface (approximately 1/8 PAI).

Clean fuel cell thoroughly with Methyl-Ethyl-Ketone; apply with a cloth or brush, wiping off with dry cloth immediately. Repeat washing operation twice. Apply one coat of EC678 diluted 50% with M-E-K to reactivate the original material and act as a binder. Then apply two to four coats of EC678 (thinned only to brushing consistency - about a 10% dilution) inside and outside, preferably with a brush, and "flow" it on surface, avoiding going over the same surface while still tacky. (Approximately four quarts of M-E-K and two gallons of EC678 will be required if the entire fuel cell is to be refinished).

After the reversed inside is refinished in accordance with the previously stated procedure with reference to application of the special coating and is thoroughly dry, the cell should be oiled and turned inside out to its original position before the outside is treated in the same manner.

CAUTION

Allow each coat to dry thoroughly before applying the next. (Inside will dry slower than outside unless artificial ventilation is provided). Do not permit tank to collapse and walls to contact. If this happens, the walls will adhere to one another and the coating will become separated from the fabric when pulled apart unless the surface has been oiled as noted above. Do not inflate tank while the EC678 is soft. Allow twenty-four to forty-eight hours before testing in a tank of water (do not exceed 1/4 PAI pressure) or using for fuel.

NOTE: Small porous sections can be repaired using the same basic procedure as that outlined above.

EC678 and M-E-K is procurable from Minnesota Mining & Manufacturing Company through any of the offices listed below:

Atlanta, Ga.	131 Carnegie Way
Boston 10, Mass.	51 Sleeper Street
Buffalo 3, New York	210 Ellicott Street
Chicago 8, Illinois	1500 So. Western Avenue
Cincinnati 2, Ohio	49 Central Avenue
Cleveland 13, Ohio	1200 West 9th Street
Dallas 1, Texas	212 So. St. Paul Street
Detroit 2, Michigan	411 Piquette Avenue
High Point, N. C.	1501 So. Main Street
Los Angeles 23, Calif.	6411 Randolph Street
Ridgefield, N. J.	700 Grand Avenue
Philadelphia 8, Pa.	401 N. Broad Street
Pittsburgh 19, Pa.	911 Plaza Building
St. Louis 1, Mo.	3700 Forest Park
St. Paul 1, Minn.	367 Grove Street
San Francisco 10, Calif.	450 Alabama Street
Seattle 4, Wash.	1242 6th Avenue, South

