

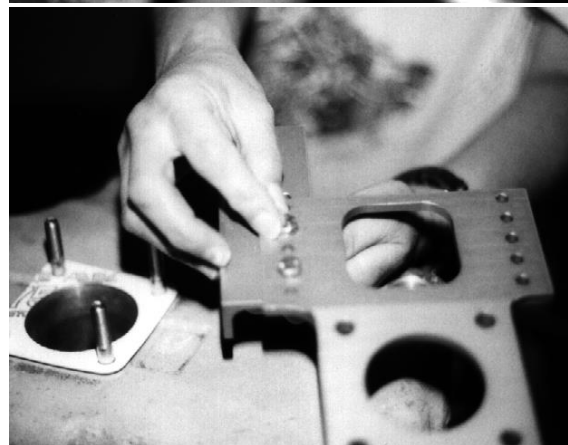
### FUEL CONTROLLER INSTALLATION

This section contains information pertaining to hook up and installation of the fuel controller and associated controls. Some of the photos show installation procedures for installing brackets provided on kits for Van's RV series aircraft.

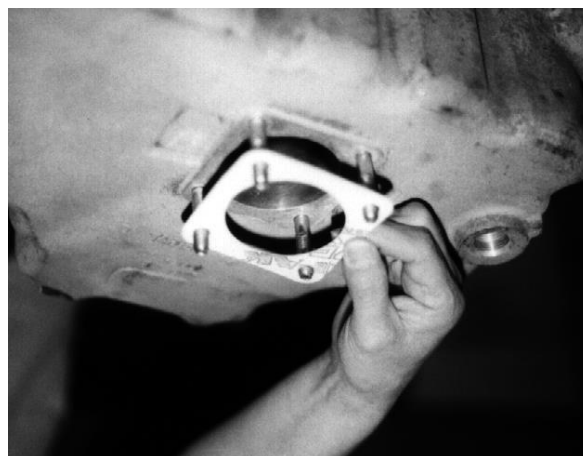
Fuel injection kits that include the brackets and hardware may require that the sump mounting studs be longer. This picture shown the installation of longer studs that comes with an RV kit for a 320 Lycoming. The new studs should be installed with a high temperature or stud grade Loctite. In this case a 5/16 X 2" stud is installed.



Fuel controller mounting adapter for a 320 Lycoming. The throttle and mixture control cable brackets are adjustable. The correct length needs to be determined before the fuel controller is mounted to the engine. Mount the bolt heads on the cut out side of the bracket. This will give clearance for the bolt head to the sump when the adapter plate is mounted to the engine. Excess cable bracket may be cut off. AN3-6A bolts, #10 washers and locknuts are used to secure the cable brackets to the adapter.



Install a gasket between the sump and the adapter.



## APPENDIX B (Continued)

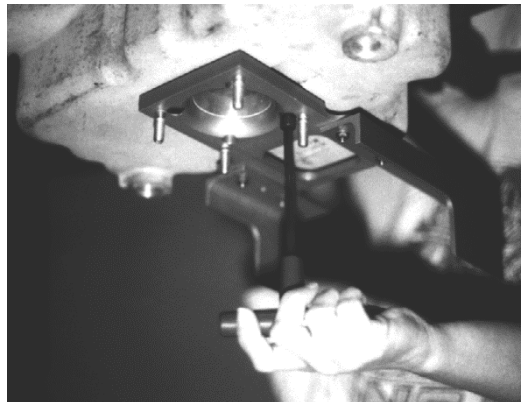
Install the other gasket on the adapter before mounting the fuel controller.



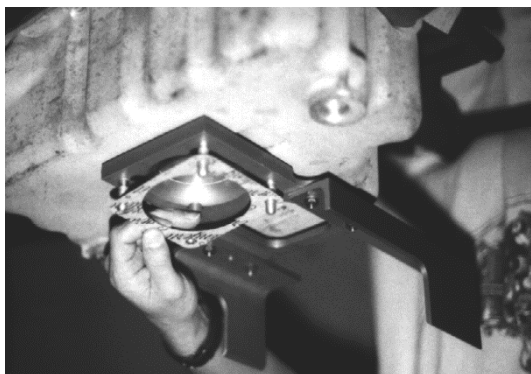
For RV kits or engines using the Airflow cable brackets and adapter for the 360 Lycoming, the bolt pattern is matched to the FM-200 with this adapter. Mount the cable brackets in the correct location for your throttle and mixture control cables before mounting the assembly. Heat may be required to remove the existing studs in the sump. Install a gasket between the sump and the adapter.



The adapter for the Lycoming 360 is fastened in place using 4 5/16-18 X 3/4" socket head cap screws. Use Loctite when securing these screws.



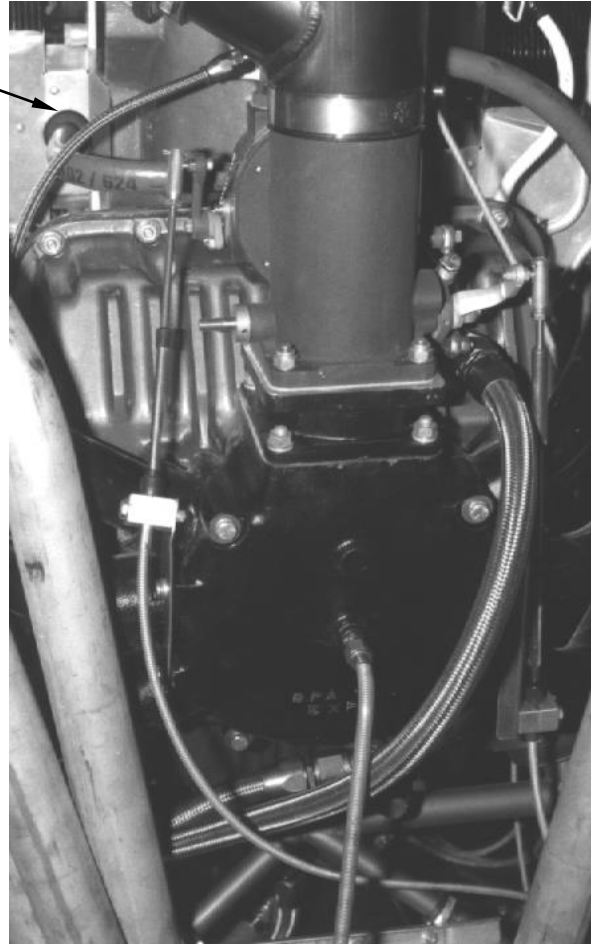
Install the gasket on the adapter before mounting the fuel controller.



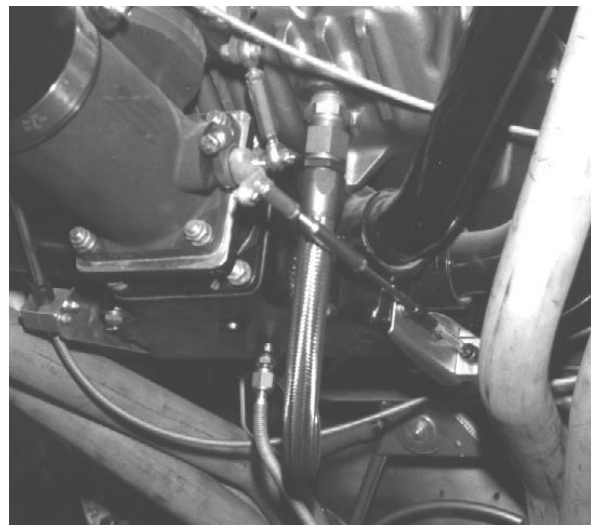
## APPENDIX B (Continued)

Metered fuel hose

Throttle and mixture cables are attached to a bracket that is attached to the side of the cold air plenum on this Lycoming 540. Notice the routing of the metered fuel hose, which is correctly fire sleeved and run through a grommet on the lower cylinder baffle. On most Lycomings this is run between cylinder one and three.

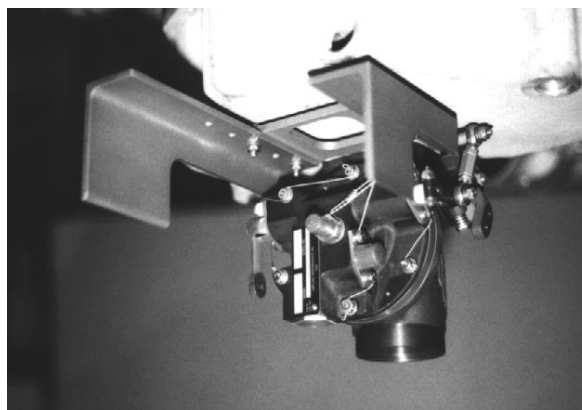


Use control cables with solid threaded ends. Rod ends with spherical bearings are recommended for attachment to throttle and mixture control levers. This will give positive movement of the controls. Motorcycle type cables with return springs are not recommended.



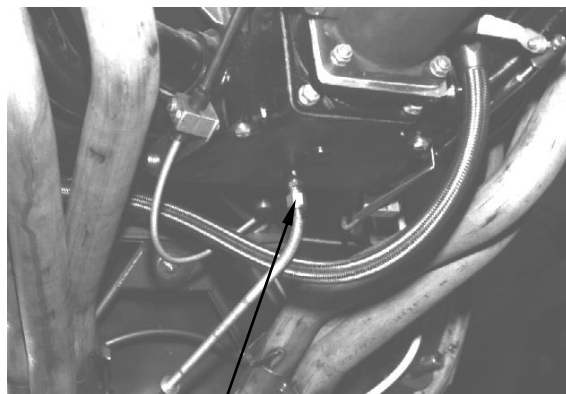
## APPENDIX B (Continued)

Engines using the Airflow cable bracket assembly (as in RV kits) as shown are typically mount the fuel controller and cable bracket assembly with the regulator and brackets toward the accessory section of the engine. This is mounted to a Lycoming 320 sump.



Some engine installations require a manifold drain. This keeps fuel from accumulating in a low area of the intake manifold. The fuel can drain out when the engine is shut off, but the fitting will seal off during engine operation to prevent a vacuum leak. P/N 1090138 is shown installed in the bottom of this cold air plenum. The fitting installs with 1/8 inch pipe thread. AN-4 tubing or hose attaches to the other end of the drain assembly to route excess fuel away from the engine compartment.

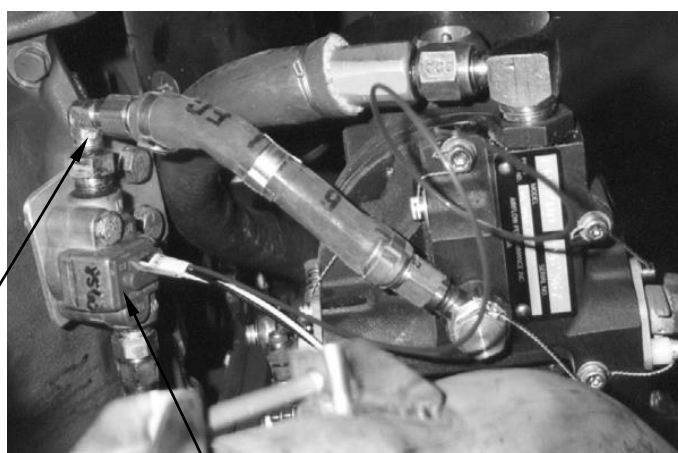
The drain fitting can also be installed in the bottom of an intake elbow.



Manifold drain assy.  
P/N 1090138

Turbine type fuel flow meter installed in the metered fuel line. Check with the manufacture specifications for correct plumbing of the sending unit. 90 degree bends are generally not permitted on the inlet side of the flow meter.

Flow meter inlet



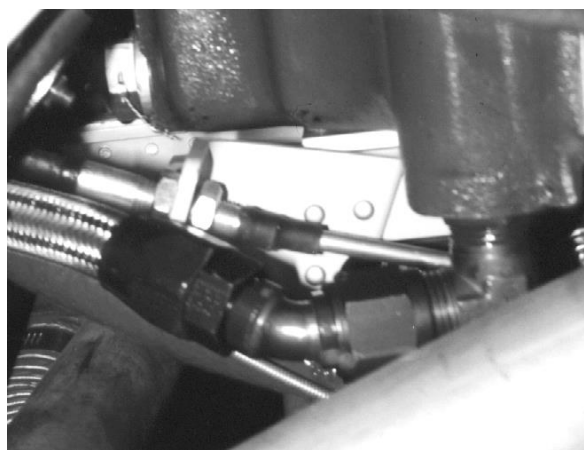
Turbine flow meter  
sending unit.

## APPENDIX B (Continued)

Supplied throttle and mixture control cable brackets may have to be modified for a specific installation. This may be necessary to provide necessary clearance for exhaust systems, landing gear mounts etc. Airflow Performance supplied throttle and mixture control cable brackets must be modified to clear nose landing gear structure on RV-6A and RV-8A aircraft.



Angle aluminum has been riveted to the supplied throttle cable bracket to provide correct alignment of the cable and provide necessary clearance of other components.



Mixture control cable attachment. Use suitable material to provide adequate stiffness of the bracket



## APPENDIX B (Continued)

On Lycoming 4 cylinder front entrance sump engines, rotate the adapter to install the fuel control with both the throttle lever and mixture control on the bottom. This facilitates the installation of the throttle and mixture control cables to the fuel control unit.



Depending on the type of throttle and mixture control cable control that is used, a variety of different cable brackets can be fabricated to facilitate hook up.



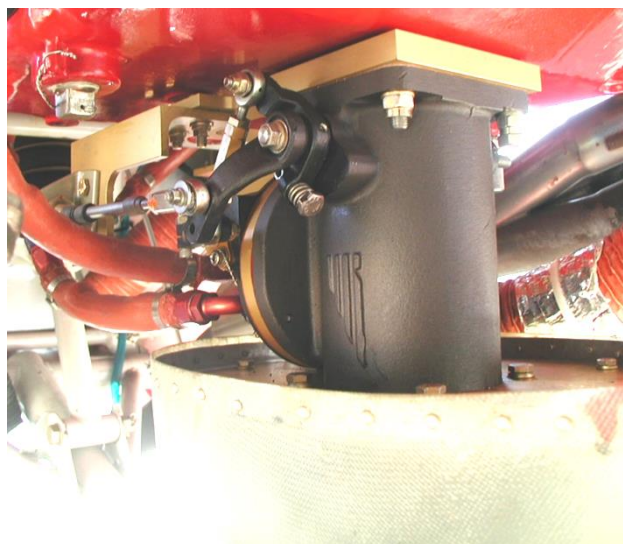
Shown here is a RV-8 with Lycoming IO-390X engine.



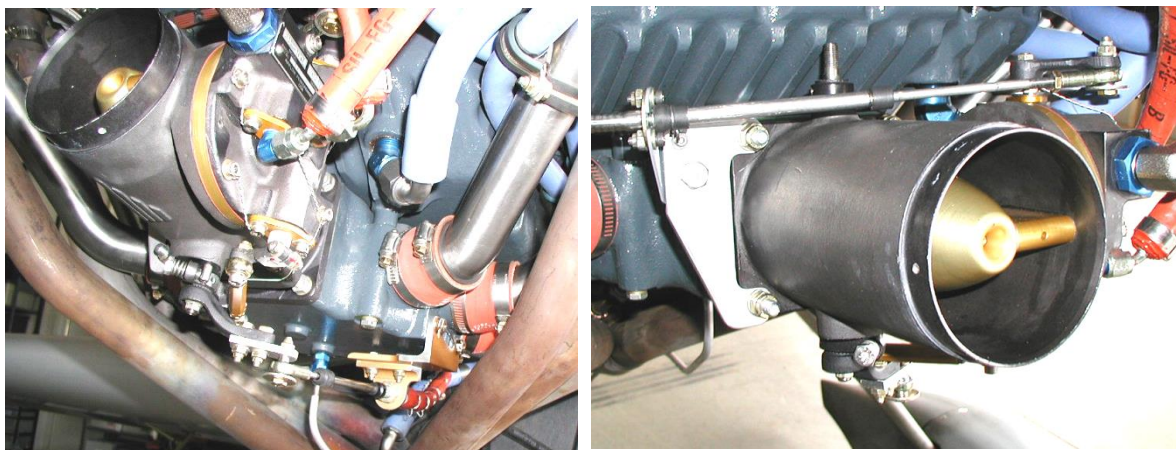
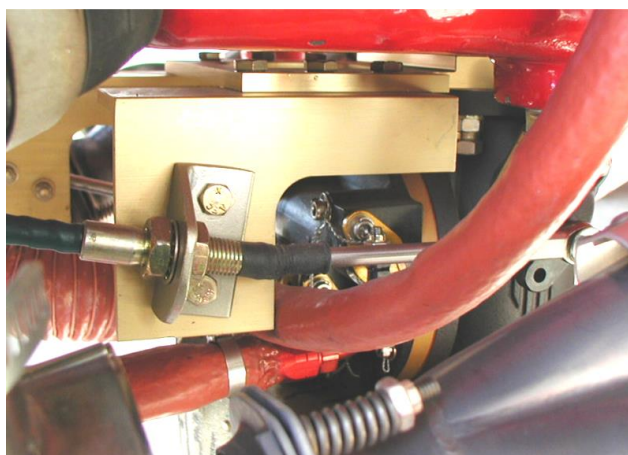


## APPENDIX B (Continued)

In this RV-10 installation, the supplied throttle cable is shown installed



An additional piece of angle aluminum has been installed on the throttle cable bracket to facilitate installation of the throttle cable



An installation on a Lycoming IO-540 with Cold Air Induction

APPENDIX B (Continued)



Installation in a Pilatus P-3 with GO-435  
Installation in a Pilatus P-3 with GO-480

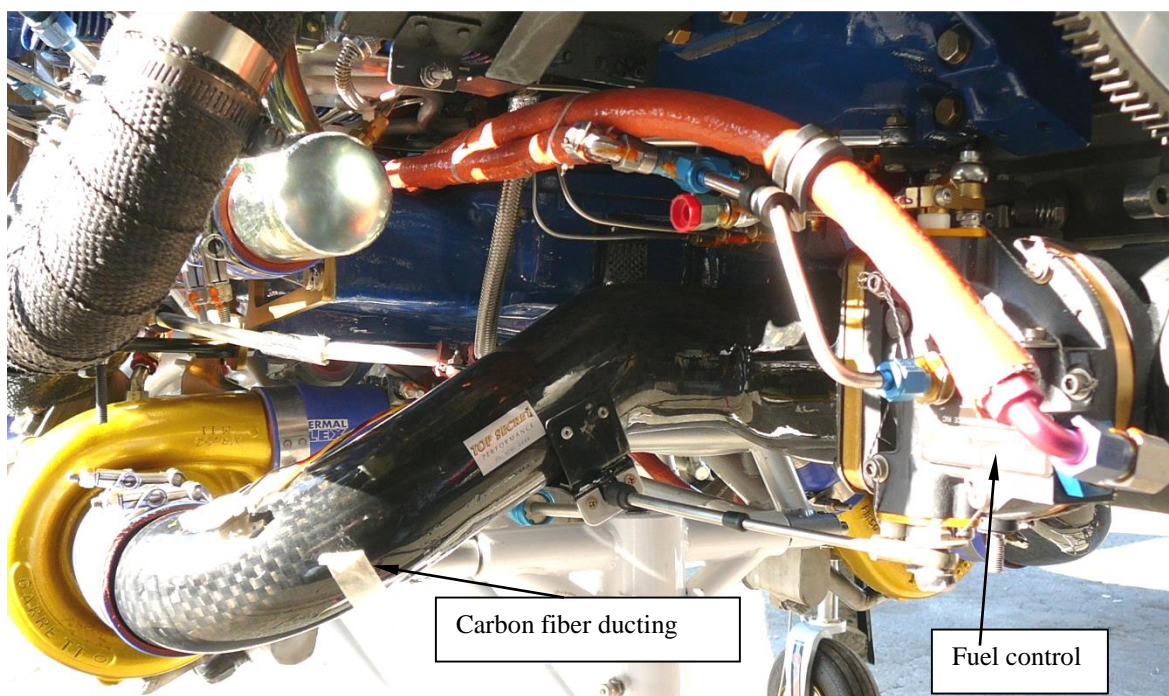




## APPENDIX B (Continued)



A Long EZ installation using an 85-degree elbow and phenolic spacers locates the fuel control into air inlet.



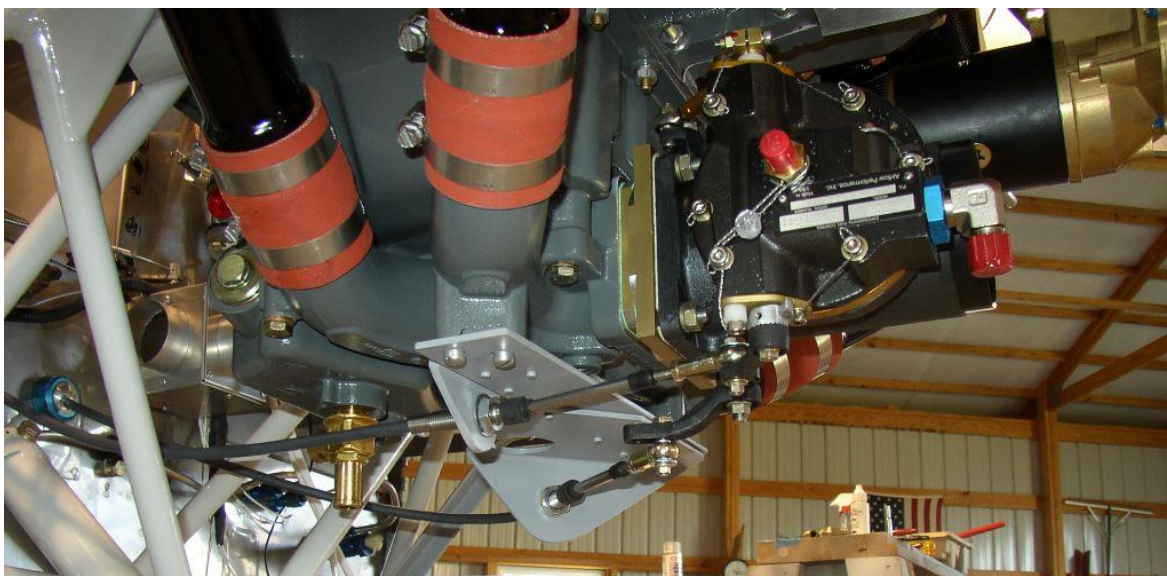
Fuel Control mounted on the inlet of a twin turbo charged 540. The carbon fiber duct feeds the two turbo charger compressor inlets.



## APPENDIX B (Continued)



Installation on a super charged 540. The fuel control is installed on the inlet side of the super charger compressor.



Front sump cable hook-up on RV-6A.



APPENDIX B (Continued)

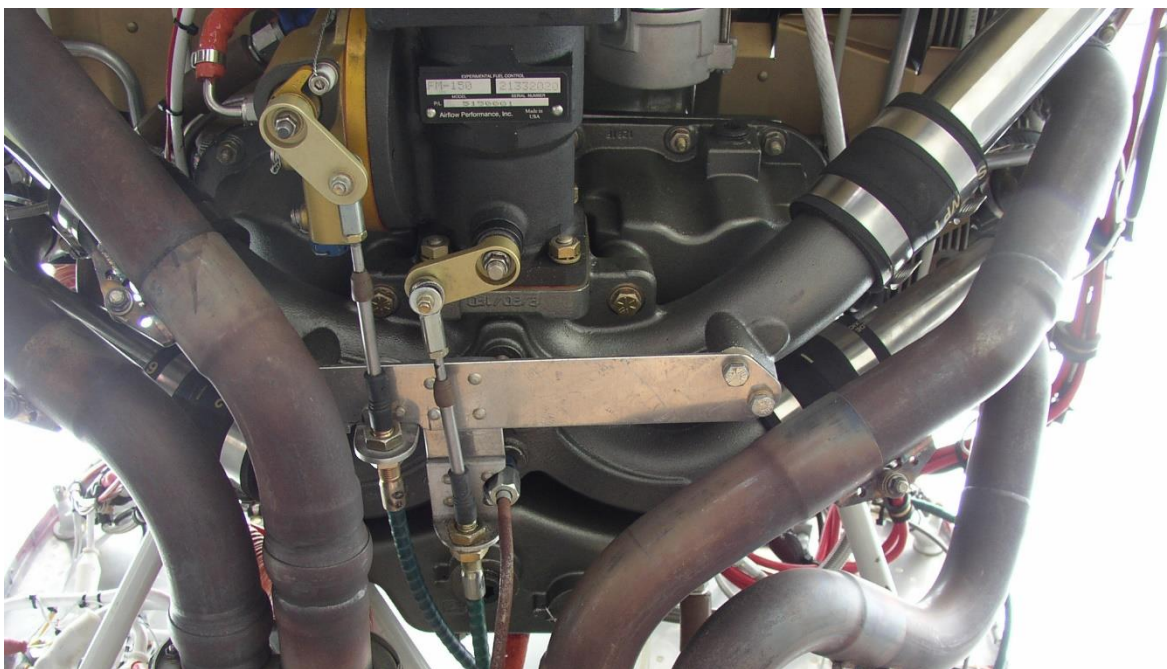


Throttle and Mixture Control cable hook-up on RV-8 360 up draft sump.





APPENDIX B (Continued)



Control Cable hook up on a front sump 360 with FM-150 in a RV-8



Throttle hook up on FM-200A with front sump 360.



APPENDIX B (Continued)



Mixture hook up on FM-200A with front sump 360.

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