



## 001794 GYRO AIR SUPPLY KIT

### DESCRIPTION

The gyro air supply kit provides the flow of air for your gyro instruments by tapping the air from the air chest or manifold. Diesel engines use a lot of air, so it is easy to take a small amount of that to run the instruments. It has the advantage that as long as the engine is running; your gyro instruments will be working. It avoids the inevitable failure of a vacuum pump, or can be used as a back up source in case of a vacuum pump failure. The disadvantage is that there is only sufficient flow for the instruments to reach full stability above around 60-70% Np (RPM). This does mean that you either need to sit at a sufficient rpm on the ground before take-off to spin up your gyros or they will take a couple of minutes after take-off before they are fully up to speed. In practise this system has proven itself to be more than sufficient unless you are a serious IFR flyer.

### INSTALLATION

A hose fitting is placed in the air chest under the blower. A hose is then fitted and connected to the inlet of the air pressure regulator. The outlet is then routed via an air filter into the back of the instruments. Remember this is a pressure system and not a vacuum system i.e. we blow air through and not suck it through. Remember to connect the hoses to the Air Inlet port on your instruments. There are some gauze filters to be fitted into the vacuum ports to prevent dirt and moisture ingress. A "Tee-piece" is provided to connect your vacuum or pressure gauge. Most vacuum gauges can be used with this system; you just have to make sure that you connect them up the right way. Test by blowing air gently into the gauge ports to make sure. The standard 1" round vacuum gauges have proven satisfactory.

### KIT CONTENTS

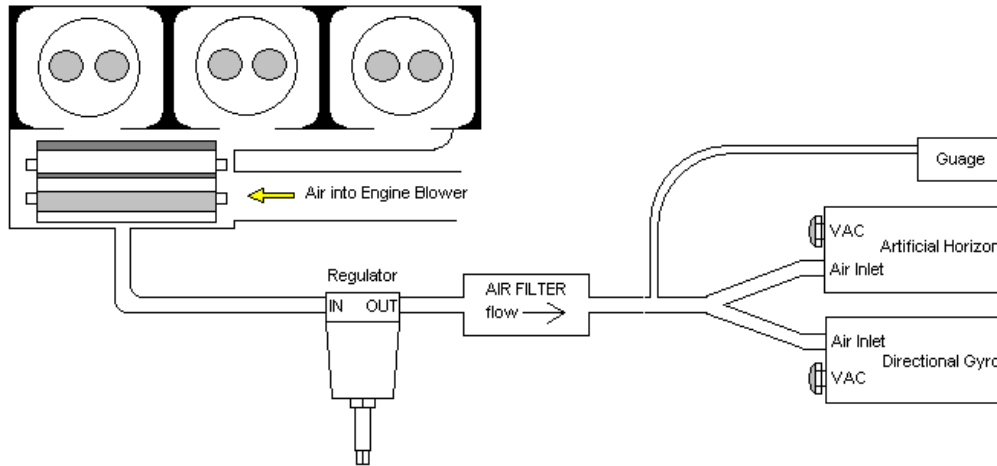
The following is a list of items supplied with the kit: -

QTY	DESCRIPTION	PART NO
	<b>Gyro Air Supply Kit, complete</b>	<b>001794</b>
1	Air filter, metal can	001635
1	Pressure Regulator	001593
1	10mm hose fitting, aluminium	000801
1	Washer, M14 aluminium	001240
1	Hose, 9.5mm ID, silicone, 1m length	001446
1	Hose clamp, flat spring, 17/12	001337
1	Fitting Kit for Gyro Air Supply comprising items below	001661
1	- Fitting, 1/2 BSPT Male x 3/8 Tail	001622
1	- Fitting, 1/2 " BSPT Male x 3/8 Tail 90deg Elbow	001791
1	- Fitting, 1/2 BSPT Male x 1/2 Tail	001624
1	- Fitting, 1/2 BSPT Male x 1/2 Tail 90deg Elbow	001628
1	- Fitting, 1/2 x 1/2 x 1/2 Y-piece	001641
1	- Fitting, 1/2 x 1/4 reducing T-piece	001642
2	- Fitting, 1/4 BSPT Male x 1/2 Tail	001625
2	- Fitting, 1/4 BSPT Male x 1/2 Tail 90deg Elbow	001626
1	- Fitting, 1/4 " BSPT Male x 1/4" Tail	001789
1	- Fitting, 1/4 " BSPT Male x 1/4" 90deg Elbow	001790
2	- Filter screen, brass/StSteel, 1/4 BSP	001483
1m	- 6mm, 10 Bar Tubing	001792
1.5m	- 13mm, 10 Bar Tubing	001793

Not supplied with the kit are the vacuum/pressure gauge and the necessary hardware to mount the regulator bracket.



## SYSTEM SCHEMATIC



## FITTING

All the items you should need to connect up your two gyros are supplied in this kit, including hose for you to cut to length as required, all necessary fittings and adapters, the air filter and the regulator. A complete set of unions are supplied in both a straight or 90 degree fitting, that should cover all your fitting needs. Please only use the 90-degree fittings where space is limited, as they will cause a disturbance in the air stream. Gyro instruments require a good flow of air and therefore you should use the straight fittings throughout if at all possible. If you find that you need any further fittings or hose then please contact WAM.

Remove the bung from under the blower housing on the engine. Fit the 10mm hose adapter 000801 in its place using the M10 aluminium washer 001240 as a seal. Decide on a location for the 001593 regulator and fit its supplied attachment bracket. Mount the regulator onto the bracket making a note of the location of the IN and OUT connections. Fit either the 001622 straight fitting or the 001791 90-degree elbow to the inlet port. Next fit either the 001624 straight or the 001628 elbow to the outlet port. Route the 001793 hose through a suitable place in the firewall and connect to the filter 001635. Please ensure that the filter is fitted in the correct orientation. There is an arrow on the can indicating the direction of airflow through it. Next fit the "T-piece" 001642 for the gauge connection. Connect the gauge using the 001792 hose, cut to length as required. Fittings 001789 and 001790 are provided for connection to the gauge if required. The "Y-piece" 001641 is next to separate the flow to the two gyro instruments. Connect the hose to the air inlet ports on your instruments using 001625 or 001626 elbow. Finally in the VAC ports of your instruments fit the filter screens 001483.

## TESTING

Carry out a full engine ground run and check for the operation of the system. If your gauge does not indicate anything, even at full power, then please check that it is connected correctly else it may not be compatible with a pressure type system. If the indicated pressure is below the recommended 4.5 to 5.2 in Hg. at normal cruise power i.e. 80%Np or above, then increase the pressure by loosening the jamb nut on the threaded shaft of the regulator and screwing the shaft in. Screw the shaft out to decrease pressure. Continue adjusting until the desired setting is reached and tighten the nut. Please exercise caution and consider shutting down and restarting whilst adjustments are carried out. The rpm at which full pressure is reached will vary a little with different installations, but it normally around 60-70% Np. When adjustments are complete, ensure that when at full power the regulator is operating correctly and does not allow the system to over pressurise. Your system is now ready to use.

If you have any trouble with the installation or operation of the system then please contact WAM for assistance.