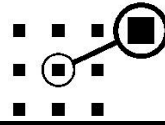


2030 TURBINE FLOW SENSOR KIT

INSTALLATION INSTRUCTIONS

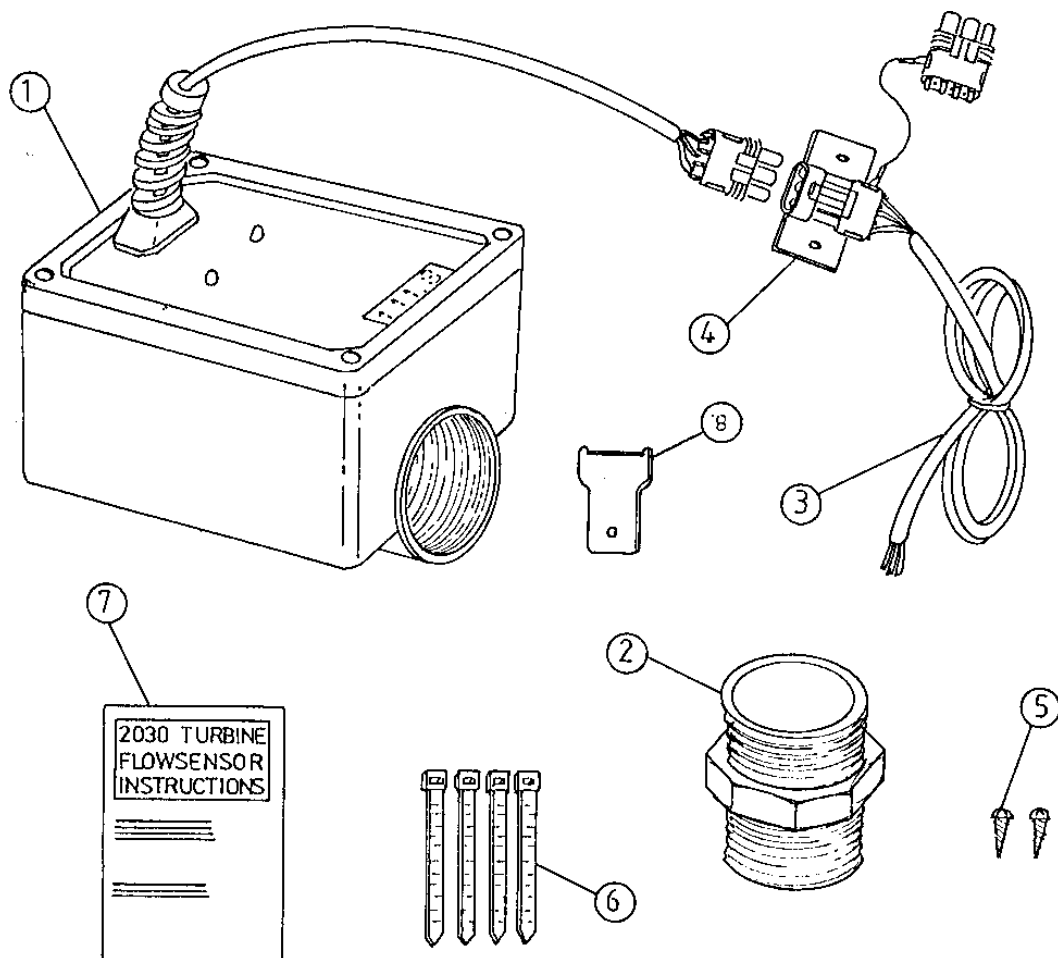
AM-2030



FARMSCAN

COMPONENT LIST

REF	PART No.	DESCRIPTION	QTY
1	AA-200	PRESSURE SENSOR & SNUBBER	1
2	HH-1100	PRESSURE SENSOR TAIL	2
3	AC-300	3 WAY 5 m EXTENSION CABLE	1
4	AH-400	PACKARD CABLE MOUNTING BRACKET	1
5	HS-8x1/2	SELF TAPPING SCREWS	2
6	HG-702	CABLE TIES 150 x 3.5 mm	10
7	AM-2030	TURBINE FLOW SENSOR INSTRUCTIONS	1
8	AH-200	TURBINE SERVICE TOOL	1



GENERAL INFORMATION

The 2030 Turbine Flowsensor Kit may be used as an option with the Farmscan 2200 Surveillance Monitor to provide spray monitoring functions on most types of agricultural sprayers.

The sprayer flowrate must be in the range of 8 - 200 litres per minute and the maximum pressure must not exceed 68 bar (1000 PSI).

Check L / Min as follows :
$$\frac{\text{L/HA} \times \text{WIDTH} \times \text{SPEED}}{600} = \text{L / MIN}$$

Example :
$$\frac{80 \text{ L/HA} \times 12\text{m} \times 10\text{KPH}}{600} = 16 \text{ L / MIN}$$

The Flowsensor parts will stand Petrochemical Solvent based materials but not acid (defoliants). A special acid tolerant version is available on request.

INSTALLATION

Before installing the flowsensor, blow softly into the INLET side and check that the turbine spins freely also take note of the factory calibration number (eg. PPL 110.6) engraved on the body.

The flowsensor must be installed in the main delivery line to the spray nozzles **before** any section controls such as solenoid valves or manual shut off taps.

There must be **no return flow to tank after the flowsensor metering point**, all the liquid being delivered to the target must pass through the flowsensor.

Installation may be in either the vertical or horizontal position, making sure the arrow on the flowsensor points in the direction of flow.

Any plumbing fittings screwed into the flowsensor must be 1" BSP threads and no more than 25mm in length, otherwise damage to the turbine may result.

Connect the flowsensor wires to the Surveillance Monitor as follows :

ie.	RED WIRE	TO	+ 12 VOLTS OUT
	WHITE WIRE	TO	PORT 5
	BLACK WIRE	TO	GROUND

To provide a breakaway extension of the flowsensor cable, order one of the following options.

OPTIONAL :	AC-305	5m	3 WAY SENSOR CABLE
	AC-310	10m	3 WAY SENSOR CABLE

Do not run flowsensor cable in close proximity to solenoid control wires or engine kill switch cables.

Refer to Calibration Instructions in Surveillance Instruction Manual to enable Port 5 for flow monitoring and to calibrate the flowsensor.

OPERATION & TESTING

When the Surveillance Monitor is switched on, the red light on the flowsensor indicates that power is on.

The green light will flash when the turbine is turning. The rate of 'flashing' will increase with higher flowrates, to the point where the green light will appear to be constantly 'ON'.

Before using the flowsensor with a tank of mixed chemicals, check that the monitor is calibrated correctly, displaying the correct litre total for a known volume pumped.

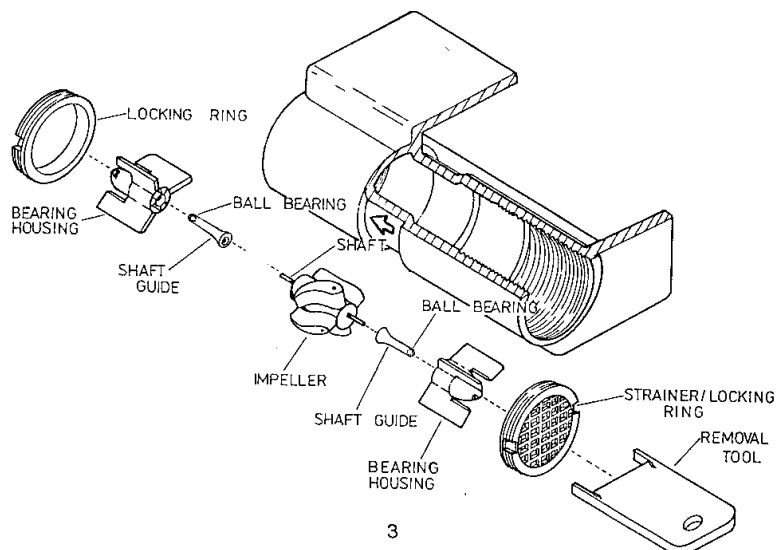
See Flow Sensor Calibration procedure in the 2200 Surveillance Instruction Manual.

MAINTENANCE

1. Flush the flowsensor with fresh water after use every day.
2. Do not leave wettable powders in the spraylines overnight or for long periods.
3. If flowsensor turbine is damaged or severely worn, install new AH-205 RED Turbine Replacement Kit.

! CAUTION !

FLOWSENSOR MUST BE THOROUGHLY DECONTAMINATED BEFORE PERFORMING ANY MAINTENANCE OF WETTED PARTS.



TROUBLESHOOTING - 2030 TURBINE FLOWSENSOR

PROBLEM	POSSIBLE CAUSE / REMEDY
1. RED LIGHT ON FLOW SENSOR FAILS	<ul style="list-style-type: none"> a) Check that monitor is switched ON. b) Check that connection of green plug into monitor is correct. c) Check voltage into flowsensor is 12 - 14 volts between red and black wires. If voltage OK, and sensor still fails, return to your nearest Farmscan dealer or authorised service agent.
2. GREEN LIGHT FAILS TO FLASH	<ul style="list-style-type: none"> a) Check red light is ON. b) Disconnect flowsensor from sprayline and check inlet strainer for blockage. c) Blow softly into inlet without mouth contact and check that turbine spins freely for 2 - 3 seconds. d) If turbine jammed or light does not flash then use removal tool to disassemble flowsensor. e) Inspect magnets (2x) embedded in turbine for build up of metal particles which may cause failure. f) Use toothbrush and soapy water to scrub magnets clean and reassemble turbine taking note of flow direction. Firmly tighten retaining ring and blow softly into inlet to check turbine spins freely for 2 - 3 seconds. g) If unable to locate fault, return to your nearest Farmscan dealer or authorised service agent.
3. FLOW READING INACCURATE	<ul style="list-style-type: none"> a) Follow Flow PPL Calibration Procedure in 2200 Surveillance Manual to make sure flow calibration factor is set correctly. b) If using a diaphragm or piston pump make sure pulsation dampener works properly - excess hammering will cause false readings. c) Remove from sprayline and follow Section 2 above to check for particle build up on magnets or turbine jamming.