

# Document #3

## TECHNICAL CORRESPONDENCE

June 20, 2001

**Robertshaw.**

Industrial Products Division



**TO:** UL913 Inspector

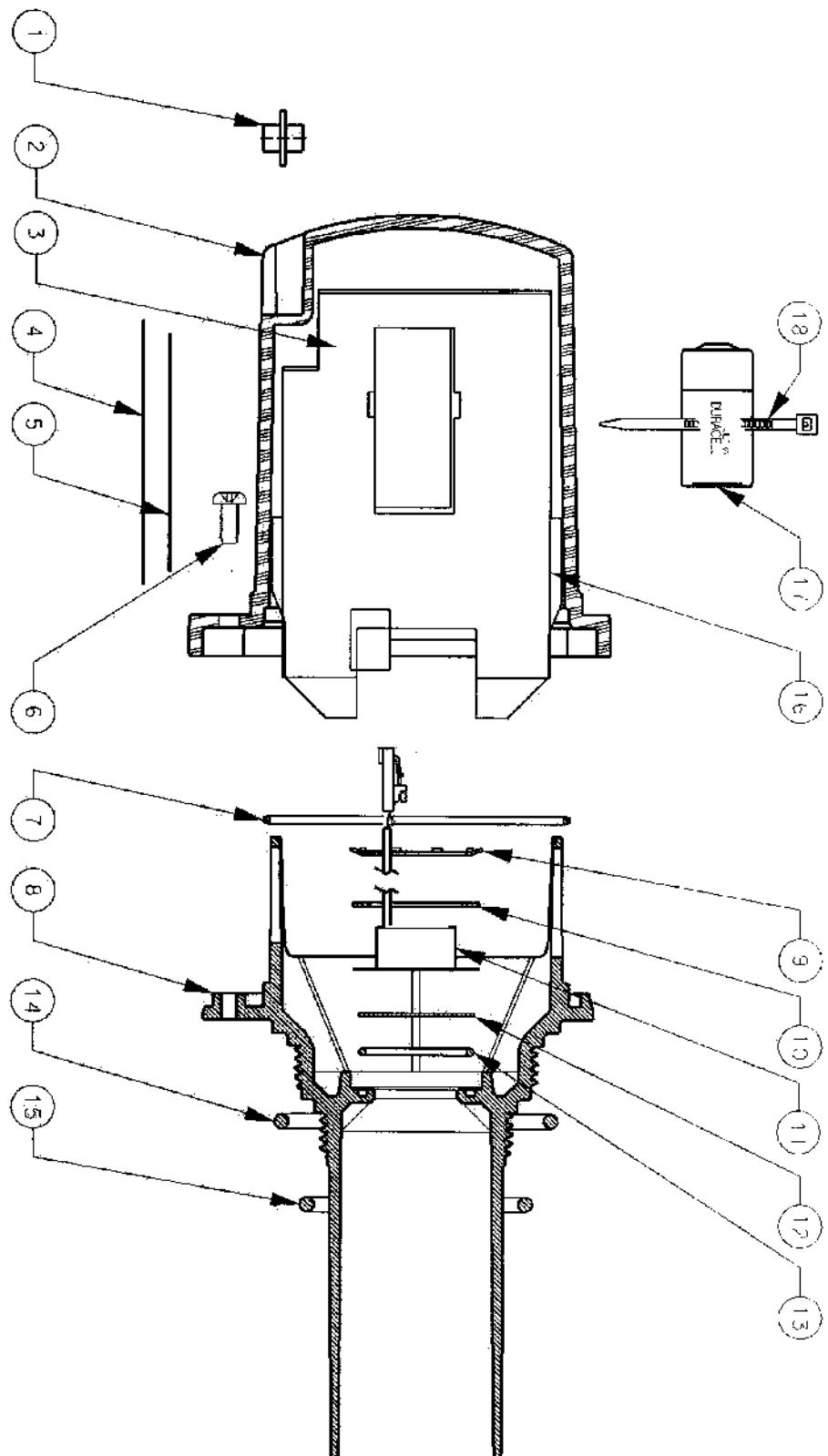
**FROM:** Ken Cupples

**SUBJECT:** Centeron Ultrasonic Monitor Overview.

**COPIES:**

The Centeron Ultrasonic Monitor is intended for remote monitoring of liquid levels in outside storage tanks of Diesel fuels, Oils, Lubricants, Chemicals, and water based liquids in the Farm Co-op, Petroleum, and Waste water treatment markets. The Centeron Ultrasonic Monitor is a member of Robertshaw's Spread Spectrum Radio Frequency (RF) family of products. The Monitor measures liquid changes by sending and receiving a small acoustic pressure wave through a protective cover (stainless steel and PVF). The pressure wave reflects off the liquid level surface and returns to the Monitor. The time of flight is used to calculate the level which is then transmitted through the on board RF transmitter through the Monitor housing. The Monitor only makes measurements at programmed intervals (0.5, 1, 2, or 4 hours). The measurement and transmission time is about 500 msec. In between measurements the unit shuts down and sleeps.

The Ultrasonic Monitor PCA is housed in an injection molded polypropylene housing consisting of a lower and upper section. The lower housing has external threads that allow the Monitor to be mounted in a standard 1.5" or 2" NPT tank opening. The upper housing is attached to the lower housing with (3) screws and this joint is sealed with an O-ring. The upper housing is removable to facilitate battery replacement. The Monitor also contains a small magnet assembly that is used to disable the unit for shipping. Removing the magnet assembly starts the unit to operate on the programmed interval. The Monitor is designed to operate in ambient temperatures between -40 and 85 C and ambient pressures between 1.7 PSIA and 19.7 PSIA.



- (1) MAGNET ASSEMBLY
- (2) UPPER HOUSING
- (3) PCA
- (4) LABEL COVER
- (5) LABEL
- (6) SCREW, HOUSING

- (7) ORING, HOUSING
- (8) LOWER HOUSING
- (9) RETAINING RING, TRANSDUCER
- (10) RETAINING WASHER, TRANSDUCER
- (11) TRANSDUCER ASSEMBLY
- (12) TRANSDUCER COVER
- (13) ORING, TRANSDUCER
- (14) 2" ORING, PART
- (15) 1.5" ORING, PART
- (16) PCA COVER
- (17) BATTERY
- (18) WIRE TIE, BATTERY

Thanks,

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