

DMS MARKET**INTELLIGENCE REPORT**

COMPASS DWELL

DESIGNATION Compass Dwell; Remotely Piloted Vehicle (RPV); PE 64216F; PE 64732F

EXECUTIVE USAF Aeronautical Systems Division
Wright-Patterson AFB, OH

PRIME Selection pending

STATUS Engineering Development

MISSION Long duration reconnaissance

TYPE Drone aircraft

FUNDING	(\$ millions)	FY73	FY72	FY71	FY70-69
	RDT&E	\$ 3.0	-	-	1.5
	(all estimates)				

TIMETABLE Not applicable

GENERAL Compass Dwell is one of approximately 30 reconnaissance and surveillance related projects sheltered under the "Compass" name (see the DMS Code Name Handbook). The "Dwell" indicates an Air Force effort aimed at development of long duration flight capable reconnaissance drones. An outgrowth of the Comfy Bee studies begun in 1968, the USAF has narrowed the program to considerations of two sailplane concepts both built around Schweizer gliders.

The first is the L-450F (designated XMQ-93) entry provided by LTV Electrosystems, Greenville, TX. A modified version of the Schweizer 2-32, the L-450F reportedly is powered by a modified United Aircraft of Canada PT6A-26 turboprop. A test model of this vehicle flew 21 non-stop hours during tests in late 1971. It is designed for operation at altitudes up to 52,000 feet and supposedly for missions of 30 hours. The L-450F can be used in either manned or unmanned modes. In the drone configuration (without pilot seat and cockpit canopy), the aircraft can carry 700 pounds of electronic payload. One test aircraft crashed in 1970, but the Air Force bought about six more of the aircraft from LTV during the past year.

The second model is to be supplied in 1972, reportedly, by Martin Marietta. The company is understood to be modifying a Schweizer 2-32 to operate only as a drone and to be powered with a piston engine. The type of engine to be used has not been announced. The Martin aircraft will undergo flight tests at Edwards AFB during the fall of 1972.

These unmanned Compass Dwell drones are expected to replace U-2 and SR-71 aircraft for many of the strategic and tactical reconnaissance and surveillance missions assigned to the Air Force. They obviously are expected to be far less costly to operate and maintain than either of the higher priced aircraft or the more sophisticated satellite systems.

COMMENT The unmanned aircraft, drone or remotely piloted vehicle projects within the various military agencies have attracted wide attention in the aerospace industry. The systems involved, particularly the electronic and optical devices, are sophisticated, challenging and profitable, thereby representing an attractive business potential during somewhat slim market pickings.

However, the drones themselves are tending to go in the other direction; i.e., toward simplification and lower prices.

The chances are the Compass Dwell type drone will not be bought in the vast quantities of the counterpart, the target drone. So the level of business to be generated from the "production" program that will ensue from the developmental testing of the two currently known candidates (see above) will probably be limited in nature and low value in dollar volume.

On the brighter side are the long term prospects that drones, or RPVs, do seem to have. High altitude overflights (under guise of accidents) of potentially hostile countries, the surveillance of ocean lanes (see Program 749 Report herein for a possible drone application), the tactical combat requirements and even some commercial and non-military uses all are viable end uses.

FORECAST *The five year forecast:*

<u>(\$ millions)</u>	<u>FY74</u>	<u>FY75</u>	<u>FY76</u>	<u>FY77</u>	<u>FY78</u>
<i>RDT&E</i>	\$ 2.0	1.0	0	0	0
<i>PROCUREMENT</i>	\$ 0.5	1.0	2.5	3.0	3.0