HITCHHIKER
CUSTOMER ACCOMMODATIONS AND REQUIREMENTS SPECIFICATION
(CARS)

Add the following:

2.6 Hitchhiker Ejection System

The Hitchhiker Ejection System (HES) (figures 2.6.1 - 2.6.5) provides small spacecraft from the Shuttle payload bay. The ejected payload i user supplied 9.375 inch marmon plate interface which is clamped to t clamp mechanism. Payload and ejection system are mounted in a canist motorized door which can contain an air or inert atmosphere prior to orbit with the Orbiter in the requested attitude the clamp is release payload is ejected. The system does not provide for rotation (spin) ejection. Orbital lifetime of ejected objects in typical Shuttle orb one year.

There is no electrical power or signal connection to the spacecraft.

The user must provide means for lifting the spacecraft during instal assemble. Following installation of the payload and launcher into th top of the payload will be accessable through the open door for servi

Vibration and shock environment is the same as for other canister pay

Spacecraft must be designed to avoid contact with the canister under during ejection.

The ejection system and door mechanism are considered zero fault tole failure which would cause inability to eject or inability to close th spacraft design must satisfy Shuttle safety requirements for a landi the door open.

Spacecraft which have appendages which deploy or other hazardous func occurs after ejection must provide adequate safety inhibits to preven activation.

Ejection attitude must be such that there is no possibility of collis during the portion of the mission following ejection. JSC will perfo analysis to insure that no recontact occurs.

Table 2.6.1 shows the characteristics of the Hitchhiker Ejection Syst

TABLE 6.1

Hitchhiker Ejection System Characteristics

Maximum Spacecraft weight	150 lb (68 Kg)
Maximum spacecraft height re separation plane	21.5 in (52 cm)
Maximum spacecraft diameter	19 in (48 cm)
Canister inside diameter	20 in (50 cm)
Maximum CG location re canister centerline	0.5 in (1.27 cm)
Maximum CG location re separation plane	10.25 in (26 cm)
Ejection velocity (at 150 lb.)	2 - 4 fps (.6 - 1.2 mps)
Maximum rotational impulse at ejection	TBD
Minimum payload resonant frequency	TBD Hz