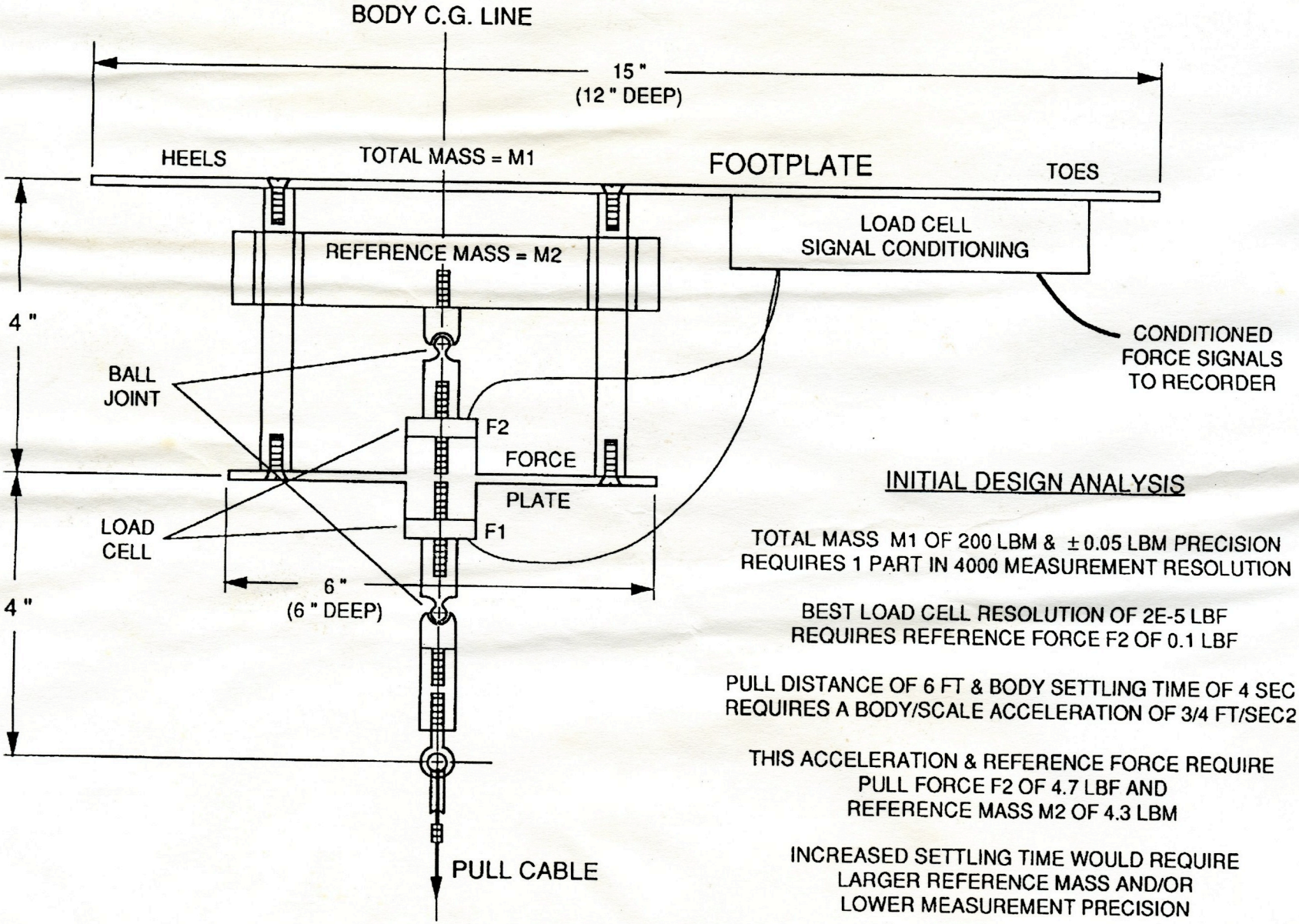
MICROGRAVITY BODY-MASS SCALE

JHPn 5-25-93



INITIAL DESIGN ANALYSIS

TOTAL MASS M1 OF 200 LBM & ±0.05 LBM PRECISION
REQUIRES 1 PART IN 4000 MEASUREMENT RESOLUTION

BEST LOAD CELL RESOLUTION OF 2E-5 LBF
REQUIRES REFERENCE FORCE F2 OF 0.1 LBF

PULL DISTANCE OF 6 FT & BODY SETTLING TIME OF 4 SEC
REQUIRES A BODY/SCALE ACCELERATION OF 3/4 FT/SEC2

THIS ACCELERATION & REFERENCE FORCE REQUIRE
PULL FORCE F2 OF 4.7 LBF AND
REFERENCE MASS M2 OF 4.3 LBM

INCREASED SETTLING TIME WOULD REQUIRE
LARGER REFERENCE MASS AND/OR
LOWER MEASUREMENT PRECISION