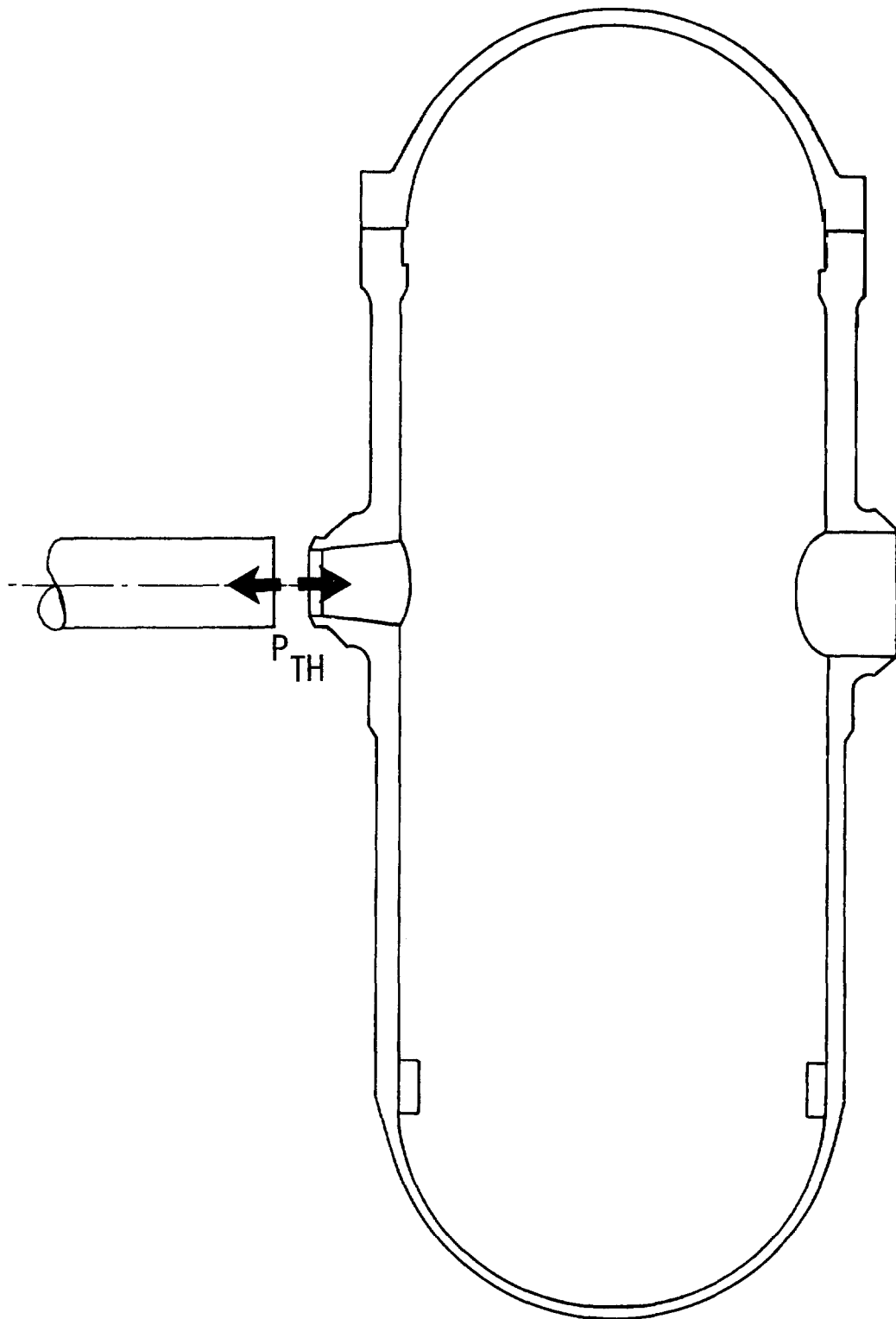


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RV ASYMMETRIC LOADS ANALYSIS
REACTOR CAVITY PRESSURE LOADS

Figure
5.4A-4



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RV ASYMMETRIC LOADS ANALYSIS
PIPE THRUST LOAD

Figure
5.4A-5

P_{VI}^V = VERTICAL HYDRAULIC FORCES ON INTERNALS

P_{RH}^H = HORIZONTAL HYDRAULIC FORCES ON VESSEL

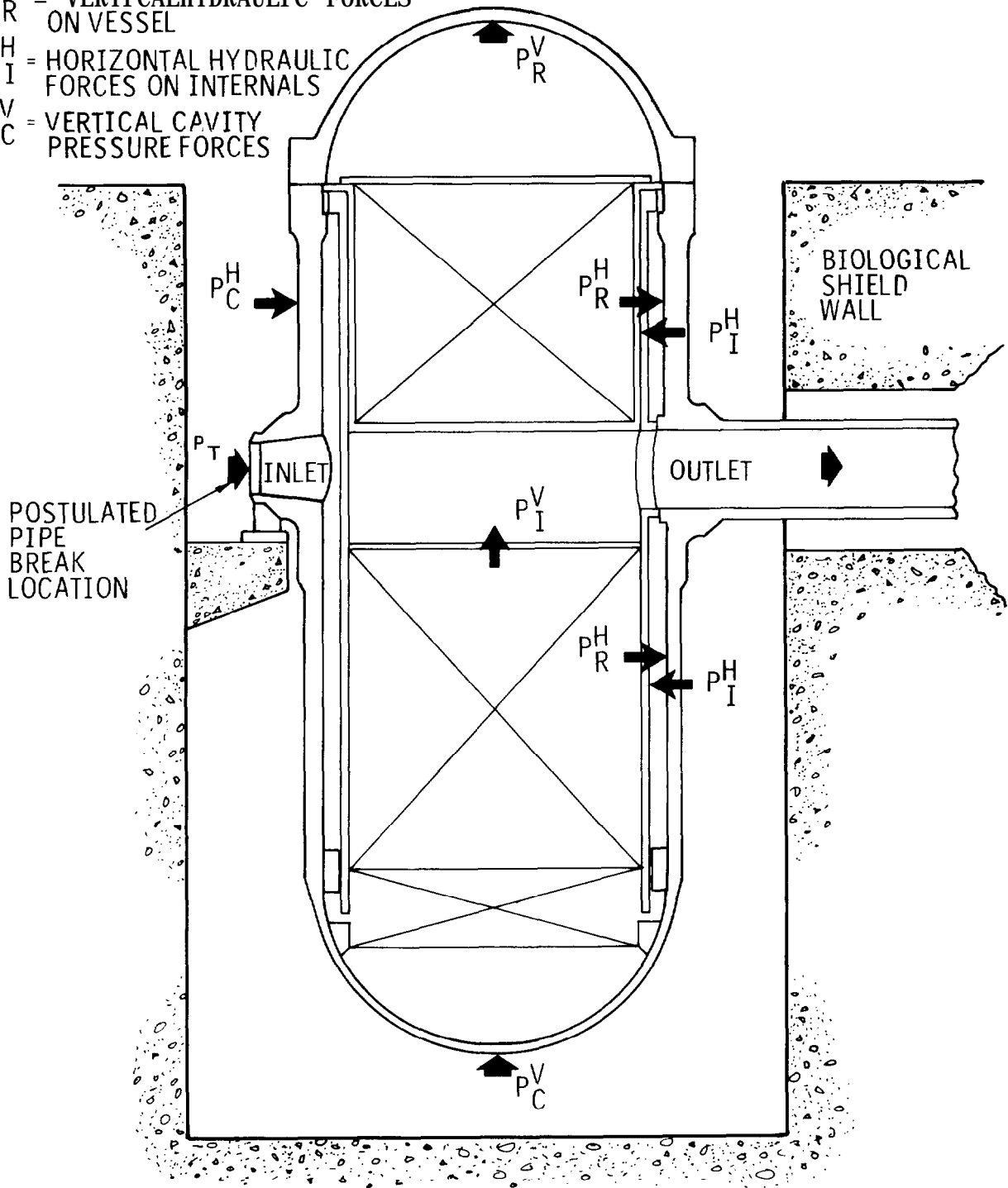
P_{RV}^V = VERTICAL HYDRAULIC FORCES ON VESSEL

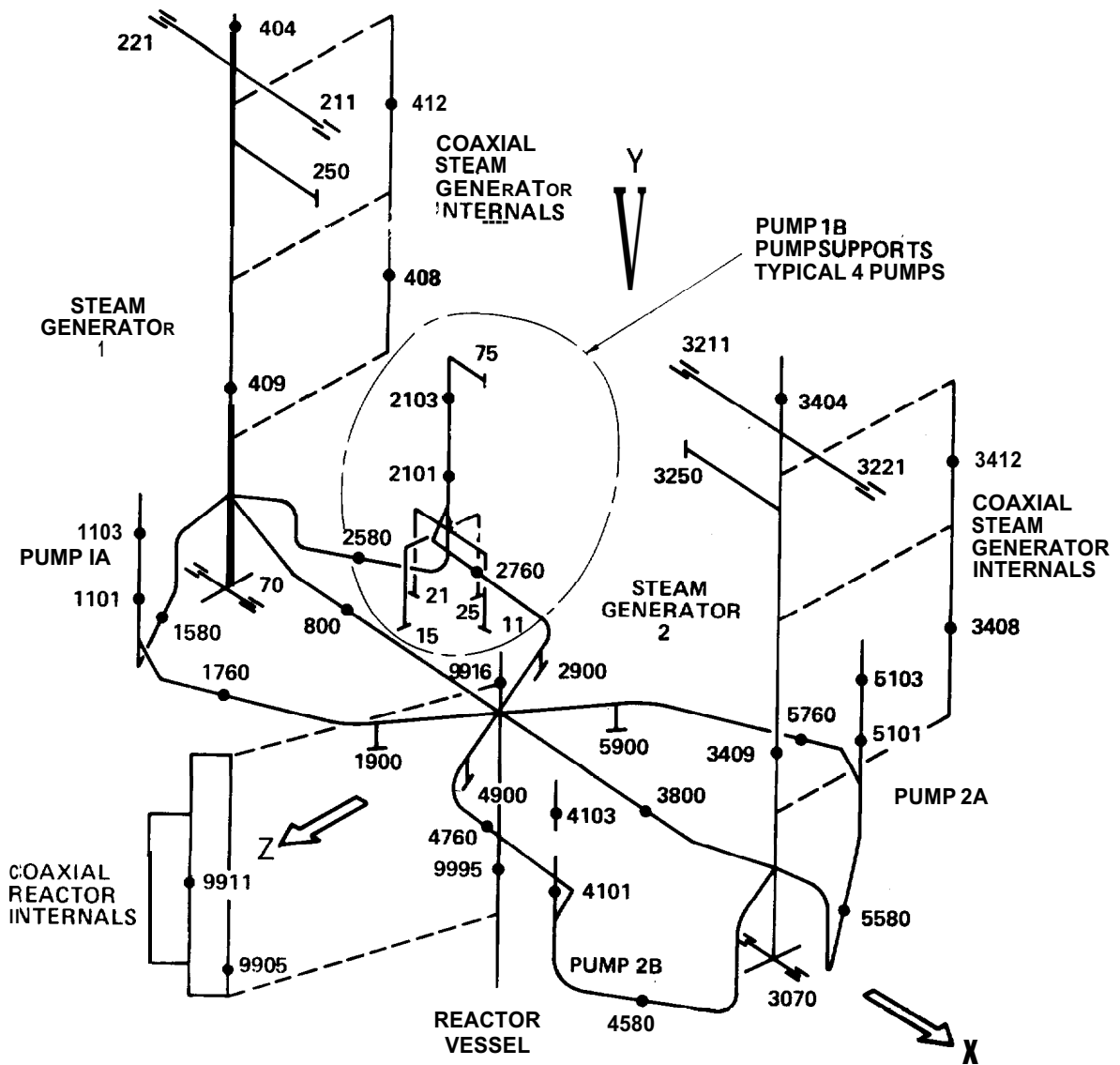
P_{IH}^H = HORIZONTAL HYDRAULIC FORCES ON INTERNALS

P_{VC}^V = VERTICAL CAVITY PRESSURE FORCES

PT = PIPE BREAKTHRUST

P_{CH}^H = HORIZONTAL CAVITY PRESSURE FORCES



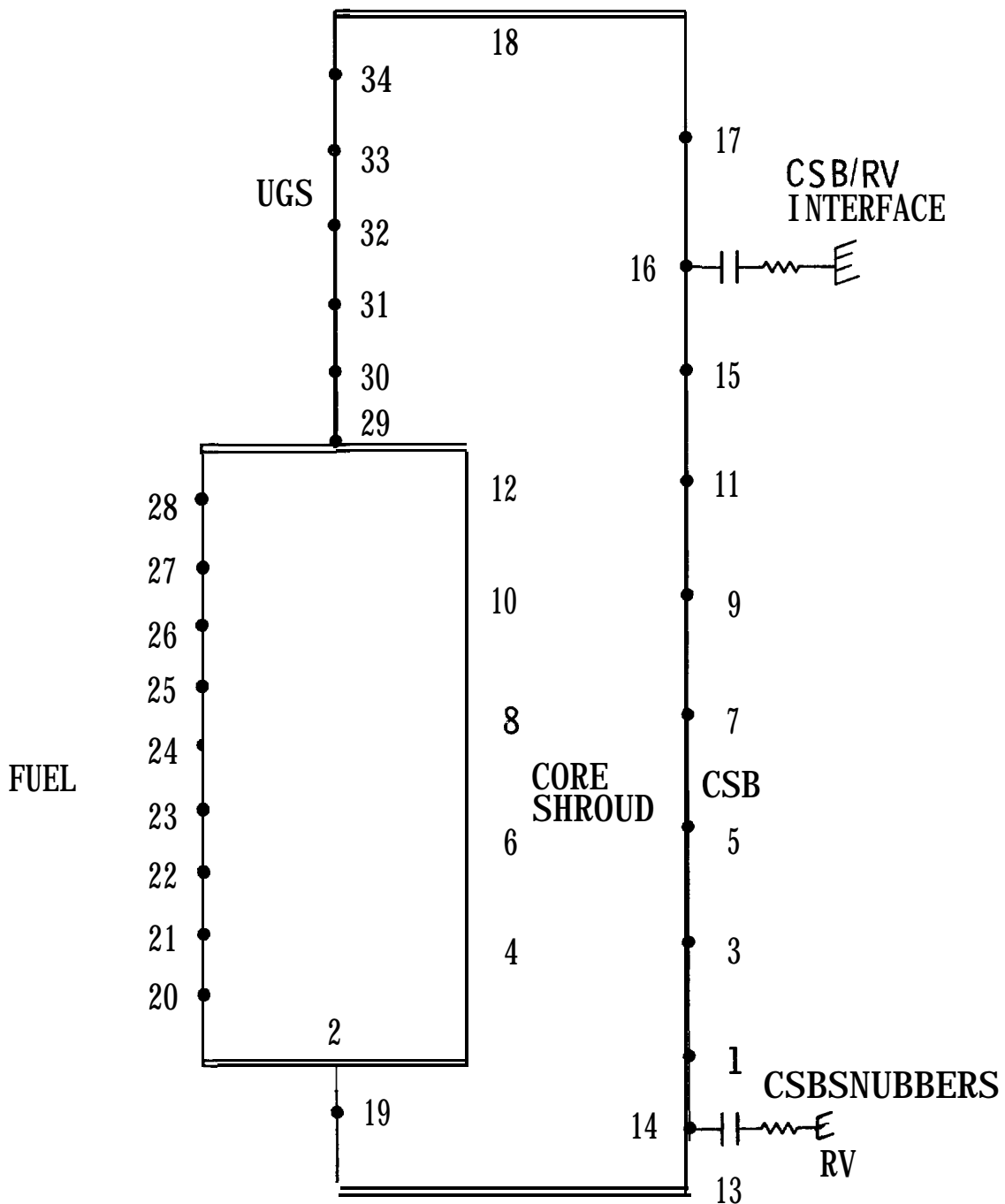


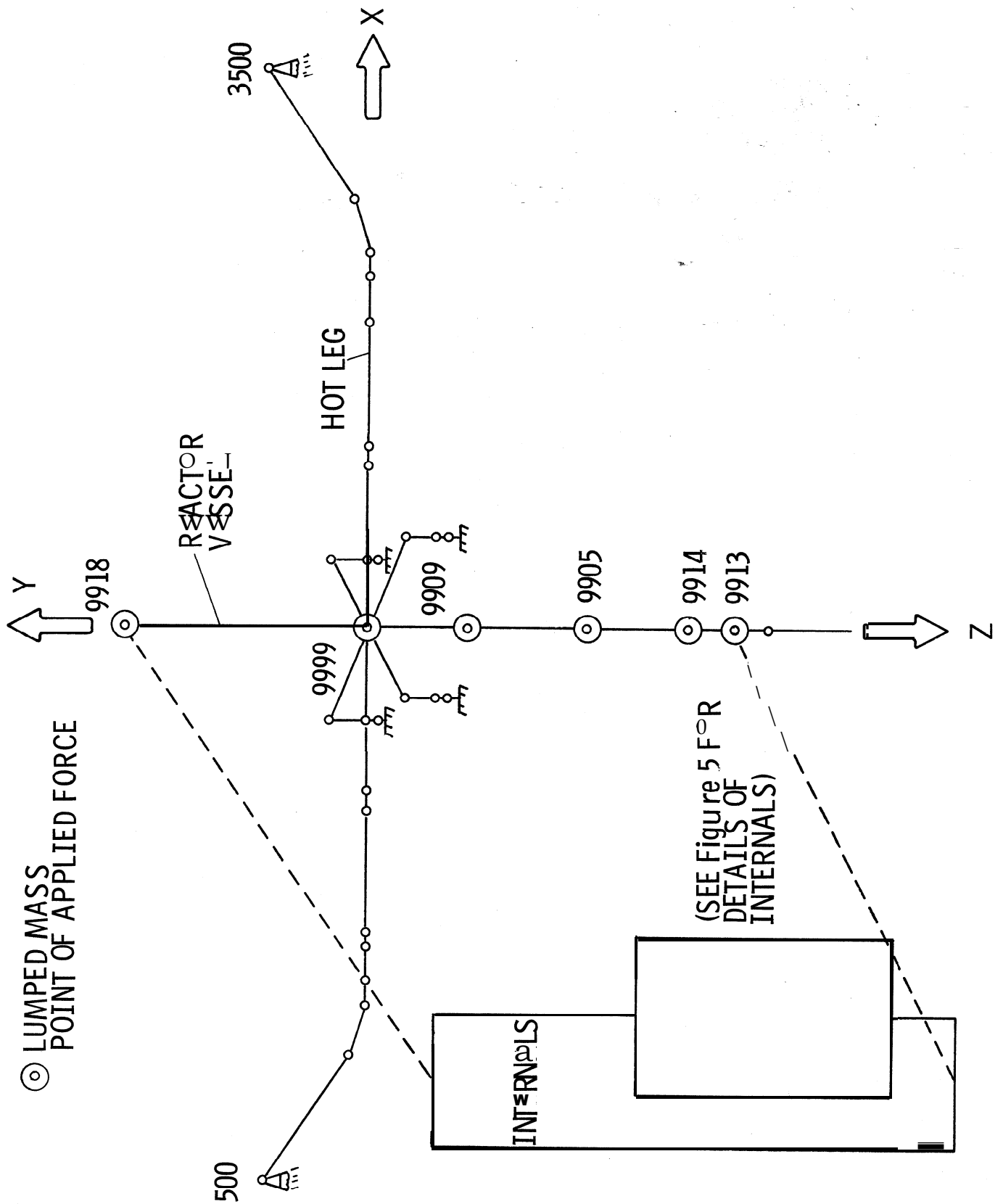
COMPONENT NAME	MASS POINT NUMBER	DEGREES OF FREEDOM	COMPONENT NAME	SUPPORT POINT NUMBER	RESTRAIN1
REACTOR	9916, 9911, 9905 9995	X, Y, Z X, Z	REACTOR	1900, 2900, 4900, 5900	FX, FZ FIXED
STEAM GENERATORS	404, 3404, 412, 3412 409, 3409 408, 3406	X, Y, Z X, Z X, Z	STEAM. GENERATORS	70, 3070 250, 3250 211, 221 3211, 3221	FY, FZ FX FZ FZ
PUMPS	1103, 2103, 4103, 5103 1101, 2101, 4101, 5101	X, Y, Z X, Z	REACTOR COOLANT PUMPS (TYPICAL)	11, 15, 21, 25 75	FY FX, FZ FX, FZ
REACTOR COOLANT PIPING	800, 3800 1760, 2760, 4760, 5760 1580, 2580, 4580, 5580	Y, Z X, Y, Z X, Y, Z			

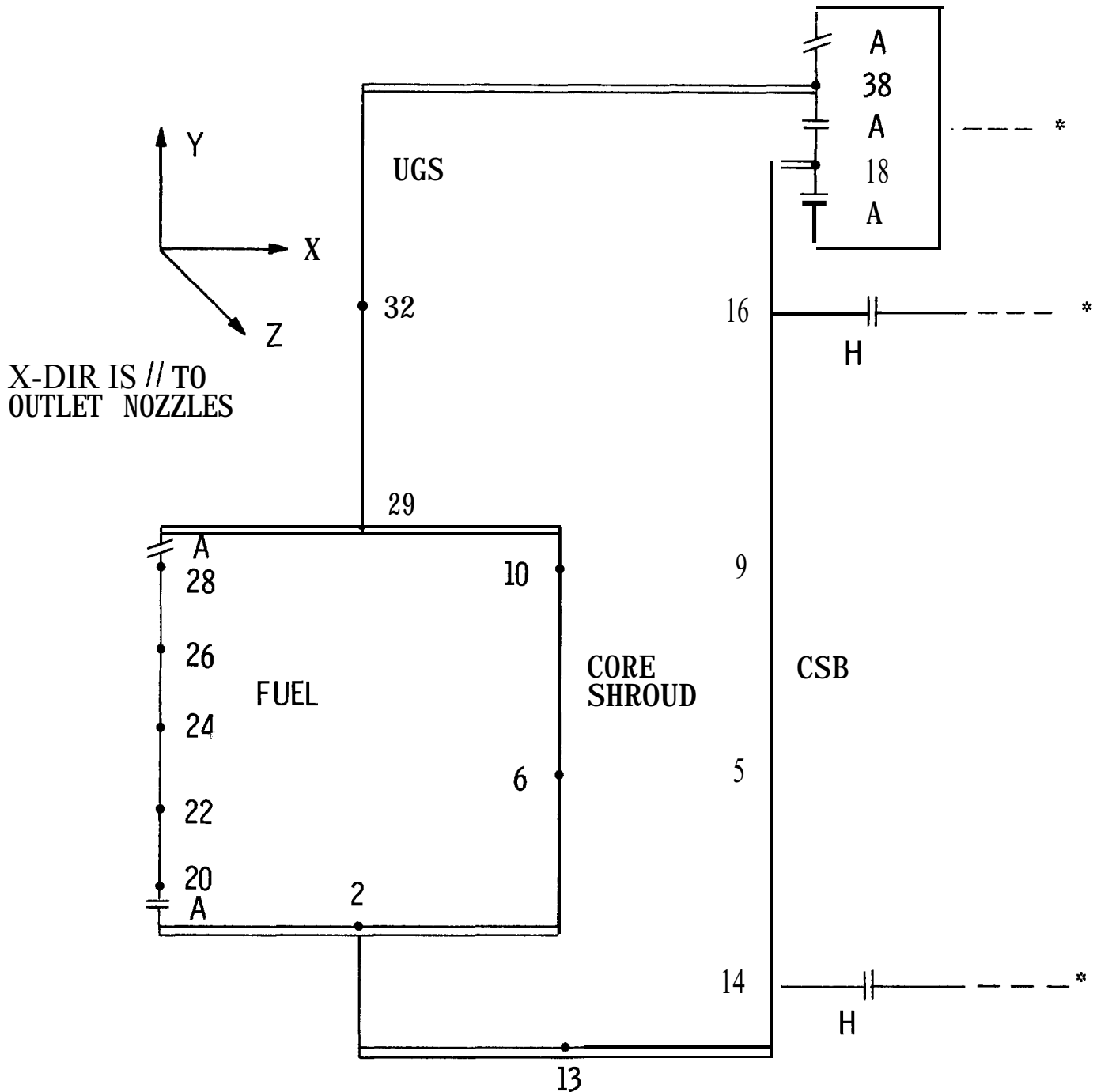
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RV ASYMMETRIC LOADS ANALYSIS
DETAILED REACTOR COOLANT SYSTEM MODEL

Figure
5.4A-7





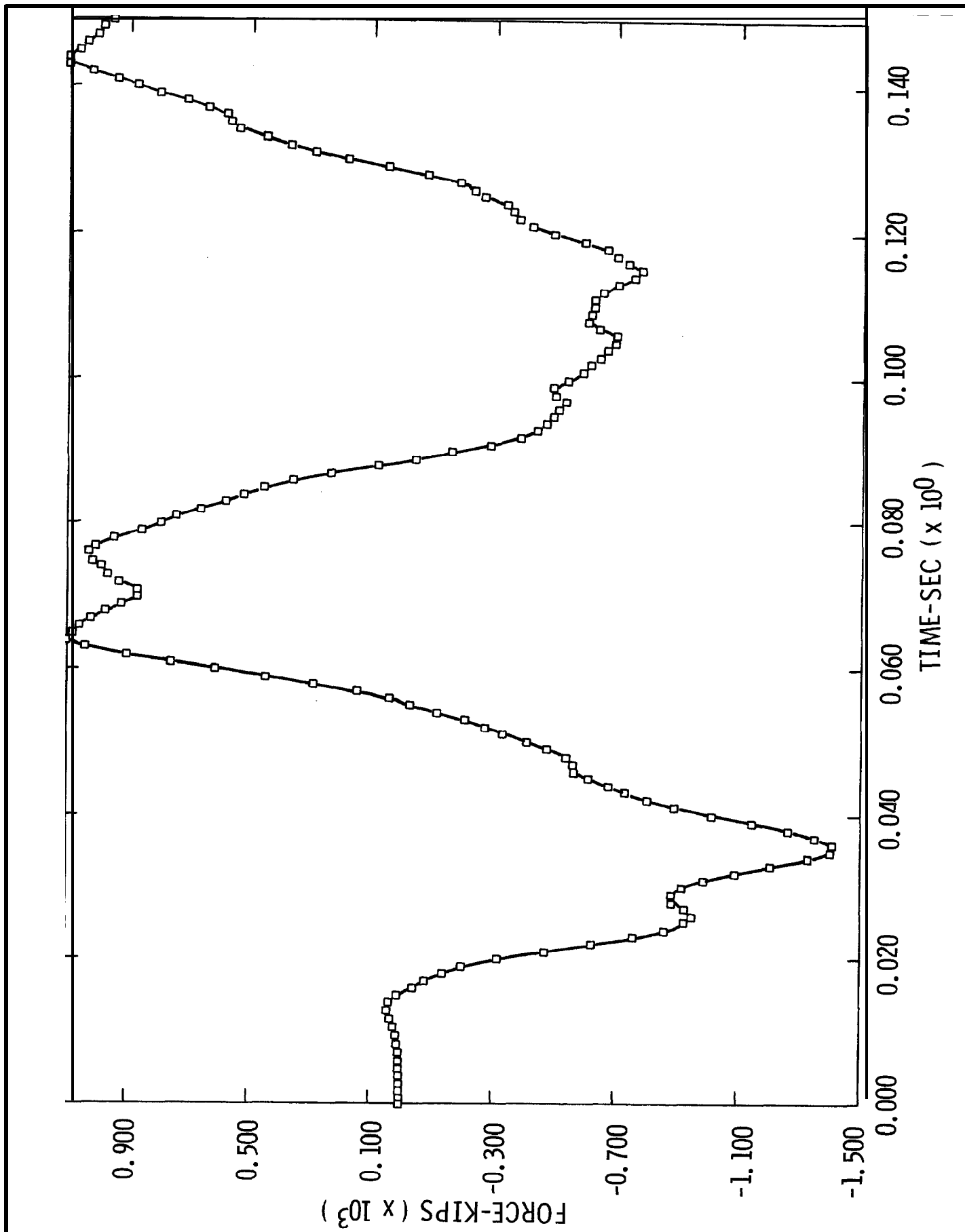


X-DIR IS // TO
OUTLET NOZZLES

* SEE Figure 9 FOR DETAILS OF
REACTOR VESSEL AND PIPING

LEGEND

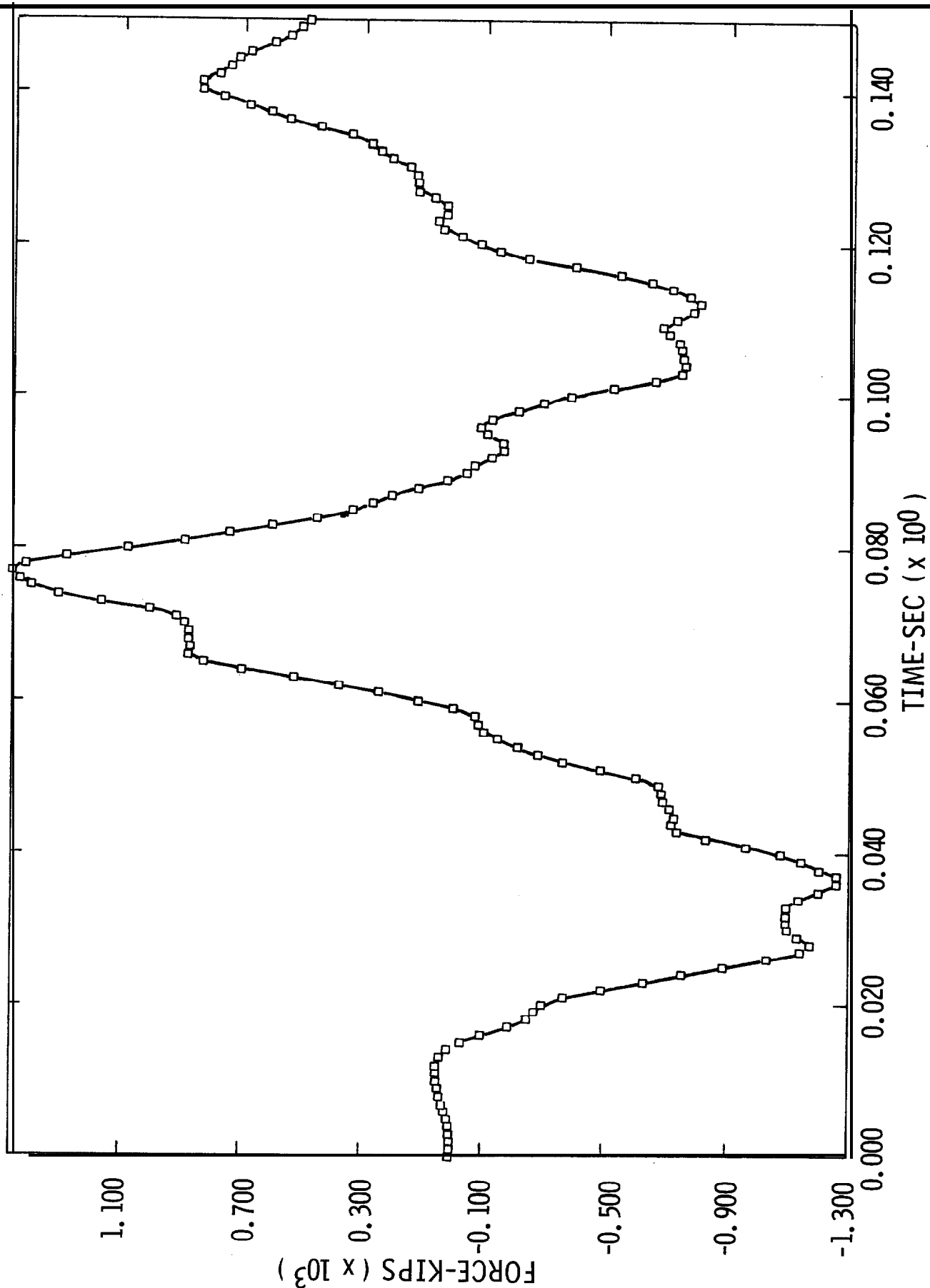
- A = AXIAL GAP
- H = HORIZONTAL GAP
- // = PRELOADED COUPLING
- ⊥ = GAP COUPLING
- ≡ = COLINEAR CONNECTOR



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RV ASYMMETRIC LOADS ANALYSIS
REACTOR VESSEL SUPPORT REACTIONS
SIMPLIFIED INTERNALS AND VESSEL

Figure
5.4A-11

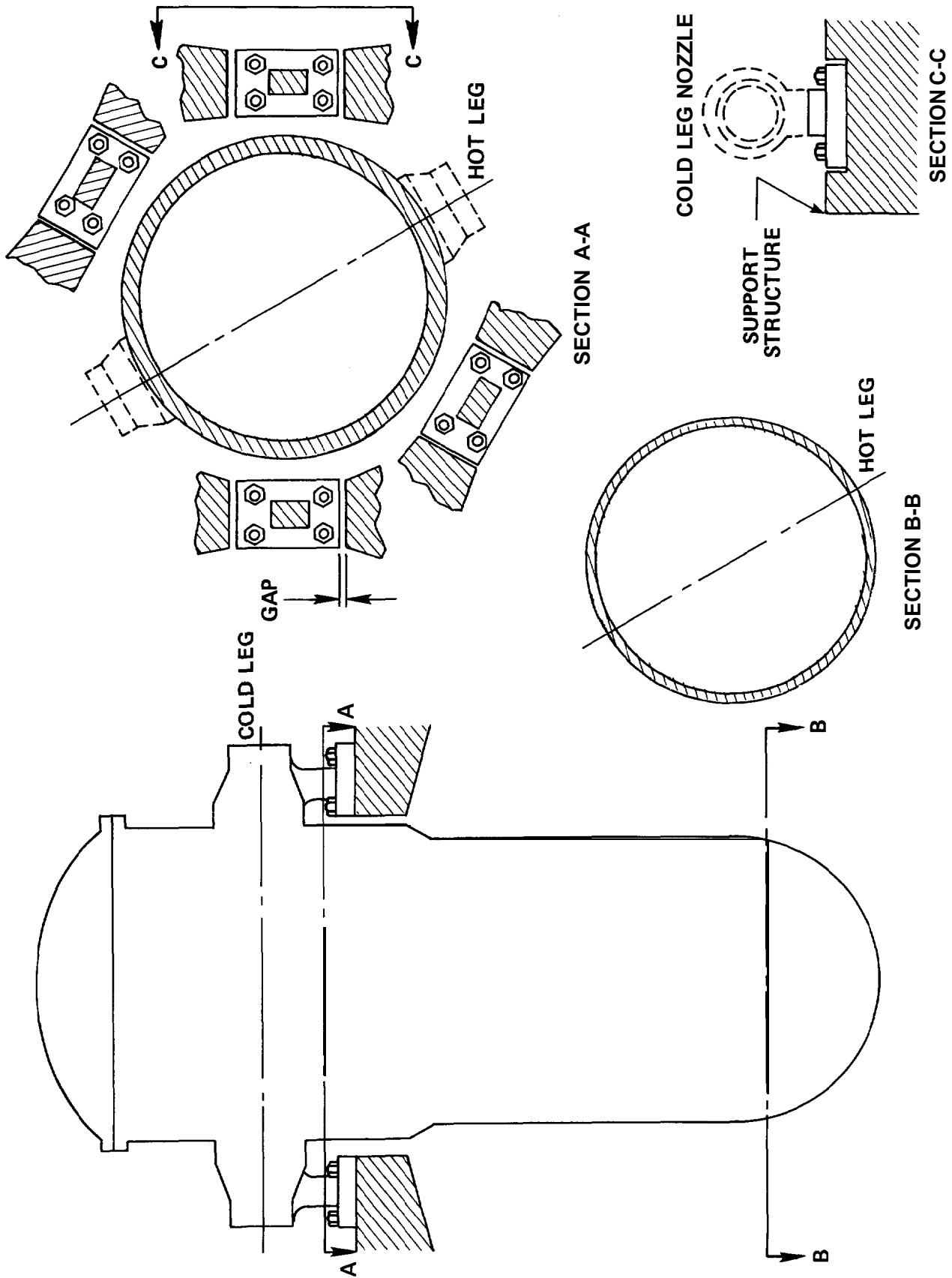


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RV ASYMMETRIC LOADS ANALYSIS
REACTOR VESSEL SUPPORT REACTIONS
DETAILED INTERNALS, SIMPLIFIED VESSEL

Figure

5.4A-12

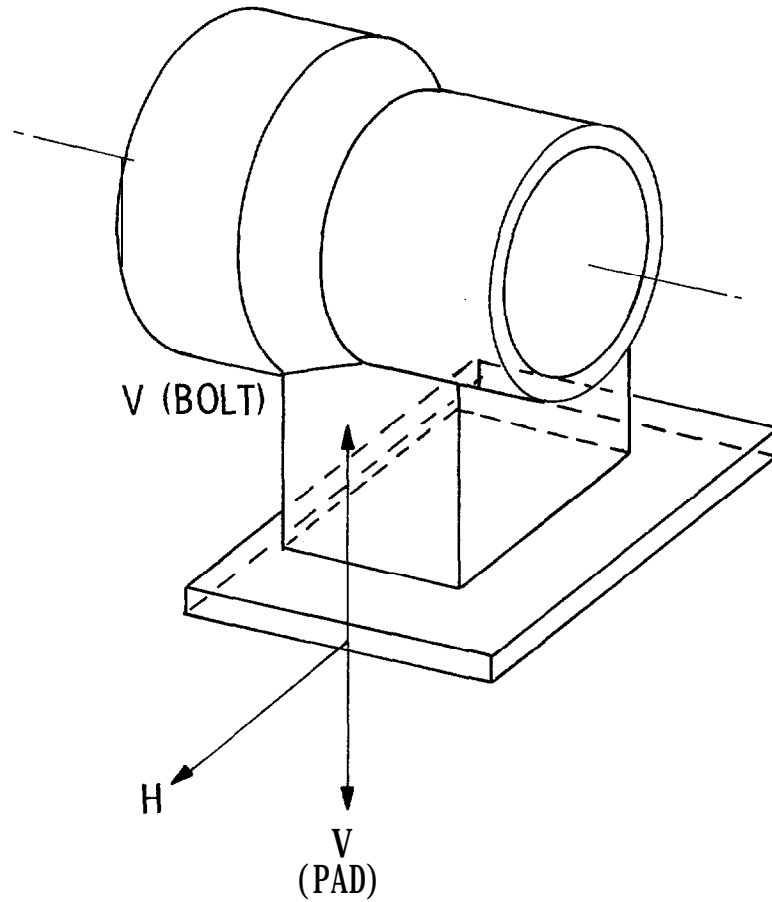


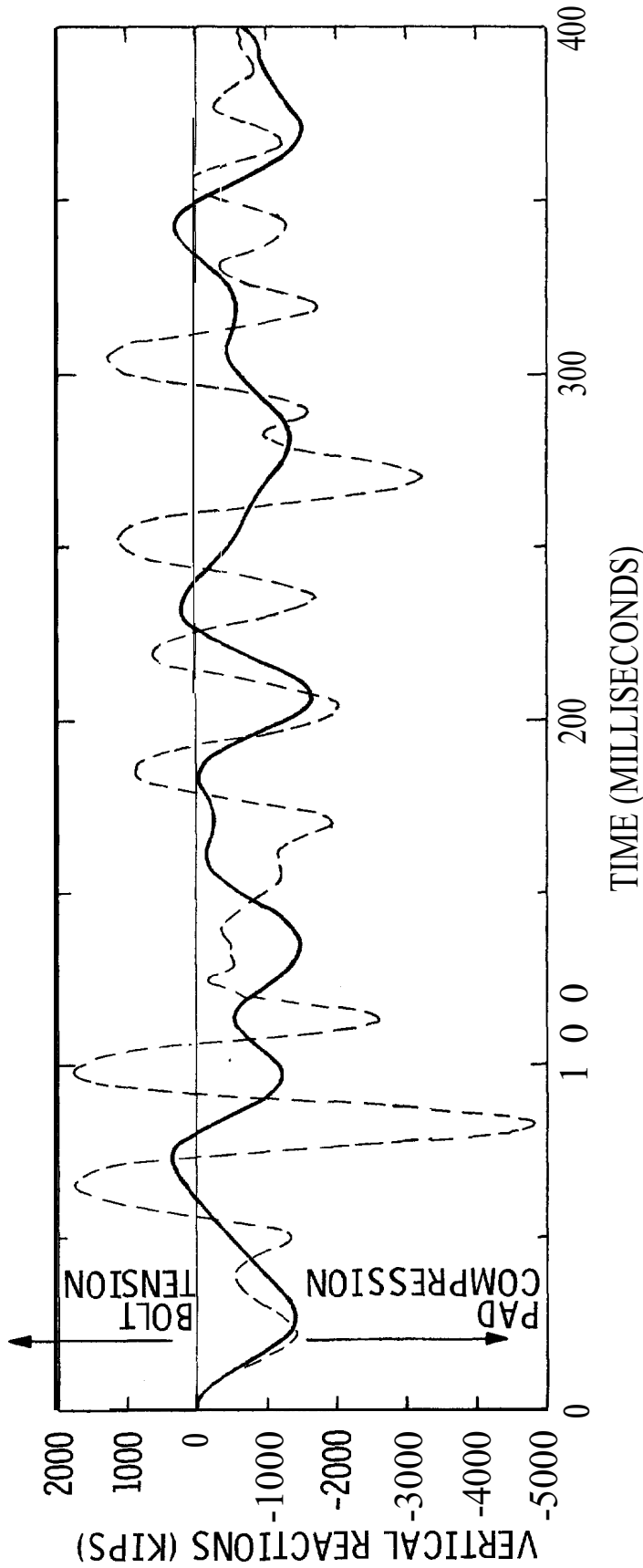
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RV ASYMMETRIC LOADS ANALYSIS
REACTOR VESSEL LOCA SUPPORTS

Figure
5.4A-13

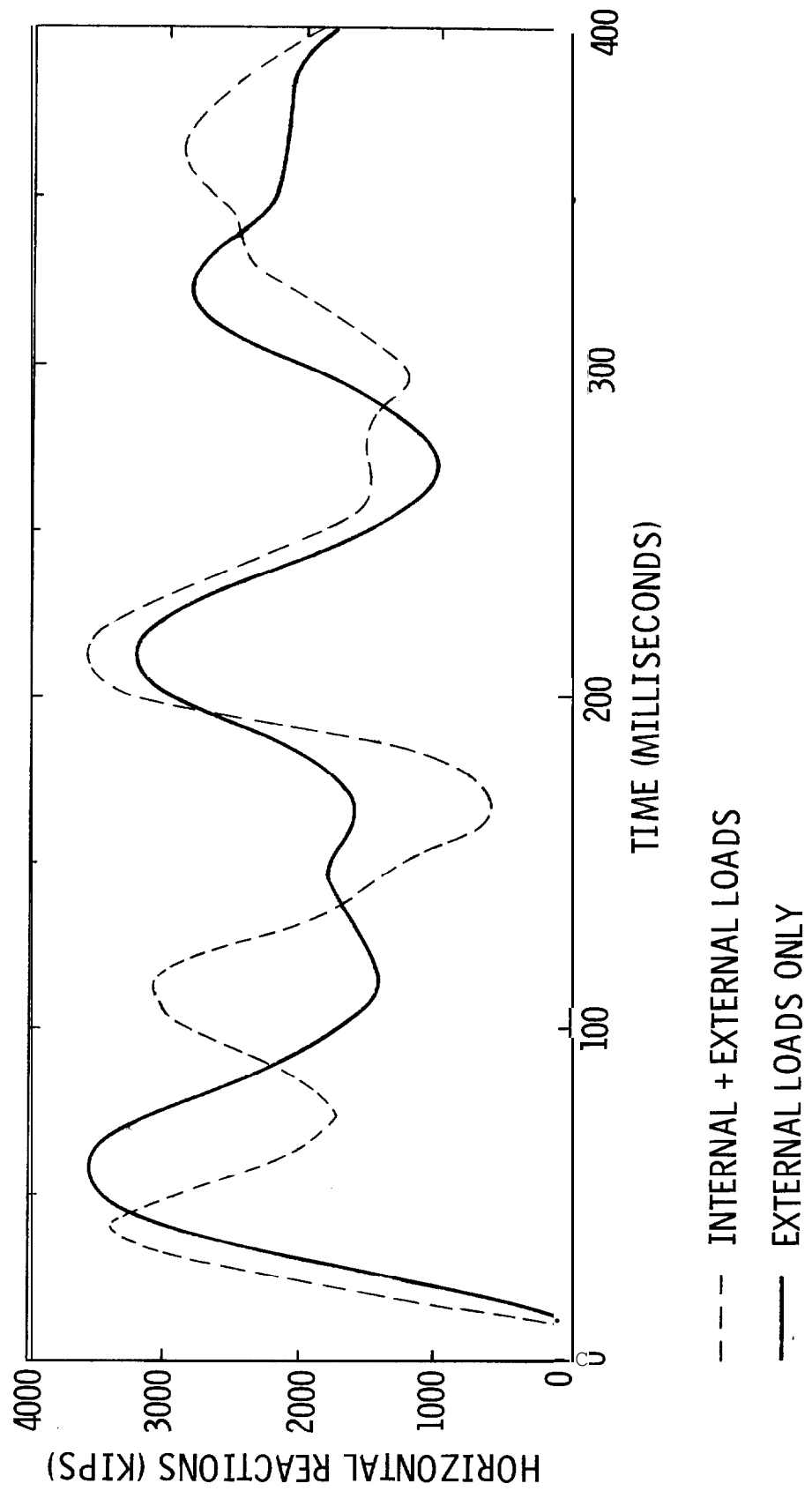
RV CENTERLINE





- - - INTERNAL + EXTERNAL LOADS (+) TENSION, ALL BOLTS, PER 1 SUPPORT
 ——— EXTERNAL LOADS ONLY (-) COMPRESSION, 1 PAD

NOTE: PLOT IS FOR PIPE RUPTURE LOADS ONLY. FOR PIPE RUPTURE + NORMAL OP.,
 SUBTRACT 880 KIPS FROM THE BOLT LOAD AND ADD IT TO THE PAD LOAD.



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RV ASYMMETRIC LOADS ANALYSIS
350 SQ. IN. COLD LEG GUILLOTINE AT RV NOZZLE
MAX. RV HORIZONTAL SUPPORT LOAD vs TIME

Figure
5,4A-16