-(2^(1/2)\*

(5000\*theta\_x\_dot - 3500\*phi\_x\_dot\*cos(theta\_y) - 6062\*phi\_y\_dot\*cos(theta\_x) + 6062\*theta\_y\_dot\*cos(theta\_x) + 1750\*phi\_x\_dot\*sin(theta\_y) - 4750\*theta\_y\_dot\*sin(theta\_x) - 5000\*theta\_z\_dot\*sin(theta\_y) + 1500\*3^(1/2)\*theta\_y\_dot\*cos(theta\_x) + 3031\*3^(1/2)\*phi\_x\_dot\*sin(theta\_y) - 3031\*3^(1/2)\*theta\_y\_dot\*sin(theta\_x) + 4750\*theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y) - 1750\*phi\_y\_dot\*cos(theta\_y)\*sin(theta\_x) + 6062\*theta\_z\_dot\*cos(theta\_y)\*sin(theta\_x) - 3500\*phi\_y\_dot\*sin(theta\_x)\*sin(theta\_y) + 3031\*3^(1/2)\*theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y) - 3031\*3^(1/2)\*phi\_y\_dot\*cos(theta\_y)\*sin(theta\_x) + 1500\*3^(1/2)\*theta\_z\_dot\*cos(theta\_y)\*sin(theta\_x)))/6000

(7\*2^(1/2)\*phi\_x\_dot\*cos(theta\_y))/12 - (5\*2^(1/2)\*theta\_x\_dot)/6 + (3031\*2^(1/2)\*phi\_y\_dot\*cos(theta\_x))/3000 - (3031\*2^(1/2)\*theta\_y\_dot\*cos(theta\_x))/3000 - (7\*2^(1/2)\*phi\_y\_dot\*sin(theta\_x))/24 + (19\*2^(1/2)\*theta\_y\_dot\*sin(theta\_x))/24 + (5\*2^(1/2)\*theta\_z\_dot\*sin(theta\_y))/6 - (2^(1/2)\*3^(1/2)\*theta\_y\_dot\*cos(theta\_x))/4 - (3031\*2^(1/2)\*3^(1/2)\*phi\_y\_dot\*sin(theta\_x))/6000 + (3031\*2^(1/2)\*3^(1/2)\*theta\_y\_dot\*sin(theta\_x))/6000 - (19\*2^(1/2)\*theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y))/24 + (7\*2^(1/2)\*phi\_x\_dot\*cos(theta\_x)\*sin(theta\_y))/24 - (3031\*2^(1/2)\*theta\_z\_dot\*cos(theta\_y)\*sin(theta\_x))/3000 + (3031\*2^(1/2)\*phi\_x\_dot\*sin(theta\_x)\*sin(theta\_y))/3000 - (3031\*2^(1/2)\*3^(1/2)\*theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y))/6000 + (3031\*2^(1/2)\*3^(1/2)\*phi\_x\_dot\*cos(theta\_x)\*sin(theta\_y))/6000 - (2^(1/2)\*3^(1/2)\*theta\_z\_dot\*cos(theta\_y)\*sin(theta\_x))/4

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(19\*2^(1/2)\*theta\_y\_dot\*sin(theta\_x))/24 - (3031\*2^(1/2)\*theta\_y\_dot\*cos(theta\_x))/3000 - (6^(1/2)\*theta\_y\_dot\*cos(theta\_x))/4 - (5\*2^(1/2)\*theta\_x\_dot)/6 + (5\*2^(1/2)\*theta\_z\_dot\*sin(theta\_y))/6 + (3031\*6^(1/2)\*theta\_y\_dot\*sin(theta\_x))/6000 + (7\*2^(1/2)\*phi\_x\_dot\*cos(theta\_y)\*cos(theta\_z))/12 + (3031\*2^(1/2)\*phi\_y\_dot\*cos(theta\_x)\*cos(theta\_z))/3000 - (19\*2^(1/2)\*theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y))/24 - (3031\*6^(1/2)\*theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y))/6000 - (3031\*2^(1/2)\*phi\_x\_dot\*cos(theta\_x)\*sin(theta\_z))/3000 - (7\*2^(1/2)\*phi\_y\_dot\*cos(theta\_z)\*sin(theta\_x))/24 + (7\*2^(1/2)\*phi\_y\_dot\*cos(theta\_y)\*sin(theta\_z))/12 - (3031\*6^(1/2)\*phi\_y\_dot\*cos(theta\_z)\*sin(theta\_x))/6000 - (3031\*2^(1/2)\*theta\_z\_dot\*cos(theta\_y)\*sin(theta\_x))/3000 - (6^(1/2)\*theta\_z\_dot\*cos(theta\_y)\*sin(theta\_x))/4 + (7\*2^(1/2)\*phi\_x\_dot\*sin(theta\_x)\*sin(theta\_z))/24 + (3031\*6^(1/2)\*phi\_x\_dot\*sin(theta\_x)\*sin(theta\_z))/6000 + (7\*2^(1/2)\*phi\_x\_dot\*cos(theta\_x)\*cos(theta\_z)\*sin(theta\_y))/24 + (3031\*6^(1/2)\*phi\_x\_dot\*cos(theta\_x)\*cos(theta\_z)\*sin(theta\_y))/6000 + (3031\*2^(1/2)\*phi\_x\_dot\*cos(theta\_z)\*sin(theta\_x)\*sin(theta\_y))/3000 + (7\*2^(1/2)\*phi\_y\_dot\*cos(theta\_x)\*sin(theta\_y)\*sin(theta\_z))/24 + (3031\*6^(1/2)\*phi\_y\_dot\*cos(theta\_x)\*sin(theta\_y)\*sin(theta\_z))/6000 + (3031\*2^(1/2)\*phi\_y\_dot\*sin(theta\_x)\*sin(theta\_y)\*sin(theta\_z))/3000

Theta\_z\_dot passt

Theta\_x\_dot passt

Theta\_y\_dot passt

(7\*2^(1/2)\*(theta\_y\_dot\*sin(theta\_x) - theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y) - (phi\_y\_dot\*sin(theta\_x))/(cos(theta\_x)^2 + sin(theta\_x)^2) + (phi\_x\_dot\*cos(theta\_x)\*sin(theta\_y))/(cos(theta\_x)^2\*cos(theta\_y)^2 + cos(theta\_x)^2\*sin(theta\_y)^2 + cos(theta\_y)^2\*sin(theta\_x)^2 + sin(theta\_x)^2\*sin(theta\_y)^2)))/24 - (3031\*2^(1/2)\*(theta\_y\_dot\*cos(theta\_x) + theta\_z\_dot\*cos(theta\_y)\*sin(theta\_x) - (phi\_y\_dot\*cos(theta\_x))/(cos(theta\_x)^2 + sin(theta\_x)^2) - (phi\_x\_dot\*sin(theta\_x)\*sin(theta\_y))/(cos(theta\_x)^2\*cos(theta\_y)^2 + cos(theta\_x)^2\*sin(theta\_y)^2 + cos(theta\_y)^2\*sin(theta\_x)^2 + sin(theta\_x)^2\*sin(theta\_y)^2)))/3000 + (7\*2^(1/2)\*(theta\_z\_dot\*sin(theta\_y) - theta\_x\_dot + (phi\_x\_dot\*cos(theta\_y))/(cos(theta\_y)^2 + sin(theta\_y)^2)))/12 + (3031\*2^(1/2)\*3^(1/2)\*(theta\_y\_dot\*sin(theta\_x) - theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y) - (phi\_y\_dot\*sin(theta\_x))/(cos(theta\_x)^2 + sin(theta\_x)^2) + (phi\_x\_dot\*cos(theta\_x)\*sin(theta\_y))/(cos(theta\_x)^2\*cos(theta\_y)^2 + cos(theta\_x)^2\*sin(theta\_y)^2 + cos(theta\_y)^2\*sin(theta\_x)^2 + sin(theta\_x)^2\*sin(theta\_y)^2)))/6000

Theta\_y\_dot :

(7\*2^(1/2)\* /6000\*(theta\_y\_dot\*sin(theta\_x)

A\_omega\_W3

(2^(1/2)\*r\_B\*(500\*phi\_x\_dot\*cos(theta\_y) - 500\*theta\_x\_dot + 866\*phi\_y\_dot\*cos(theta\_x) - 866\*theta\_y\_dot\*cos(theta\_x) - 250\*phi\_y\_dot\*sin(theta\_x) + 250\*theta\_y\_dot\*sin(theta\_x) + 500\*theta\_z\_dot\*sin(theta\_y) - 433\*3^(1/2)\*phi\_y\_dot\*sin(theta\_x) + 433\*3^(1/2)\*theta\_y\_dot\*sin(theta\_x) - 250\*theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y) + 250\*phi\_x\_dot\*cos(theta\_x)\*sin(theta\_y) - 866\*theta\_z\_dot\*cos(theta\_y)\*sin(theta\_x) + 866\*phi\_x\_dot\*sin(theta\_x)\*sin(theta\_y) - 433\*3^(1/2)\*theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y) + 433\*3^(1/2)\*phi\_x\_dot\*cos(theta\_x)\*sin(theta\_y)))/(2000\*r\_W)

theta\_x\_dot\*(2^(1/2)\*r\_B\*(- 500))/(2000\*r\_W)

phi\_x\_dot\*(2^(1/2)\*r\_B\*(500\*cos(theta\_y) + 250\*cos(theta\_x)\*sin(theta\_y) + 866\*sin(theta\_x)\*sin(theta\_y) + 433\*3^(1/2)\*cos(theta\_x)\*sin(theta\_y)))/(2000\*r\_W)

phi\_y\_dot\*(2^(1/2)\*r\_B\*(866\*cos(theta\_x) - 250\*sin(theta\_x) - 433\*3^(1/2)\*sin(theta\_x)))/(2000\*r\_W)

theta\_y\_dot\*(2^(1/2)\*r\_B\*(- 866\*cos(theta\_x) + 250\*sin(theta\_x) + 433\*3^(1/2)\*sin(theta\_x)))/(2000\*r\_W)

theta\_z\_dot\*(2^(1/2)\*r\_B\*(+ 500\*sin(theta\_y) - 250\*cos(theta\_x)\*cos(theta\_y) - 866\*cos(theta\_y)\*sin(theta\_x) - 433\*3^(1/2)\*cos(theta\_x)\*cos(theta\_y)))/(2000\*r\_W)

A\_omega\_W2

((2^(1/2)\*r\_B\*(theta\_z\_dot\*sin(theta\_y) - theta\_x\_dot + (phi\_x\_dot\*cos(theta\_y))/(cos(theta\_y)^2 + sin(theta\_y)^2)))/4

+ (433\*2^(1/2)\*r\_B\*(theta\_y\_dot\*cos(theta\_x) + theta\_z\_dot\*cos(theta\_y)\*sin(theta\_x) - (phi\_y\_dot\*cos(theta\_x))/(cos(theta\_x)^2 + sin(theta\_x)^2) - (phi\_x\_dot\*sin(theta\_x)\*sin(theta\_y))/(cos(theta\_x)^2\*cos(theta\_y)^2 + cos(theta\_x)^2\*sin(theta\_y)^2 + cos(theta\_y)^2\*sin(theta\_x)^2 + sin(theta\_x)^2\*sin(theta\_y)^2)))/1000 +

(2^(1/2)\*r\_B\*(theta\_y\_dot\*sin(theta\_x) - theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y) - (phi\_y\_dot\*sin(theta\_x))/(cos(theta\_x)^2 + sin(theta\_x)^2) + (phi\_x\_dot\*cos(theta\_x)\*sin(theta\_y))/(cos(theta\_x)^2\*cos(theta\_y)^2 + cos(theta\_x)^2\*sin(theta\_y)^2 + cos(theta\_y)^2\*sin(theta\_x)^2 + sin(theta\_x)^2\*sin(theta\_y)^2)))/8 +

(433\*2^(1/2)\*3^(1/2)\*r\_B\*(theta\_y\_dot\*sin(theta\_x) - theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y) - (phi\_y\_dot\*sin(theta\_x))/(cos(theta\_x)^2 + sin(theta\_x)^2) + (phi\_x\_dot\*cos(theta\_x)\*sin(theta\_y))/(cos(theta\_x)^2\*cos(theta\_y)^2 + cos(theta\_x)^2\*sin(theta\_y)^2 + cos(theta\_y)^2\*sin(theta\_x)^2 + sin(theta\_x)^2\*sin(theta\_y)^2)))/2000)/r\_W

theta\_z\_dot:

(((2^(1/2)\*r\_B\*( theta\_z\_dot\*sin(theta\_y)))/4 + (433\*2^(1/2)\*r\_B\*( theta\_z\_dot\*cos(theta\_y)\*sin(theta\_x)))/1000 + (2^(1/2)\*r\_B\*(- theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y)))/8 + (433\*2^(1/2)\*3^(1/2)\*r\_B\*(- theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y)))/2000)/r\_W

theta\_x\_dot:

(((2^(1/2)\*r\_B\*(- theta\_x\_dot))/4)/r\_W

phi\_x\_dot:

(((2^(1/2)\*r\_B\*((phi\_x\_dot\*cos(theta\_y))/(cos(theta\_y)^2 + sin(theta\_y)^2)))/4 +(433\*2^(1/2)\*r\_B\*(- (phi\_x\_dot\*sin(theta\_x)\*sin(theta\_y))/(cos(theta\_x)^2\*cos(theta\_y)^2 + cos(theta\_x)^2\*sin(theta\_y)^2 + cos(theta\_y)^2\*sin(theta\_x)^2 + sin(theta\_x)^2\*sin(theta\_y)^2)))/1000 + (2^(1/2)\*r\_B\*( (phi\_x\_dot\*cos(theta\_x)\*sin(theta\_y))/(cos(theta\_x)^2\*cos(theta\_y)^2 + cos(theta\_x)^2\*sin(theta\_y)^2 + cos(theta\_y)^2\*sin(theta\_x)^2 + sin(theta\_x)^2\*sin(theta\_y)^2)))/8 + (433\*2^(1/2)\*3^(1/2)\*r\_B\*(+ (phi\_x\_dot\*cos(theta\_x)\*sin(theta\_y))/(cos(theta\_x)^2\*cos(theta\_y)^2 + cos(theta\_x)^2\*sin(theta\_y)^2 + cos(theta\_y)^2\*sin(theta\_x)^2 + sin(theta\_x)^2\*sin(theta\_y)^2)))/2000)/r\_W

theta\_y\_dot:

((433\*2^(1/2)\*r\_B\*( theta\_y\_dot\*cos(theta\_x)))/1000 + (2^(1/2)\*r\_B\*( theta\_y\_dot\*sin(theta\_x)))/8 + (433\*2^(1/2)\*3^(1/2)\*r\_B\*( theta\_y\_dot\*sin(theta\_x)))/2000)/r\_W

phi\_y\_dot:

((433\*2^(1/2)\*r\_B\*(- (phi\_y\_dot\*cos(theta\_x))/(cos(theta\_x)^2 + sin(theta\_x)^2)))/1000 + (2^(1/2)\*r\_B\*(- (phi\_y\_dot\*sin(theta\_x))/(cos(theta\_x)^2 + sin(theta\_x)^2)))/8 + (433\*2^(1/2)\*3^(1/2)\*r\_B\*(- (phi\_y\_dot\*sin(theta\_x))/(cos(theta\_x)^2 + sin(theta\_x)^2)))/2000)/r\_W

A\_omega\_W1

-((2^(1/2)\*r\_B\*(theta\_z\_dot\*sin(theta\_y) - theta\_x\_dot + (phi\_x\_dot\*cos(theta\_y))/(cos(theta\_y)^2 + sin(theta\_y)^2)))/2

+ (2^(1/2)\*r\_B\*(theta\_y\_dot\*sin(theta\_x) - theta\_z\_dot\*cos(theta\_x)\*cos(theta\_y) - (phi\_y\_dot\*sin(theta\_x))/(cos(theta\_x)^2 + sin(theta\_x)^2) + (phi\_x\_dot\*cos(theta\_x)\*sin(theta\_y))/(cos(theta\_x)^2\*cos(theta\_y)^2 + cos(theta\_x)^2\*sin(theta\_y)^2 + cos(theta\_y)^2\*sin(theta\_x)^2 + sin(theta\_x)^2\*sin(theta\_y)^2)))/4)/r\_W

-theta\_z\_dot\*((2^(1/2)\*r\_B\*(sin(theta\_y)))/4)/r\_W

-theta\_x\_dot\*((2^(1/2)\*r\_B\*(-1))/4)/r\_W

-phi\_x\_dot\*((2^(1/2)\*r\_B\*(+ (cos(theta\_y))/(cos(theta\_y)^2 + sin(theta\_y)^2)))/2 + (cos(theta\_x)\*sin(theta\_y))/(cos(theta\_x)^2\*cos(theta\_y)^2 + cos(theta\_x)^2\*sin(theta\_y)^2 + cos(theta\_y)^2\*sin(theta\_x)^2 + sin(theta\_x)^2\*sin(theta\_y)))/4)/r\_W

-theta\_y\_dot\*((2^(1/2)\*r\_B\*(+ (2^(1/2)\*r\_B\*(sin(theta\_x)))/4)/r\_W

-phi\_y\_dot\*((2^(1/2)\*r\_B\*(- (sin(theta\_x))/(cos(theta\_x)^2 + sin(theta\_x)^2)))/4)/r\_W

JT1 = [

-((2^(1/2)\*r\_B\*(-1))/4)/r\_W ;

-(2^(1/2)\*r\_B\*(2^(1/2)\*r\_B\*(sin(theta\_x)))/4)/r\_W ;

-((2^(1/2)\*r\_B\*(+ (cos(theta\_y))/(cos(theta\_y)^2 + sin(theta\_y)^2)))/2 + (cos(theta\_x)\*sin(theta\_y))/(cos(theta\_x)^2\*cos(theta\_y)^2 + cos(theta\_x)^2\*sin(theta\_y)^2 + cos(theta\_y)^2\*sin(theta\_x)^2 + sin(theta\_x)^2\*sin(theta\_y))/4)/r\_W ;

-((2^(1/2)\*r\_B\*(+ (2^(1/2)\*r\_B\*(sin(theta\_x)))/4)/r\_W;

-((2^(1/2)\*r\_B\*(- (sin(theta\_x))/(cos(theta\_x)^2 + sin(theta\_x)^2)))/4)/r\_W];