## Datum Precedence Table (ABC Alignment)

|  | Datum Features | Translational |  |  | Rotational |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (Datum Reference Frame) | $\mathbf{x}$ | Y | $\mathbf{z}$ | $\mathbf{u}(\mathbf{r x})$ | $\mathbf{v}(\mathbf{r y})$ | $\mathbf{w}(\mathbf{r z})$ |
| P | Plane-A |  |  | X | X | X |  |
| S | Plane-B |  | X |  | -- |  | X |
| T | Plane-C | X |  |  |  | -- | -- |

$\mathrm{P}=$ Primary / S = Secondary / T = Tertiary
Note:
Whichever feature constrains 2 of the 3 degrees of rotational freedom is the Level feature.
Whichever feature constrains the remaining degree of rotational freedom is the Rotate feature.

| Level: | Plane-A | To $\pm \mathbf{X Y Z}:$ | $Z+$ |
| :--- | :--- | :--- | :--- |
|  |  | To $\pm \mathbf{X Y Z :}$ | Y- |
| Rotate: | Plane-B |  | About: |
|  | $Z+$ |  |  |
|  |  |  |  |
| Origin |  |  |  |
| X: | Plane-C |  |  |
| Y: | Plane-B |  |  |
| Z: | Plane-A |  |  |

## Plane-B

Plane-A

## Datum Precedence Table (ADB Alignment)

|  | Datum Features | Translational |  |  | Rotational |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (Datum Reference Frame) | $\mathbf{X}$ | Y | $\mathbf{z}$ | $\mathbf{u}(\mathbf{r x})$ | $\mathbf{v}(\mathbf{r y})$ | $\mathbf{w}(\mathbf{r z})$ |
| P | Plane-A |  |  | X | X | X |  |
| S | Cylinder-D | X | X |  | -- | -- |  |
| T | Plane-B |  | -- |  | -- |  | X |

P = Primary / S = Secondary / T = Tertiary
Note:
Whichever feature constrains 2 of the 3 degrees of rotational freedom is the Level feature.
Whichever feature constrains the remaining degree of rotational freedom is the Rotate feature.

| Level: | Plane-A | To $\pm \mathbf{X Y Z :}$ | Z+ |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
| Rotate: | Plane-B | To $\pm \mathbf{X Y Z :}$ | Y- |
|  |  | About: | Z+ |
|  |  |  |  |
| Origin |  |  |  |
| X: | Cylinder-D |  |  |
| Y: | Cylinder-D |  |  |
| Z: | Plane-A |  |  |

Plane-B

Plane-A

Cylinder-D

## Datum Precedence Table (AGD Alignment)

|  | Datum Features | Translational |  |  | Rotational |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (Datum Reference Frame) | $\mathbf{X}$ | Y | $\mathbf{Z}$ | $\mathbf{u}(\mathbf{r x})$ | $\mathbf{v}(\mathbf{r y})$ | $\mathbf{w}(\mathbf{r z})$ |
| P | Plane-A |  |  | $X$ | X | X |  |
| S | Cylinder-G | X | X |  | -- | -- | $\downarrow$ |
| T | Cylinder-D | -- | -- |  | -- | -- | $\uparrow$ |

$\mathrm{P}=$ Primary $/ \mathrm{S}=$ Secondary $/ \mathrm{T}=$ Tertiary
Note:
Whichever feature constrains 2 of the 3 degrees of rotational freedom is the Level feature.
Whichever feature constrains the remaining degree of rotational freedom is the Rotate feature.

| Level: | Plane-A | To $\pm \mathbf{X Y Z :}$ | $\mathrm{Z}+$ |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
| Rotate: | Cylinder-G -> Cylinder-D | To $\pm \mathbf{X Y Z :}$ | X+ |
|  |  | About: | Z+ |
|  |  |  |  |
| Origin |  |  |  |
| X: | Cylinder-G |  |  |
| Y: | Cylinder-G |  |  |
| $\mathbf{Z :}$ | Plane-A |  |  |



## Datum Precedence Table (EBA Alignment)

|  | Datum Features | Translational |  |  | Rotational |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (Datum Reference Frame) | $\mathbf{X}$ | Y | $\mathbf{z}$ | $\mathbf{u}(\mathbf{r x})$ | $\mathbf{v}(\mathrm{ry})$ | $\mathbf{w}(\mathrm{rz})$ |
| P | Cylinder-E | X | X |  | X | X |  |
| S | Plane-B |  | -- |  | -- |  | X |
| T | Plane-A |  |  | X | -- | -- |  |

$\mathrm{P}=$ Primary / S = Secondary / T = Tertiary
Note:
Whichever feature constrains 2 of the 3 degrees of rotational freedom is the Level feature.
Whichever feature constrains the remaining degree of rotational freedom is the Rotate feature.

| Level: | Cylinder-E | To $\pm$ XYZ: | Z+ |
| :--- | :--- | :--- | :--- |
| Rotate: | Plane-B | To $\pm$ XYZ: | Y- |
|  |  | About: | Z+ |
|  |  |  |  |
| Origin |  |  |  |
| X: | Cylinder-E |  |  |
| Y: | Cylinder-E |  |  |
| Z: | Plane-A |  |  |



Plane-B

Cylinder-E

## Datum Precedence Table (EF Alignment)

|  | Datum Features | Translational |  |  | Rotational |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (Datum Reference Frame) | $\mathbf{X}$ | Y | $\mathbf{Z}$ | $\mathbf{u}(\mathbf{r x})$ | $\mathbf{v}(\mathbf{r y})$ | $\mathbf{w}(\mathbf{r z})$ |
| P | Cylinder-E | X | X |  | X | X |  |
| S | Cylinder-F | -- |  | X | -- |  | X |
| T |  |  |  |  |  |  |  |

P = Primary / S = Secondary / T = Tertiary

## Note:

Whichever feature constrains 2 of the 3 degrees of rotational freedom is the Level feature.
Whichever feature constrains the remaining degree of rotational freedom is the Rotate feature.

| Level: | Cylinder-E | To $\mathbf{\pm X Y Z :}$ | $\mathrm{Z}+$ |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
| Rotate: | Cylinder-F | To $\pm \mathbf{X Y Z :}$ | $\mathrm{Y}+$ |
|  |  | About: | $\mathrm{Z}+$ |
|  |  |  |  |
| Origin |  |  |  |
| $\mathbf{X :}$ | Cylinder-E |  |  |
| $\mathbf{Y :}$ | Cylinder-E |  |  |
| $\mathbf{Z :}$ | Cylinder-F |  |  |



