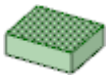
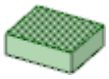
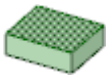
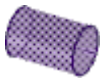
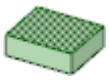
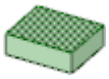
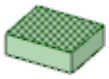
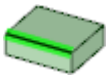
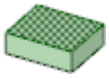
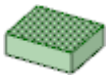
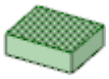
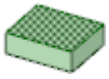
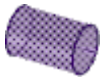
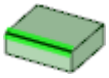
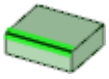
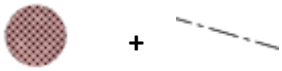
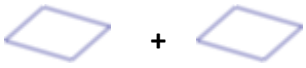
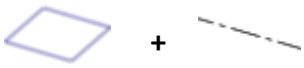
Geometry combination		Tangent	Align	Orient
Planar face  +	Planar face 	Planar faces are aligned in the same plane.	Planar faces are aligned in the same plane.	Planar faces are oriented so they are parallel.
Planar face  +	Cylinder face 	Planar face is aligned tangent to the cylinder.	Planar face and the axis of the cylinder are aligned.	Planar face and axis of cylinder are oriented in the same direction.
Planar face  +	Conical face 	n/a	n/a	Planar face and axis of conical face are oriented in the same direction.
Planar face  +	Spherical face 	Planar face is aligned to the center point of sphere.	Planar face and center of sphere are aligned in the same plane.	n/a
Planar face  +	Edge 	Planar face is aligned tangent to edge.	Planar face and edge are aligned in the same plane.	Planar face and edge are oriented so the edge is perpendicular to the face.
Planar face  +	Datum plane 	Planar face is aligned tangent to plane.	Planar face and datum plane are aligned in the same plane.	Planar face and datum plane are oriented so they are parallel.
Planar face  +	Axis 	Planar face is aligned tangent with the axis.	Planar face is aligned with the axis in the same plane.	Planar face and axis are oriented so axis is perpendicular to the face.
Planar face  +	Sketch curve 	Planar face is aligned tangent to a sketch curve. Only works with linear and arc sketch curves.	Planar face and sketch curve are aligned in the same plane.	Planar face and linear sketch curve are oriented so the sketch curve is perpendicular to the face. Planar face and non-linear sketch curve are oriented so sketch curve is in the plane of the face.
Planar face  +	Point	Planar face is aligned to the point.	Planar face and point are aligned in the same plane.	n/a
Cylinder face  +	Cylinder face 	Cylinders are aligned tangent to each other.	Cylinders are aligned along their axes.	Cylinders are oriented so their axes are parallel.

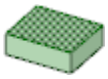
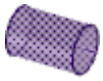
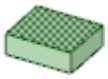
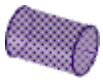
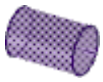
Geometry combination		Tangent	Align	Orient
Cylinder face 	Spherical face 	Cylinder is aligned tangent to the sphere.	Cylinder axis and center point of sphere are aligned.	n/a
Cylinder face 	Conical face 	n/a	Axes of cylinder and cone are aligned.	Cylinder and cone are oriented so their axes are parallel.
Cylinder face 	Edge 	Cylinder is aligned tangent to edge.	Cylinder axis and edge are aligned. Only works with linear edge.	Cylinder axis and linear edge are oriented so they are parallel. Cannot create condition between cylinder and non-linear edge.
Cylinder face 	Datum plane 	Cylinder is aligned tangent to plane.	Cylinder axis is aligned in the plane of the datum plane.	Cylinder is oriented so its axis is parallel to datum plane.
Cylinder face 	Axis 	Cylinder is aligned tangent to axis.	Cylinder axis and axis are aligned in the same direction.	Cylinder axis and axis are oriented so they are parallel.
Cylinder face 	Sketch curve 	Cylinder is aligned tangent to sketch curve. Only works with linear and arc sketch curves.	Cylinder axis is aligned parallel to the plane of the sketch curve.	Cylinder axis is oriented perpendicular to the plane of the sketch curve.
Cylinder face 	Point	Cylinder is aligned tangent to point.	Cylinder axis and point are aligned.	n/a
Spherical face 	Spherical face 	Spheres are aligned tangent to each other.	Centers of spheres are aligned.	n/a
Spherical face 	Edge 	Sphere is aligned tangent to edge.	Spherical face and edge are aligned. Only works with linear edge.	n/a
Spherical face 	Datum plane 	Sphere is aligned tangent to plane.	Center of sphere and plane are aligned.	n/a

Geometry combination	Tangent	Align	Orient
Spherical face + Axis 	Sphere is aligned tangent to axis.	Center of sphere is aligned with axis.	n/a
Spherical face + Sketch curve 	Sphere is aligned tangent to the plane of the sketch curve. Only works with linear and arc sketch curves.	Spherical face and sketch curve are aligned. Only works with linear and arc sketch curves.	n/a
Spherical face + Point 	Sphere is aligned tangent to point.	Center of sphere is aligned with the point.	n/a
Edge + Edge 	Edges are aligned. Only works with linear edges.	Edges are aligned. Only works with linear edges.	Edges are oriented so they are parallel. Constraint is only available when you select two linear edges.
Edge + Datum plane 	Edge is aligned tangent to the datum plane. Only works with linear edges.	Edge is aligned in the same plane as the datum plane. Only works with linear edges.	Edge is oriented perpendicular with the datum plane. Constraint is only available when you select a linear edge.
Edge + Axis 	Edge is aligned tangent to axis.	Edge is aligned with axis. Constraint is only available when you select two linear edges.	Edge and axis are oriented so they are parallel. Constraint is only available when you select a linear edge.
Edge + Sketch curve 	Edge aligned tangent to the plane of the sketch curve. Only works with linear and arc sketch curves.	Edge is aligned with sketch curve. Only works with linear sketch curves.	Edge is oriented parallel with sketch curve. Constraint is only available when you select a linear edge and a linear sketch curve.
Edge + Point 	Edge is aligned tangent to point.	Edge and point are aligned. Constraint is only available when you select two linear edges.	n/a
Datum plane + Datum plane 	Datum planes are aligned so they are coplanar.	Datum planes are aligned in the same plane.	Datum planes are oriented so they are parallel.
Datum plane + Axis 	Datum plane is aligned tangent to axis.	Datum plane is aligned in the same plane as the axis.	Datum plane is oriented so the axis is perpendicular to the plane.

Geometry combination	Tangent	Align	Orient
Datum plane  + Sketch curve 	Datum plane is aligned tangent with the plane of the sketch curve. Only works with linear and arc sketch curves.	Datum plane is aligned with point in the plane.	Datum plane and linear sketch curve are oriented so the sketch curve is perpendicular to the face. Datum plane and non-linear sketch curve are oriented so sketch curve is in the plane of the face.
Datum plane  + Point	Datum plane is aligned with the point in the plane.	Datum plane is aligned with point in the plane.	n/a
Axis  + Axis 	Axes are aligned along the same trajectory.	Axes are aligned along the same trajectory.	Axes are oriented so they are parallel.
Axis  + Sketch curve 	Axis is aligned tangent to the plane of the sketch curve. Only works with linear and arc sketch curves.	Axis is aligned with the linear sketch curve. Constraint is only available when you select two linear sketch curves.	Axis and linear sketch curve are oriented so they are parallel. Axis and non-linear sketch curve are oriented so axis is perpendicular to the plane of the sketch curve.
Axis  + Point	Axis is aligned so the point lies along the axis' trajectory.	Axis is aligned with the point.	n/a
Sketch curve  + Sketch curve 	Sketch curves are aligned so they are tangent. Only works with linear sketch curves.	Sketch curves are aligned in the plane of the curves.	Two linear sketch curves are oriented so they are parallel. One linear and one non-linear sketch curve are oriented so the linear sketch curve is perpendicular to the plane of the non-linear sketch curve.
Sketch curve  + Point	Sketch curve is aligned so the point lies inside the curve.	Sketch curves are aligned in the plane of the curve.	n/a
Point + Point	Points are aligned so they are in the same location.	Points are aligned .	n/a

Rigid constraints can be created with any combination of two objects (excluding points). This constrains the two objects so they will not move relative to each other.

Anchor constraints can be created with any single object. The object will be anchored in space so it (or its parent object) cannot be translated or rotated.

Geometry combination		Gear
Planar face  +	Cylinder face 	If neither is anchored or the cylinder is anchored, the planar face moves in a linear direction when the cylinder rotates. If the planar face is anchored, the cylinder rotates along the plane.
Planar face  +	Conical face 	If neither is anchored or the conical face is anchored, the planar face moves in a linear direction when the conical face rotates. If the planar face is anchored, the conical face rotates along the plane.
Cylinder face  +	Cylinder face 	The cylinders rotate around each other. Right-click the constraint in the Structure tree and select Reverse Sense and the two gears will move in the same direction as if connected by a belt.
Cylinder face  +	Conical face 	The cylinder and the conical face rotate around each other.
Datum plane  +	Cylinder face 	If neither is anchored or the cylinder is anchored, the plane moves in a linear direction when the cylinder rotates. If the plane is anchored, the cylinder rotates along the plane.
Datum plane  +	Conical face 	If neither is anchored or the conical face is anchored, the plane moves in a linear direction when the conical face rotates. If the plane is anchored, the conical face rotates along the plane.

SPACECLAIM CORPORATION