

UsingVehicleClassWithPropulsiveAndTankProperty 4.5.1

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```
public class UsingVehicleClassWithPropulsiveAndTankProperty {

    public static void main(String[] args) throws PatriusException {

        Vehicle veh = new Vehicle();

        // Dry mass
        final double dryMass = 1000.;
        veh.setDryMass(dryMass);

        // Shape : A vehicle object must have a main shape !
        final double lref = 1.;
        veh.setMainShape(new Sphere(Vector3D.ZERO, lref));

        // Propulsive properties

        // Tanks
        final double merg1 = 100.;
        final TankProperty tank1 = new TankProperty(merg1);
        final double merg2 = 200.;
        final TankProperty tank2 = new TankProperty(merg2);
        veh.addTank("TANK1", tank1);
        veh.addTank("TANK2", tank2);

        // Engine
        final double thrust = 400.;
        final double isp = 320.;
        final PropulsiveProperty engine = new PropulsiveProperty(thrust,
isp);
        veh.addEngine("PROP", engine);

        // Getting the corresponding assembly
        final Assembly assembly =
veh.createAssembly(FramesFactory.getCIRF());

        // Getting the corresponding mass model (useful for propagation,
maneuvres, ...)
        final MassProvider mm = new MassModel(assembly);

        System.out.println("Name of the main part: " +
assembly.getMainPart().getName());
        System.out.println("Total mass: " + mm.getTotalMass());
```

```
        for (int i = 0; i < veh.getEnginesList().size(); i++) {
            System.out.println(veh.getEnginesList().get(i).getPartName());
            System.out.println("Thrust =
"+veh.getEnginesList().get(i).getThrust(null)+" N");
            System.out.println("Isp =
"+veh.getEnginesList().get(i).getIsp(null)+ "s");
        }

        for (int i = 0; i < veh.getTanksList().size(); i++) {
            System.out.println(veh.getTanksList().get(i).getPartName()+":
"+veh.getTanksList().get(i).getMass()+" kg");
        }

    }

}
```

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