Thrust Vectoring System

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Entry No.- 2022MEB1306

Problem Statement- Design a thrust vectoring system to direct the thrust of a jet engine downwards (and in different directions) for vertical take-off and enhanced maneuverability.

Objective- To model a thrust vectoring system in Solidworks to solve the problem statement.

About The Project

This system is used in an American fighter aircraft called F-35C to direct the thrust downwards for executing vertical takeoff. This eliminates the need for a runway.

To execute this movement, we operate the nozzle in three sub-divisions attached to each other at an angle of 22.5°. By rotating these parts with respect to one another, we can change the direction of the outlet. We use gears to rotate the sub-divisions.