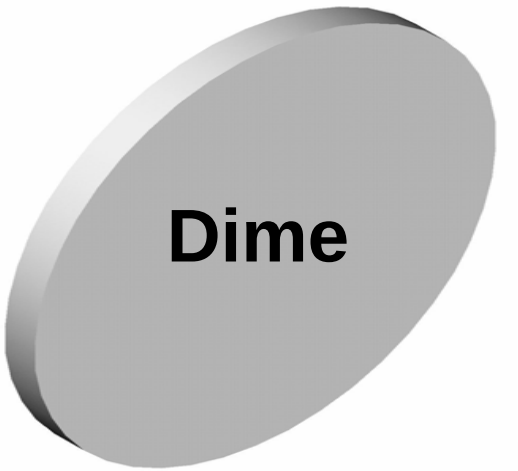
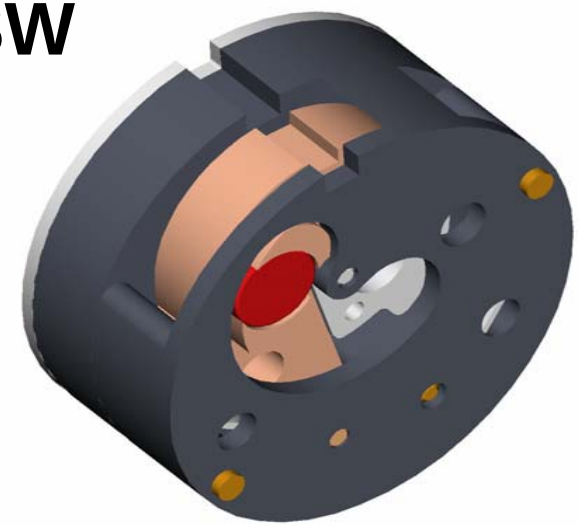
# *Miniature Verge Escapement Safety and Arming Device*




**OCSW**



# *Prominent Features*

- **Miniature Size - .300 thick**
- **Operational capabilities far exceeds existing designs**
  - **100,000 RPM**
  - **100,000 G setback**
  - **No change in arm distance with temperature**
  - **No lubrication required**
- **Qualified**
  - **MIL-STD-1316 Compliant**
  - **Passes MIL-STD-331 safety tests**
- **Low cost**
  - **Plastic components**
  - **Spin lock – one piece design: a first**
- **High Reliability in a Variety of Guns**

**OCSW thickness 1/3 of M549**

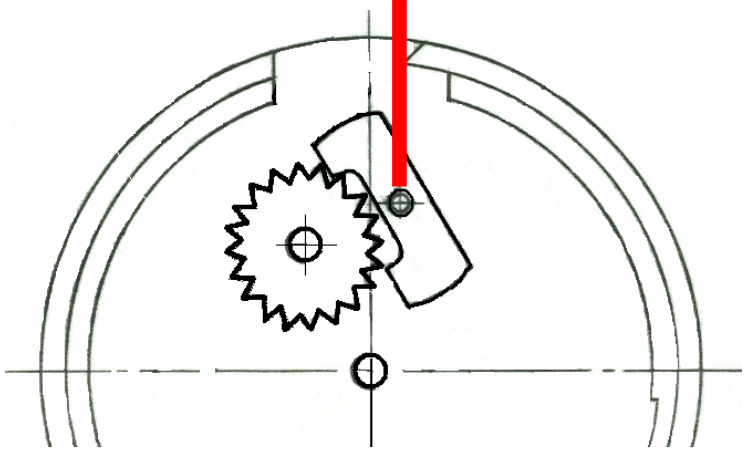
**OCSW Volume 1/10 of M549**

**M549**

**OCSW**

## M549

5 Lbs centrifugal force creates high friction

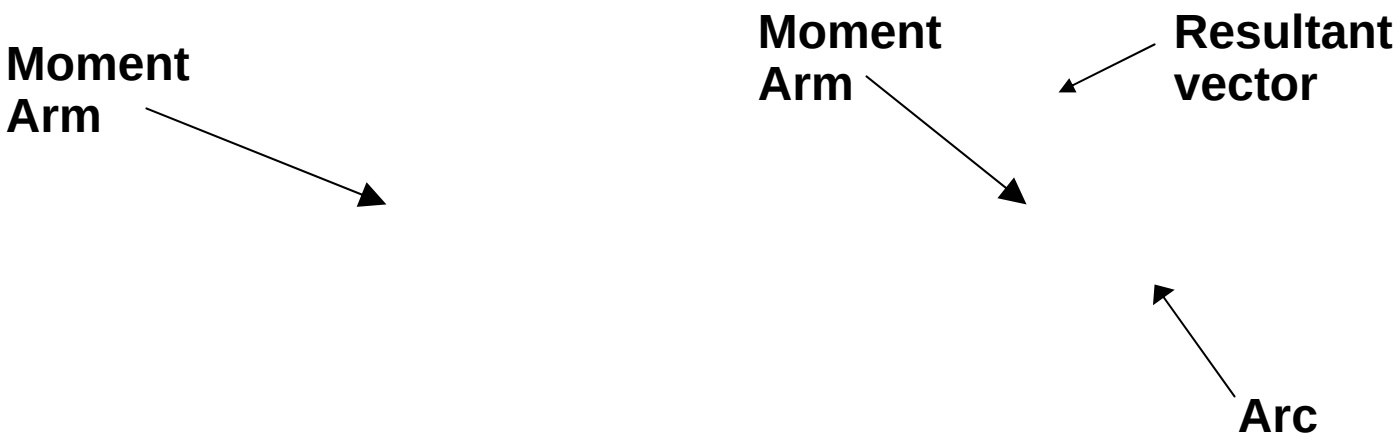


24,000 RPM

## OCSW

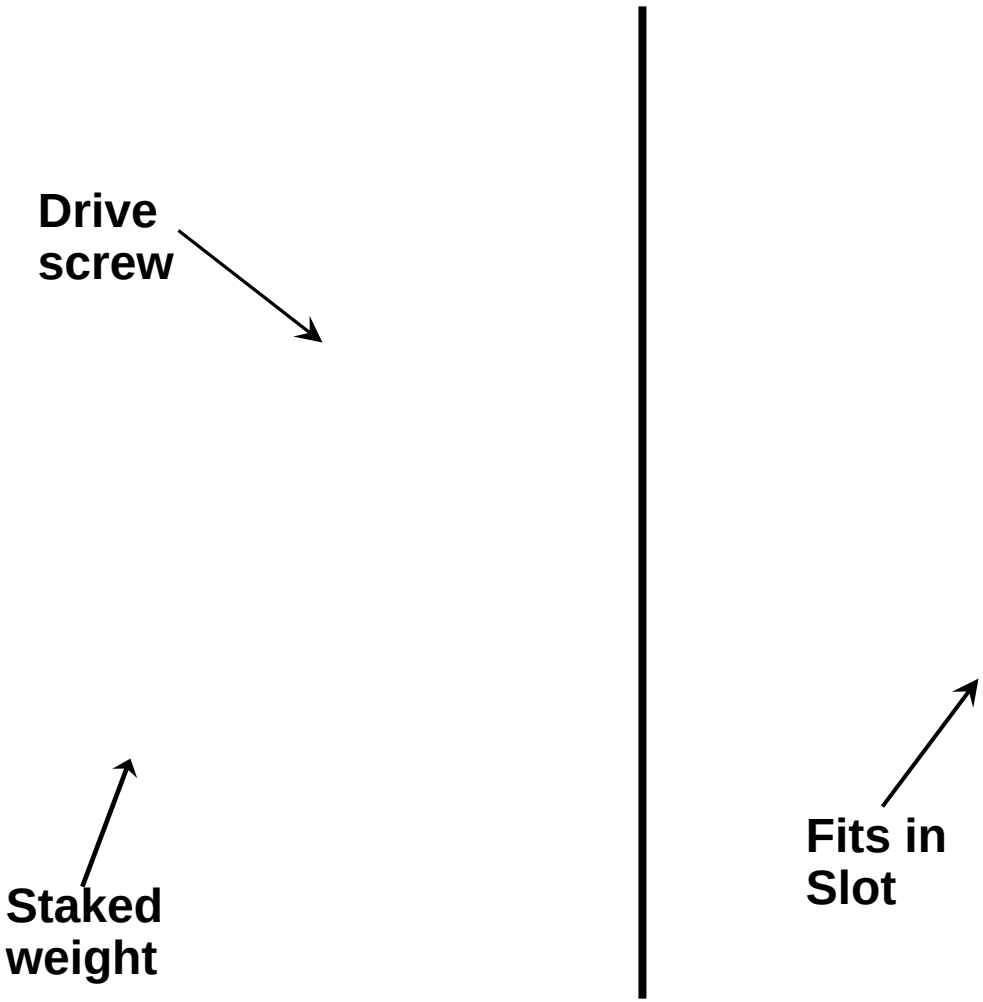
No centrifugal Force

100,000 RPM




**Conventional** **OCSW**

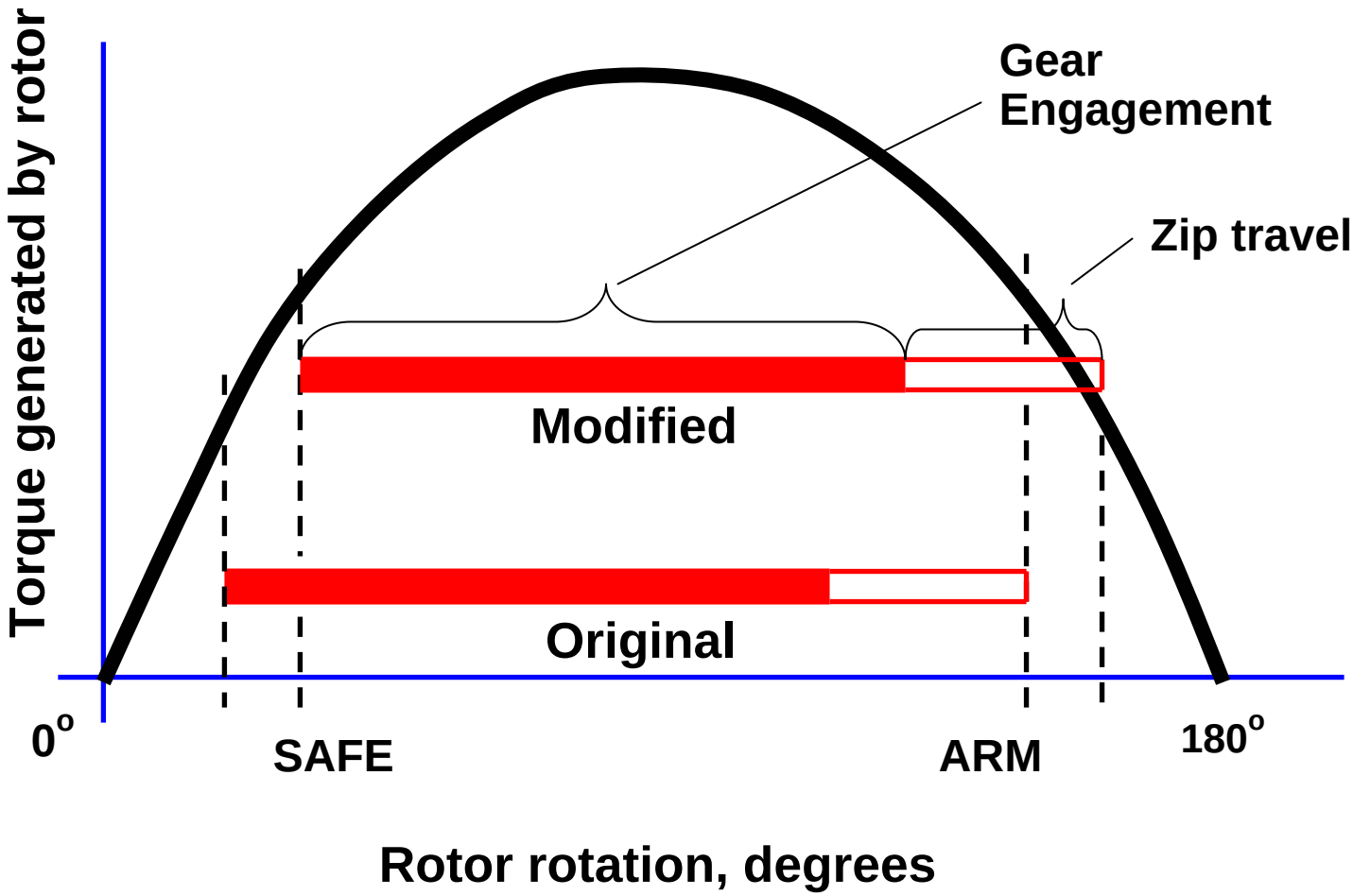
- **Moment Arm of Resultant Force Vector Increased**
  - **Eliminates need for Lubrication**
  - **Arming Time not effected by Temperature**


Drive
screw
Staked
weight
Fits in
Slot

# *Spin Lock - Simplified and Functionally Superior*

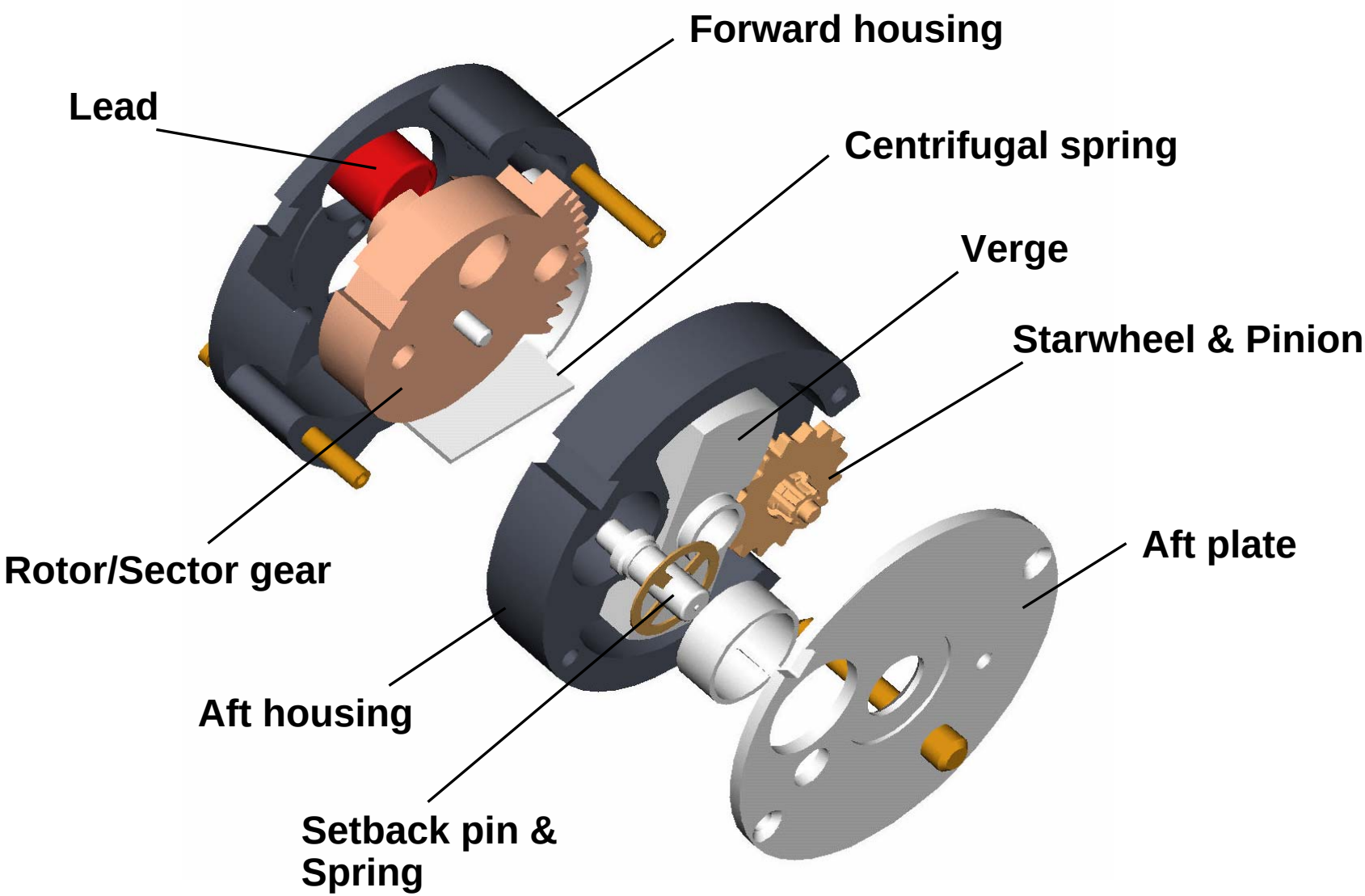
- **M549**
  - **Locks on gear tooth**
  - **Weight staked on**
  - **Drive screw to install**
  - **3 parts**
- **OCSW**
  - **Locks in large rectangular slot**
  - **No separate weight required**
  - **Drops in slot at assembly**
  - **1 part**

# *Rotor Starting Torque Increased to Reduce Starting Failures*



# Warhead

# OCSW Assembly



# *XM307 (OCSW) Gun Firings*

| | Fired | Functioned | Reliability |
|---|---|---|---|
| Spotting Charge in Forward Warhead | 345 | 329 | 95% |
| Dual Live Warhead | 39 | 37 | 95% |
| Thermo baric Cartridge | 32 | 32 | 100% |
| **Total** | **416** | **398** | **96%** |

**S & A is only one element of the fuze system**

# *30/S40mm Gun Firings*

| | Fired | Functioned | Reliability |
|---|---|---|---|
| 30mm 88,000 RPM | 17 | 17 | 100% |
| S40mm 48,000 RPM | 22 | 22 | 100% |
| **Total** | **39** | **39** | **100%** |

**S & A is only one element of the fuze system**