



Detonators Explode on Railway Track

Why in News?

A **military special train** was briefly halted after **10 railway detonators exploded** on the tracks near **Sagphata**, between **Nepanagar and Khandwa stations** in **Madhya Pradesh**.

- The incident has prompted an investigation by the **Railway Protection Force (RPF)** to determine the **cause** and **potential motives** behind the placement of the detonators.

Key Points

- The detonators, described as **“harmless”** by railway officials, are typically used to alert train drivers of potential obstructions or dangers on the tracks.
 - These devices produce a **loud noise** when triggered by the pressure of a **train engine**, serving as a warning signal.
 - Their unexpected presence on the tracks during the passage of a military train has raised significant security concerns.
 - The RPF is currently investigating the incident from all angles, including the possibility of sabotage or mischief.
 - This incident has highlighted the need for **heightened security measures** along railway tracks, especially those used by military trains.
- **Detonators:**
 - A **detonator** is a device used to trigger an **explosive material**, initiating a controlled explosion.
 - Detonators are crucial components in **mining, demolition, military applications**, and other **industrial uses** where controlled explosions are required.
 - **There are different types of detonators, such as:**
 - **Electrical Detonators:** These are triggered by an electric current and are commonly used in mining and construction. They consist of a small charge that ignites the main explosive.
 - **Non-Electrical Detonators:** These use other means, such as a shock tube or a fuse, to initiate the explosion without requiring electricity.
 - **Electronic Detonators:** These advanced devices allow for **precise timing of the explosion** and are often programmable.

Railway Protection Force (RPF)

- The RPF is an armed force under the control of the **Union Ministry of Railways**, tasked with protecting railway property, passenger areas, and passengers.
- Originally part of the **Watch and Ward set-up** of Private **Railway Companies in 1881**, it was reorganised into a statutory body under the **RPF Act, 1957**.

Popular Explosives

- **Dynamite:** Dynamite is a type of explosive mainly made by mixing **nitroglycerin** with an absorbent material such as clay.
 - This **mixture stabilizes** the highly volatile **nitroglycerin**, making it safer to handle and

transport.

- **Ammonium Nitrate:** Ammonium nitrate is an inorganic compound consisting of **ammonium ions (NH₄) and nitrate ions (NO₃)**.
 - It's commonly used as an agricultural fertilizer, but it can also be used as an explosive in certain conditions, particularly when combined with a fuel source.
- **TNT (trinitrotoluene):** TNT is an organic compound derived from **toluene**, an **aromatic hydrocarbon**.
 - TNT is a **yellow, odourless solid** that is relatively stable and insensitive to shock and friction, making it a popular choice as an explosive used in military shells, in industrial uses, and in underwater blasting.
- **TNE (Trinitroethylene):** TNE is an **organic nitrate compound**. It has been used as an explosive but is less common compared to other explosives like TNT.
- **RDX (Royal Demolition explosive):** RDX is an organic compound, in appearance it is a white powder and is very explosive widely used in military and civilian applications due to its high explosive power and stability.
 - It is also known as cyclonite or hexogen.

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