

PRODUCT SHEET:

RAMPTECH HEAVY DUTY SHIFTER



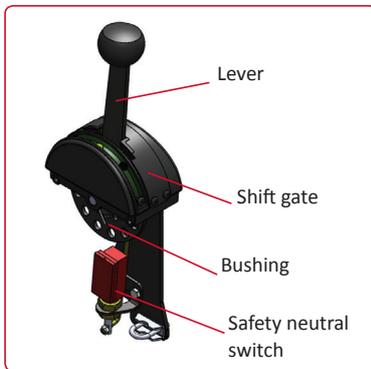
Sage
Part Number 631001



Taking performance to a whole new gear.

A vast improvement on the OEM version shifter, the RAMPTECH® Heavy Duty Shifter delivers extraordinary reliability. Advanced design minimizes abrasion caused by sliding metal parts repeatedly rubbing together.

Features include an innovative combination of a nylon coated shift lever and a specialized highly durable plastic shift gate designed for low friction to dramatically reduce wear. Plus, the synthetic rubber spring-like bushing withstands the most extreme



environmental conditions while providing optimal UV protection. The result is a shifter that outperforms virtually all other OEM shifters. In addition, the Forward, Neutral, and Reverse are illuminated by an LED light for clear and easy visibility. A Cole-Hersee® electric safety neutral switch increases safe operation of the shifter.

IMPROVEMENTS

- ✓ Synthetic rubber bushing for extreme environmental conditions resistance and UV protection
- ✓ Specialized highly durable plastic shift gate
- ✓ Low friction, nylon-coated steel shift lever

FEATURES

- ✓ 3 Position Control: **F** | **N** | **R**
- ✓ Positions (F | N | R) are illuminated by an LED light
- ✓ Cole-Hersee® electric safety neutral switch
- ✓ High UV stability
- ✓ Extreme environmental conditions resistance

REPLACES

Clark - 1758868
Harlan - 029T6-1002-151
Kongsburg - E300911
Taylor Dunn - 500127
TUG - T6-1002-151



Anticipating needs, meeting demands. Reducing costs.



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RAMPTECH HEAVY DUTY SHIFTER

EXTENSIVE TESTING

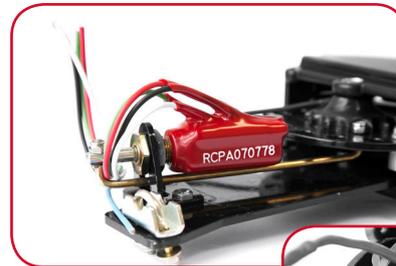
Abrasive wear can be caused by friction between sliding metal parts repeatedly rubbing together. Over time, this friction cuts into the surface much like a sharp tool resulting in wear and breakdown of materials. For example, the steel shift lever and the steel shift gate of other shifters wear from rubbing together and causing the lever to break off during operation.

After extensive testing, the RAMPTECH® shifter outperformed the OEM shifter with a lower wear rate on the shift gate and steel shift lever. After undergoing 6,300 cycle testing on OEM and after-market brands and the RAMPTECH® shifter, it was observed that the RAMPTECH® shifter performed the best with a 3.1×10^{-10} wear rate.

Using Archard's Wear Equation:

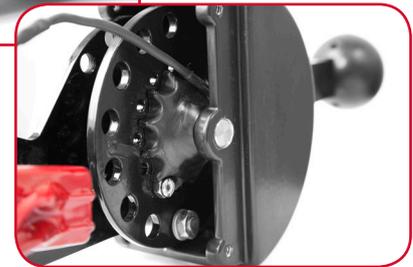
dimensional wear coefficient	OEM (painted hardened steel lever and shift gate)	RAMPTECH® (nylon coating on mild steel lever and specialized plastic shift gate)
$k \text{ (m}^2\text{/N)}$	3.9×10^{-10}	3.1×10^{-10}

Nylon-coated shift lever and specialized highly durable plastic shift gate



Cole-Hersee® electric safety neutral switch for maximum performance

Synthetic rubber bushing for extreme environmental conditions and UV resistance



IMPROVED MATERIALS

The combination of low friction, nylon-coated shift lever and specialized highly durable plastic shift gate reduced the wear between the two sliding components allowing the RAMPTECH® shifter to outperform with less wear over all other brands.

Most importantly, the RAMPTECH® shifter utilizes a synthetic rubber spring-like bushing for extreme environmental conditions and UV resistance. The spring-like bushing allows the lever to snap in and out of the neutral position while keeping the lever safely locked in forward or reverse when needed.



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