SAE International

SURFACE VEHICLE RECOMMENDED PRACTICE

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Superseding J1608 SEP2001

Manual Transmission Shift Patterns

RATIONALE

Document is current and appears unlikely to be in need of revision in the foreseeable future.

1. ***Scope***—Provide standard shift pattern guidelines for manual transmission shift controls in light, medium, and heavy trucks and buses.

2. ***References***—There are no referenced publications specified herein.

3. ***Control Sequence***

3.1 Straight Shift Pattern—Progression is from the lowest to the highest gear. The lowest gear is in the left-most full plane and gear changes should progress to the right with highest gear at the most right-ward position; highest gear in a full plane is rearward. Overdrive gear will follow the standard progression. Reverse gear is in the left-most position and forward.

3.2 Compound Range Pattern—Progression is from the left to right with successively higher gearing in low range, until the highest gear is reached. A low to high range shift is then accomplished by means of a range shift control, followed by an exact repeat of the initial shift pattern starting from the "first" position.

3.2.1 RANGE SHIFT CONTROL—Located on front of shift control. Operates in the vertical plane (parallel to the lever) with the up position providing high range and down position providing low range (see Figure 1).

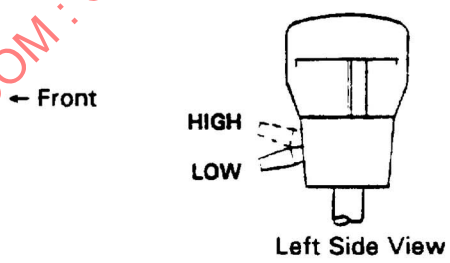

FIGURE 1—RANGE SHIFT CONTROL

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3.3 Compound Range/Splitter Pattern—Same progression as a straight pattern. However, each gear position offers two or more gear ratios which are selected by means of a splitter-shift control. Ratio selection is such that each position offers a progressive low-high ratio.

3.3.1 SPLITTER-SHIFT CONTROL—Located on the side of the shift control adjacent to the driver for thumb operation. Operates in a plane (which is parallel to the top of the shift knob) with the clockwise movement providing high split and counterclockwise movement low split (see Figure 2). Right-hand drive reverses button motion.

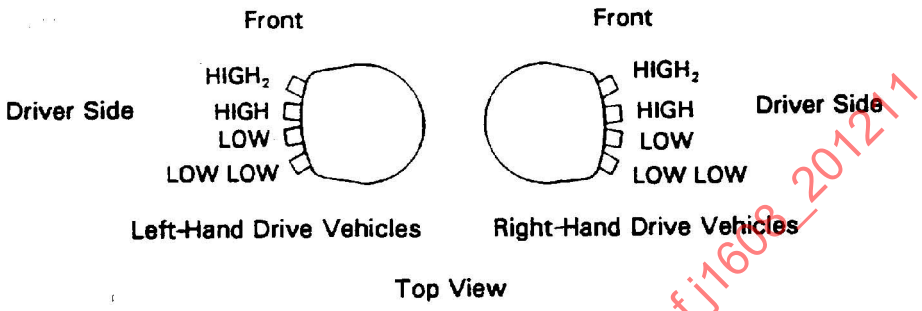

FIGURE 2—SPLITTER-SHIFT CONTROL

4. *Positional Identification*

4.1 Rail Biasing—Provide positive identification of the lever to shift rail position. The bias force to be adequate to guard against involuntary engagement of low or reverse gears (see Figure 3).

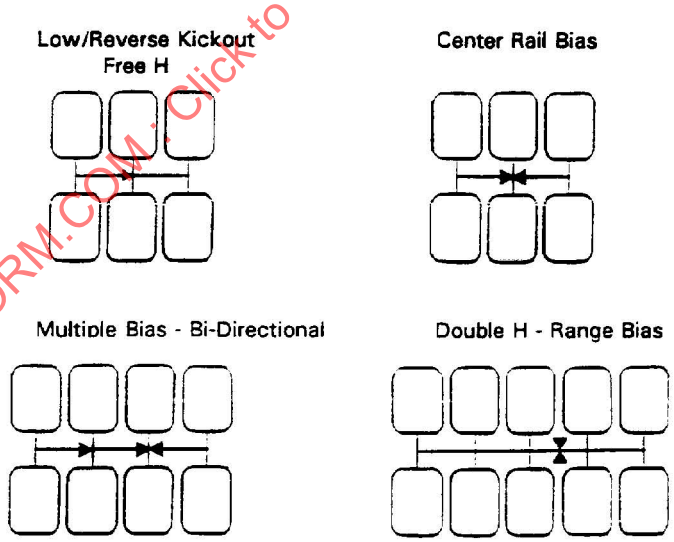

FIGURE 3—RAIL BIASING