

PE15-030

FLAT CHRYSLER

11-24-2015

ENCLOSURE 10

PE 15-030 WK (Grand
Cherokee) 9-15-2015
Presentation PUBLIC



FIAT CHRYSLER AUTOMOBILES

PE 15-030 WK (Grand Cherokee)

2014 - 2015MY WK Monostable Shifter

Park Engagement, Disengagement and Fail Safe Strategy

Auburn Hills, MI

September 16, 2015

NAFTA
REGION



- Driver Request to Cluster Display Flow Diagram
- Park System Overview
- Transmission Fail Safe Conditions
- Transmission Hardware & Software Change History
- Shifter Engagement / Disengagement Strategy

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STARTING AND OPERATING 431

The electronically-controlled transmission provides a precise shift schedule. The transmission electronics are self-calibrating; therefore, the first few shifts on a new vehicle may be somewhat abrupt. This is a normal condition, and precision shifts will develop within a few hundred miles (kilometers).

Only shift from DRIVE to PARK or REVERSE when the accelerator pedal is released and the vehicle is stopped. Be sure to keep your foot on the brake pedal when shifting between these gears.

The transmission shift lever provides PARK, REVERSE, NEUTRAL, DRIVE and SPORT shift positions. Once in the DRIVE range, tapping the shift lever rearward will toggle between SPORT mode and DRIVE mode. You do not need to push the shift lever button when toggling between DRIVE and SPORT modes. Manual shifts can be made using the shift paddles mounted on the steering wheel. Pressing the shift paddles (-/+) while in the

DRIVE or SPORT position will manually select the transmission gear, and will display the current gear in the instrument cluster. Refer to "Paddle Shift Mode" in this section for further information.



Shift Lever

432 STARTING AND OPERATING

The electronically-controlled transmission provides a precise shift schedule. The transmission electronics are self-calibrating; therefore, the first few shifts on a new vehicle may be somewhat abrupt. This is a normal condition, and precision shifts will develop within a few hundred miles (kilometers).

Only shift from DRIVE to PARK or REVERSE when the accelerator pedal is released and the vehicle is stopped. Be sure to keep your foot on the brake pedal when shifting between these gears.

The transmission gear selector has only PARK, REVERSE, NEUTRAL, and DRIVE shift positions. Manual shifts can be made using the AutoStick shift control (shift paddles mounted on the steering wheel). Pressing the shift paddles (-/+) while in the DRIVE range will manually select the transmission gear, and will display the current gear in the instrument cluster. Refer to "AutoStick" in this section for further information.



Electronic Gear Selector

Gear Ranges

DO NOT race the engine when shifting from PARK or NEUTRAL into another gear range.



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Additional Information



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PE15-030 Transmission

Operation PUBLIC



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PE 15-030 WK (Grand Cherokee)

8 Speed Park System Operation

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DODGE



Jeep



SRT

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Shifter Operation



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WK Shifting

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- WK Shifting is hard to get into targeted gear per customer complaints.
 - Shifter is always centered in pattern (monostable)
 - Shifter can move 3 load detent positions forward (D to P) and aft (P to D), but always recenters itself when shifter is unloaded.
 - P to R, for example, would require moving shifter one of the 3 detents to achieve gear selection

- In Park
- To shift out of park requires depressing thumb button and depressing brake



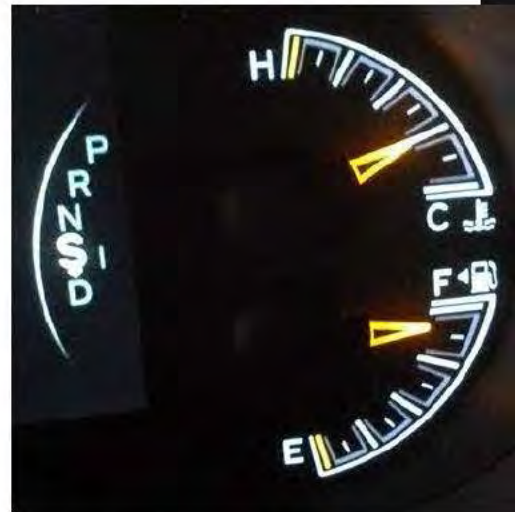
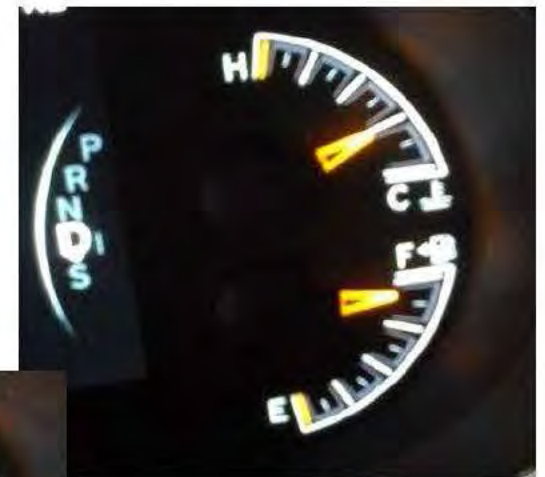
- In Reverse
- Can shift to Park, Neutral and Drive without depressing brake or thumb button.



- In Neutral
- Push button is always required to shift out of Neutral (to D, R, or P)
- If vehicle speed = 0, brake is required to shift out of Neutral
- Brake is not required to shift out of Neutral if vehicle speed > threshold
 - 2014MY – 5 kph
 - 2015MY – 1 kph (made common with 9 spd to improve carwash maneuver)



- In Drive/ Sport gears
- Can shift to Neutral without depressing brake or thumb button
- To shift into Reverse or Park requires depressing thumb button



- Shifter and IP cluster both indicate shifter position and PRND/S pattern.
- Regulatory compliance is achieved with transmission position illuminated and PRND/S pattern displayed. Primary requirement is the shifter.
- The majority of complaints are within a learning curve for the operator.
- The system functions properly, but the customer complaints are due to system sensitivity.
- 2016MY changes to polystable shifter design to improve shifting and missing targeted gear.