

	SURFACE VEHICLE RECOMMENDED PRACTICE	SAE J915	REV. OCT2007
		Issued 1965-07 Revised 2007-10	
		Superseding J915 NOV2000	
Automatic Transmissions—Manual Control Sequence			

RATIONALE

Document updated to current standards.

1. SCOPE

The scope and purpose of this SAE Recommended Practice is to provide a standard pattern or sequence for the manual control of automatic transmissions in passenger cars and light-duty trucks. This generally refers to left hand drive mechanical shift applications.

2. REFERENCES

2.1 Applicable Publications

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest version of SAE publications shall apply.

2.1.1 FMVSS Publications

Available from the Superintendent of Documents, U.S. Government Printing Office, Mail Stop: SSOP, Washington, DC 20402-9320.

FMVSS 102 Transmission Shift Lever Sequence, Starter Interlock, and Trans Braking Effect

FMVSS 114 Theft Protection

3. CONTROL SEQUENCE

The general pattern or sequence shall comply with FMVSS 102. Examples include:

P R N D L or PRND *

Where the P represents Park, R Reverse, N Neutral, D the highest forward gear range attainable, and L the lowest forward gear range attainable. Positions "D" through "L", and any intermediate positions within that range, represent the "manually selectable" automatic forward ranges, if applicable. Some applications may only provide a "D" position as the only selectable forward range. The graphics describing the forward gears may vary.

* Must include availability of lower gear range; see Section 11.

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2007 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
 Tel: 724-776-4970 (outside USA)
 Fax: 724-776-0790
 Email: CustomerService@sae.org

SAE WEB ADDRESS:

<http://www.sae.org>

4. STEERING COLUMN-MOUNTED CONTROL

The sequence will start from the most counterclockwise position. The park position shall be located as shown in Section 3 when provided; however, inclusion of such a position is optional.

- 4.1 For detecting the positions by feel and for safety, a stepped gate shall be provided, such that the control lever must be raised in a direction parallel to the axis of the steering column in order to engage certain of the manual positions. While a definite gating pattern is not specified, a preferred one is as follows: neutral and drive on one plane; raise the lever to obtain either reverse or lower forward ranges; and if a park position is included in shifting reverse to park, a further rise with park being a latched position.

5. FLOOR OR INSTRUMENT PANEL MOUNTED CONTROL

For a floor mounted system, the sequence will start with park being the forwardmost position. In an instrument panel-mounted system, the sequence will begin with park being the uppermost, or leftmost position.

- 5.1 Adequate gating as mentioned under "Steering Column-Mounted Control" is to be provided. A lever with a button release for entering reverse, park, and/or lower forward ranges is a desirable feature. If included, park must be a latched position.

6. ADDITIONAL OVERDRIVE CONTROL ARRANGEMENT

For automatic transmissions utilizing overdrive control in addition to the manual control lever, the switch shall be located on the manual lever or at an easily visible, ergonomically designed dash or console-mounted location.

7. INHIBITORS

For multiple-speed automatic transmissions, the inhibiting of lower ranges is recommended above vehicle speeds which would cause engine overspeed. An inhibitor for reverse is recommended, although it is considered optional.

- 7.1 If park position is engaged with the vehicle moving, the mechanism must ratchet or not engage until a low (non-zero) vehicle speed is attained.

8. NEUTRAL START SWITCH

A switch in series with the starter circuit is to be provided which will allow the engine to be started only in the Park (if included) or neutral positions.

9. BRAKE INTERLOCK

The brake pedal must be applied before the manual lever can be moved out of the park position.

10. KEY REMOVAL

For vehicles with Park and an inserted key, the ignition key can not be removed unless the manual lever is in the park position, as required per FMVSS 114.

11. MANUAL GEAR SELECTION

Manual On/Off and Gear up "+" and Gear Down "-" to be located on the manual lever or at an easily visible ergonomically designed dash, console mounted, or steering wheel location.