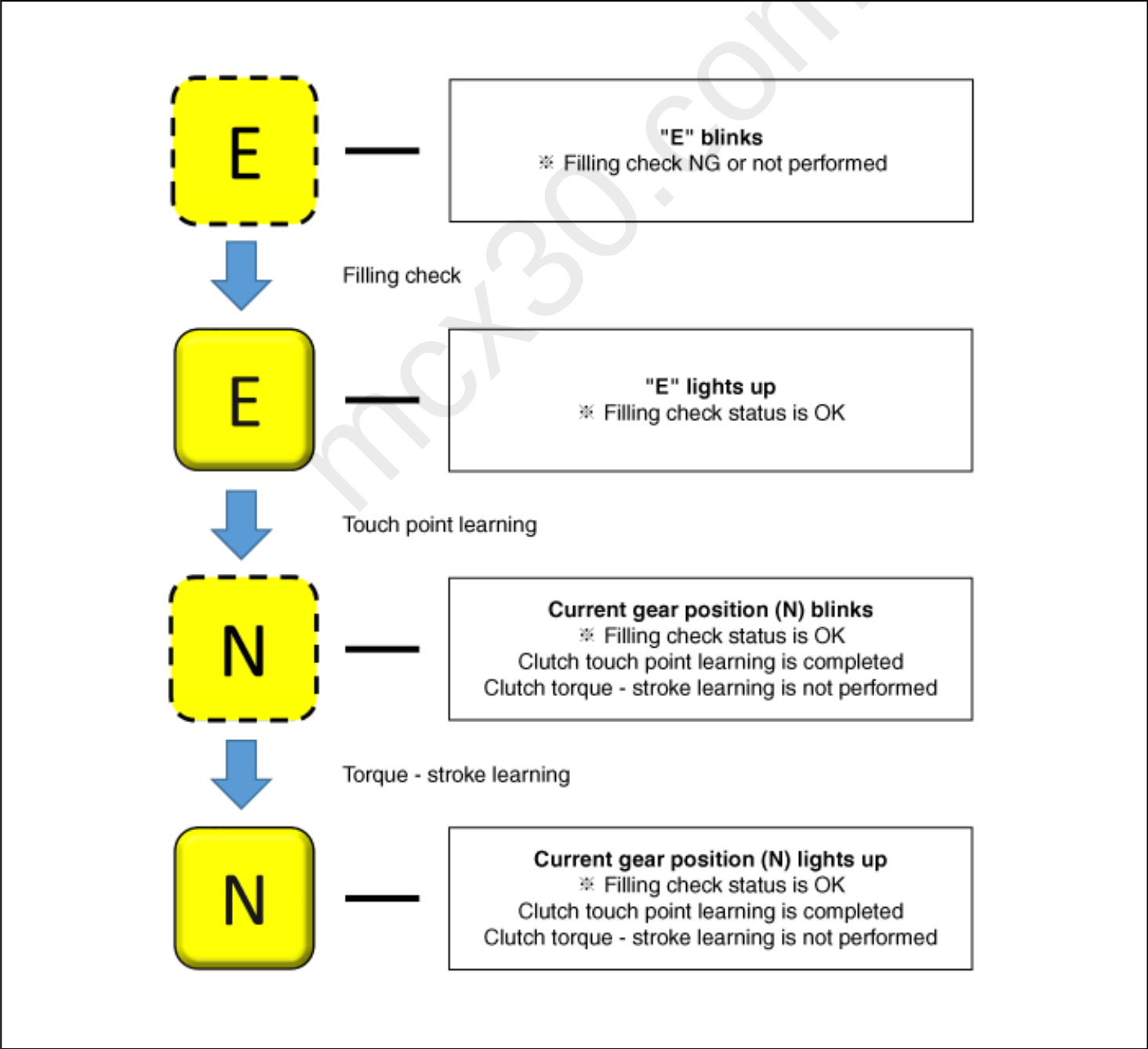


IMT System Learning Procedures Table

※ Refer to the following table to perform the diagnostic tool learning procedure.

Replaced Part	Recomened procedure
Replace the IMT system actuator fluid Replace the clutch (new or old) Replace the IMT system actuator (old) Replace the clutch tube Replace the concentric slave cylinder Replace the intellegent manual transaxle (old) Replace the TCM Replace the shift lever and control cable (new or old)	①
Replace the IMT system actuator (new) Replace the intellegent manual transaxle (new)	②
Replace the IMT system clutch pedal	Learning is not necessary

•IMT system learning status can be checked through the cluster lamp.



In case by recomened procedures ①

Clearing of learning values

1. Perform IMT clear learning values procedure using the diagnostic tool.





• IMT Clear Learning Value

Test purpose	This function erases the learning values of the IMT system and implements relearning.
Test conditions	1. Stopping (0 KPH) 2. Parking brake engagement 3. Gear shift stage in neutral position (N) 4. Unfunctionalized clutch pedal and brake pedal (OFF condition) 5. IG ON (IG ON) 6. Normal battery voltage (10 V or higher) 7. NO DTC
Related components	-
Linked DTC	-
Defects	-
Others	-

OK



Do not touch any system buttons while performing this function.

Filling check



- The procedure below shows about residual air check and removing it if necessary by using the diagnostic tool after refilling the IMT system with clutch fluid.
- The "IMT filling check" procedure should be performed after reinstalling the hydraulic line related parts such as Concentric Slave Cylinder, Clutch Tube, IMT System Actuator.
- The "IMT filling check" procedure should be performed after removing and reinstalling the transmission from the engine such as clutch and fly wheel replacement

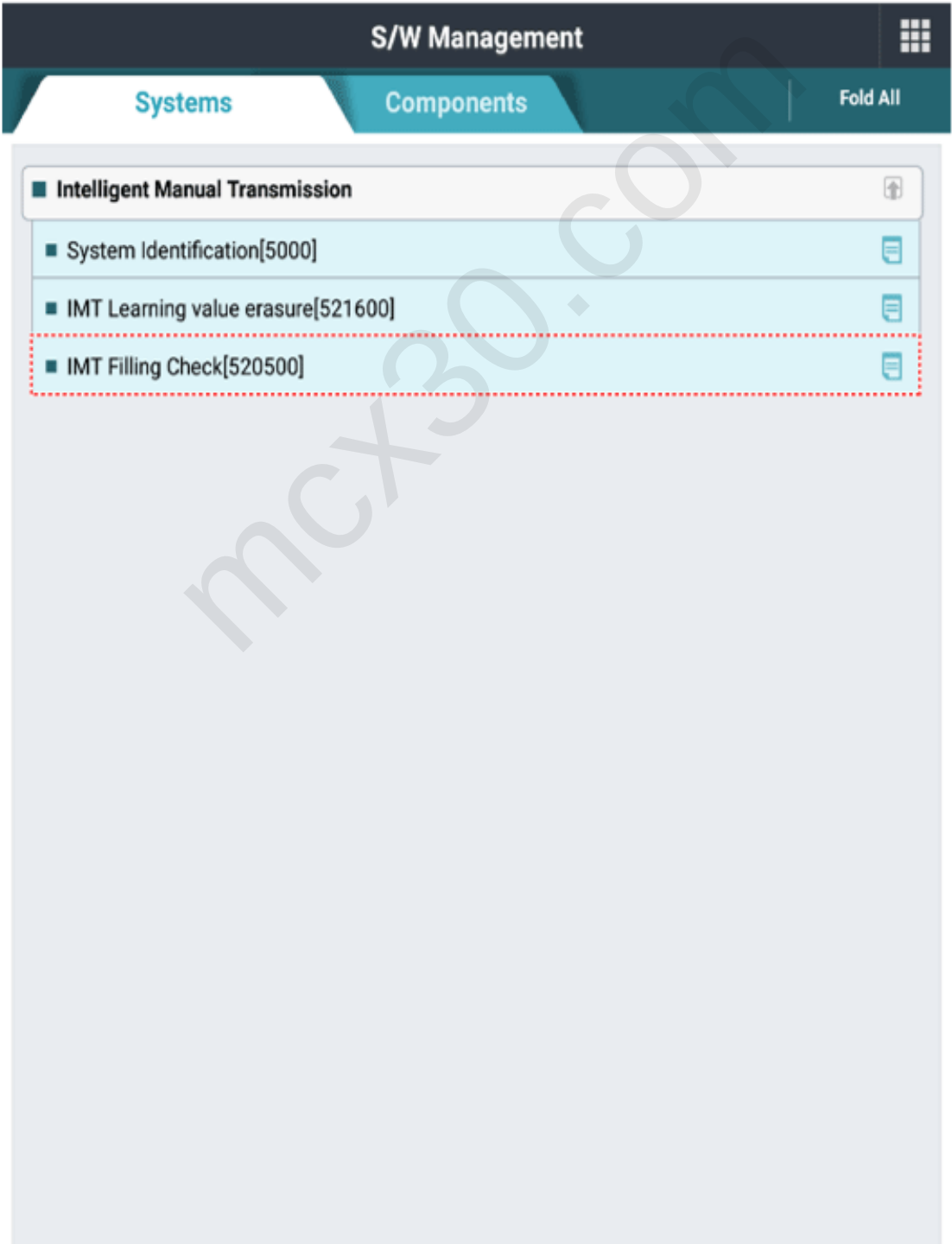
2. Fill the reservoir with clutch fluid to the "MAX" level.

Specified fluid : DOT4-LV (Recommended), DOT3 or DOT4 (Usable)

3. Perform the "IMT filling check" using diagnostic tool.

- ☐
- To prevent accidents caused by vehicle movement, perform the "IMT filling check" after the engaging the parking brake.
 - If fluid is below MIN level while performing air bleeding, replenish fluid with MAX level.

- ☐
- Check the below sensor data by using the diagnostic tool.
 - Engine power on
 - Current gear "N"
 - Accel. Position Sensor 0 %
 - Clutch pedal sensor 0 %





Do not touch any system buttons while performing this function.

S/W Management

■ IMT Filling Check

● [IMT Filling check]

This function is used to check for remaining air after the fluid is injected into the IMT system, and to remove the air.

Perform this function in the following cases.

- When the transmission is replaced
- When the clutch is replaced
- In case that a hydraulic line-related part (e.g., actuator, clutch tube, and CSC) is replaced or reassembled
- In case of oil change
- In case of TCU change
- In case of learning value erasure

● [Condition]

1. Stopping (0 KPH)
2. IG ON (IG ON)
3. Normal battery voltage (10 V or higher)
4. No trouble code

⚠ [Caution]

OK

Cancel



Do not touch any system buttons while performing this function.

4. If the IMT filling check failed, perform the air bleeding procedures.

S/W Management

■ IMT Filling Check

● [IMT air bleeding]

The IMT filling check failed.

There is air in the IMT system that needs to be removed.

[Note]

- Mode (based on one occurrence): 5 min after the air removal, automatically perform the filling check.
- Filling check OK: Air removal mode completed
- Filling check NG: Perform the mode again.
- It is automatically repeated up to six times (for about 30 min), If the final filling check fails (NG), the H/W needs to be inspected.

[OK] Button : Proceed to the next step

[Cancel] Button : Main screen

OK

Cancel

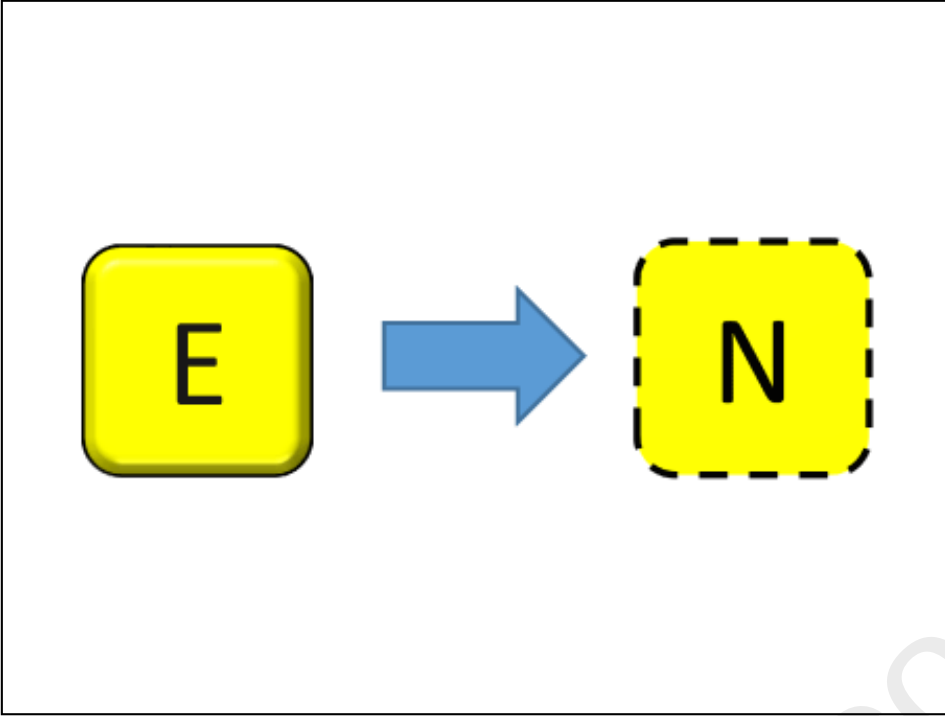


Do not touch any system buttons while performing this function.

Clutch touch-point learning



- Clutch touch-point learning status can be checked through the cluster lamp.
- Prior to learning, "E" lamp turns on. After learning, the current gear position (N) replaces the "E" lamp and blinks.



5. Check the below sensor data by using the diagnostic tool.

- (1) Current gear "N"
- (2) Accel. Position Sensor 0 %
- (3) Clutch pedal sensor 0 %



- Engine power on
- Current gear "N"
- Accel. Position Sensor 0 %
- Clutch pedal sensor 0 %

6. When the engine power is turned on, the touch point learning would be performed automatically.



- If driver interrupt the learning by manipulating any pedals, the learning would be stopped. When the condition of the learning is satisfied, the learning would be performed anytime.

7. Check a sensor data value.

"Touch-point learning finished"

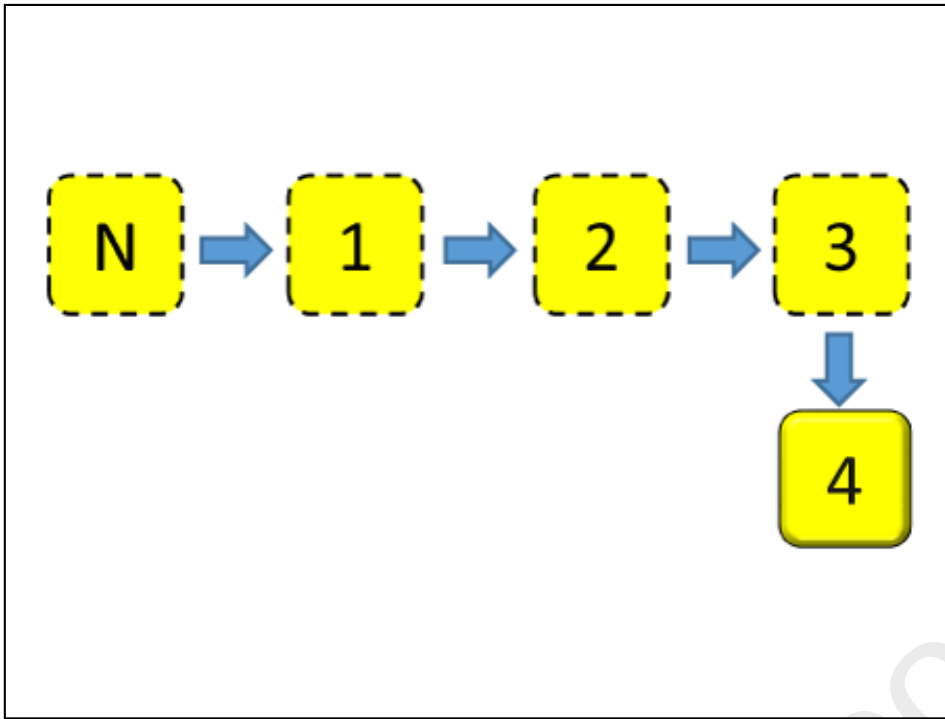


- If the shift lever is located "N" but the sensor data of "Current gear" isn't displayed "N", inspection of the lever and control cable is required.
(Refer to IMT(intelligent Manual Transaxle) Control System - "Control Cable")

Torque - Stroke learning

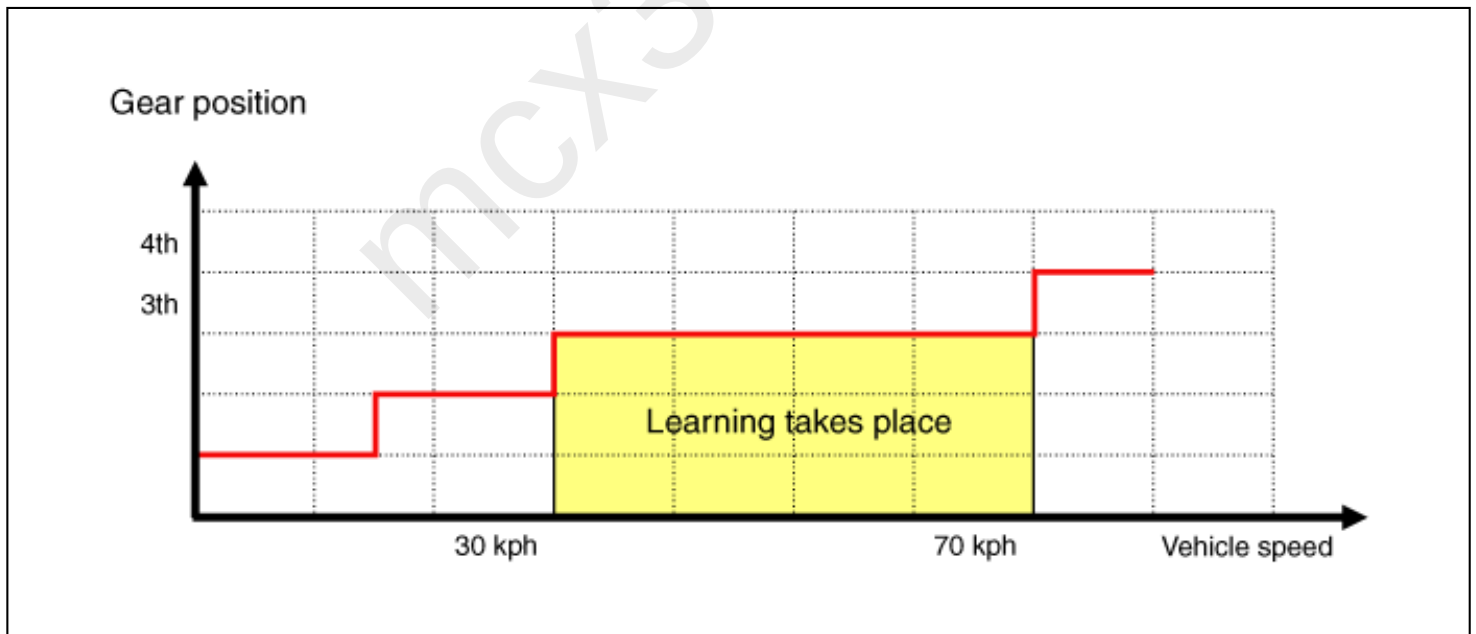


- Clutch torque - Stroke learning status can be checked through the cluster lamp.
- Prior to learning, the current gear position (N) lamp blinks. After learning, the current gear position (4) lamp lights up.



8. Drive the vehicle with below condition.

- (1) Launch the vehicle and shift gear 1→2→3 rapidly under 30 kph.
- (2) Drive the vehicle with below APS 30% in 3rd gear for about 20 seconds up to 70 kph. (APS have to be keep the least of fluctuating)
- (3) Shift the gear to 3rd -> 4th above 70 kph vehicle speed.



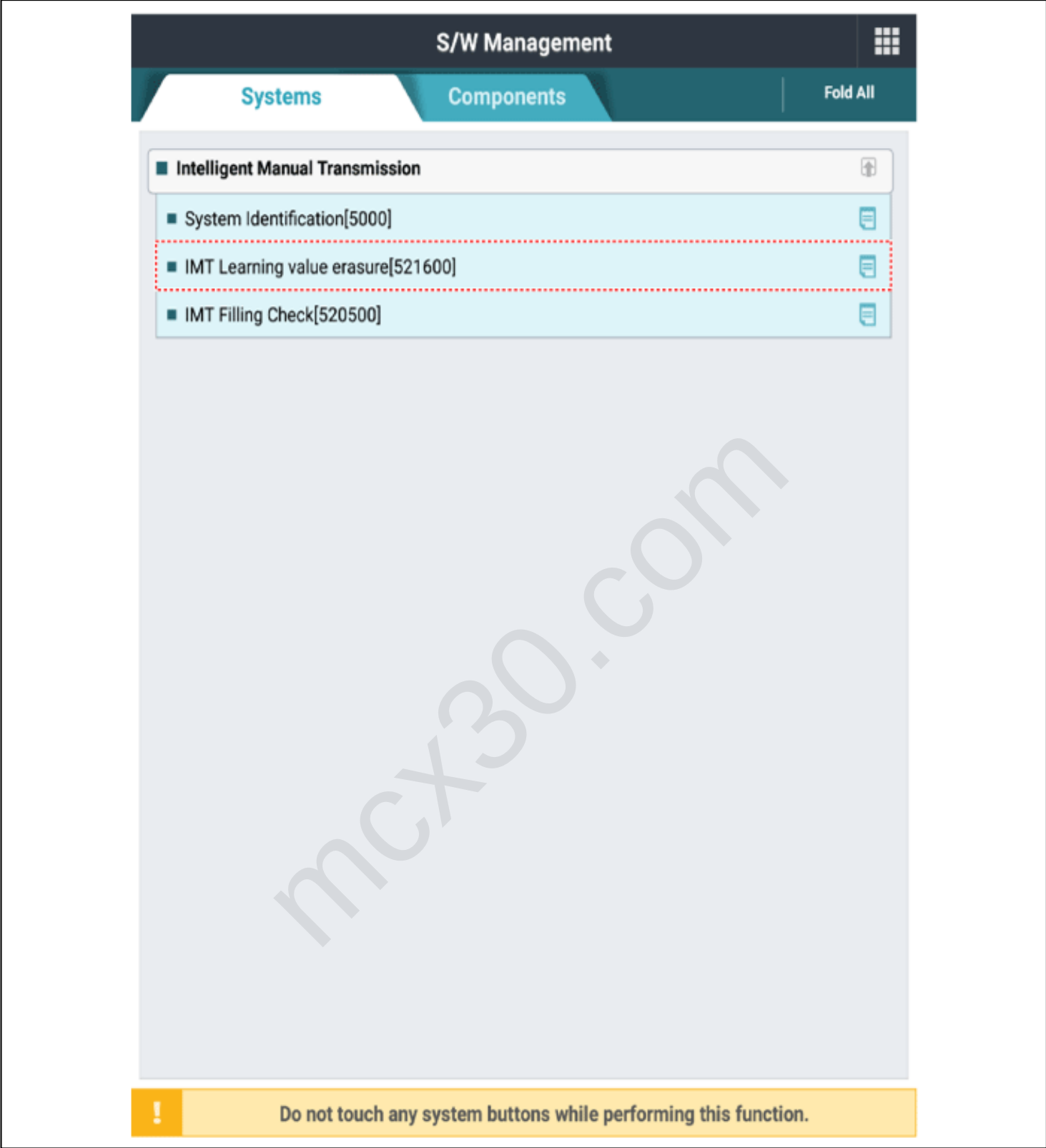
9. Check a sensor data value.

"Torque - stroke learning finished"

In case by recomened procedures ②

Clearing of learning values

10. Perform IMT clear learning values procedure using the diagnostic tool.





• IMT Clear Learning Value

Test purpose	This function erases the learning values of the IMT system and implements relearning.
Test conditions	1. Stopping (0 KPH) 2. Parking brake engagement 3. Gear shift stage in neutral position (N) 4. Unfunctionalized clutch pedal and brake pedal (OFF condition) 5. IG ON (IG ON) 6. Normal battery voltage (10 V or higher) 7. NO DTC
Related components	-
Linked DTC	-
Defects	-
Others	-

OK



Do not touch any system buttons while performing this function.

Filling check



- The procedure below shows about residual air check and removing it if necessary by using the diagnostic tool after refilling the IMT system with clutch fluid.
- The "IMT filling check" procedure should be performed after reinstalling the hydraulic line related parts such as Concentric Slave Cylinder, Clutch Tube, IMT System Actuator.
- The "IMT filling check" procedure should be performed after removing and reinstalling the transmission from the engine such as clutch and fly wheel replacement

11. Fill the reservoir with clutch fluid to the "MAX" level.

Specified fluid : DOT4-LV (Recommended), DOT3 or DOT4 (Usable)

12. Perform the "IMT filling check" using diagnostic tool.

- ☐
- To prevent accidents caused by vehicle movement, perform the "IMT filling check" after the engaging the parking brake.
 - If fluid is below MIN level while performing air bleeding, replenish fluid with MAX level.

- ☐
- Check the below sensor data by using the diagnostic tool.
 - Engine power on
 - Current gear "N"
 - Accel. Position Sensor 0 %
 - Clutch pedal sensor 0 %





Do not touch any system buttons while performing this function.

S/W Management

■ IMT Filling Check

● [IMT Filling check]

This function is used to check for remaining air after the fluid is injected into the IMT system, and to remove the air.

Perform this function in the following cases.

- When the transmission is replaced
- When the clutch is replaced
- In case that a hydraulic line-related part (e.g., actuator, clutch tube, and CSC) is replaced or reassembled
- In case of oil change
- In case of TCU change
- In case of learning value erasure

● [Condition]

1. Stopping (0 KPH)
2. IG ON (IG ON)
3. Normal battery voltage (10 V or higher)
4. No trouble code



[Caution]

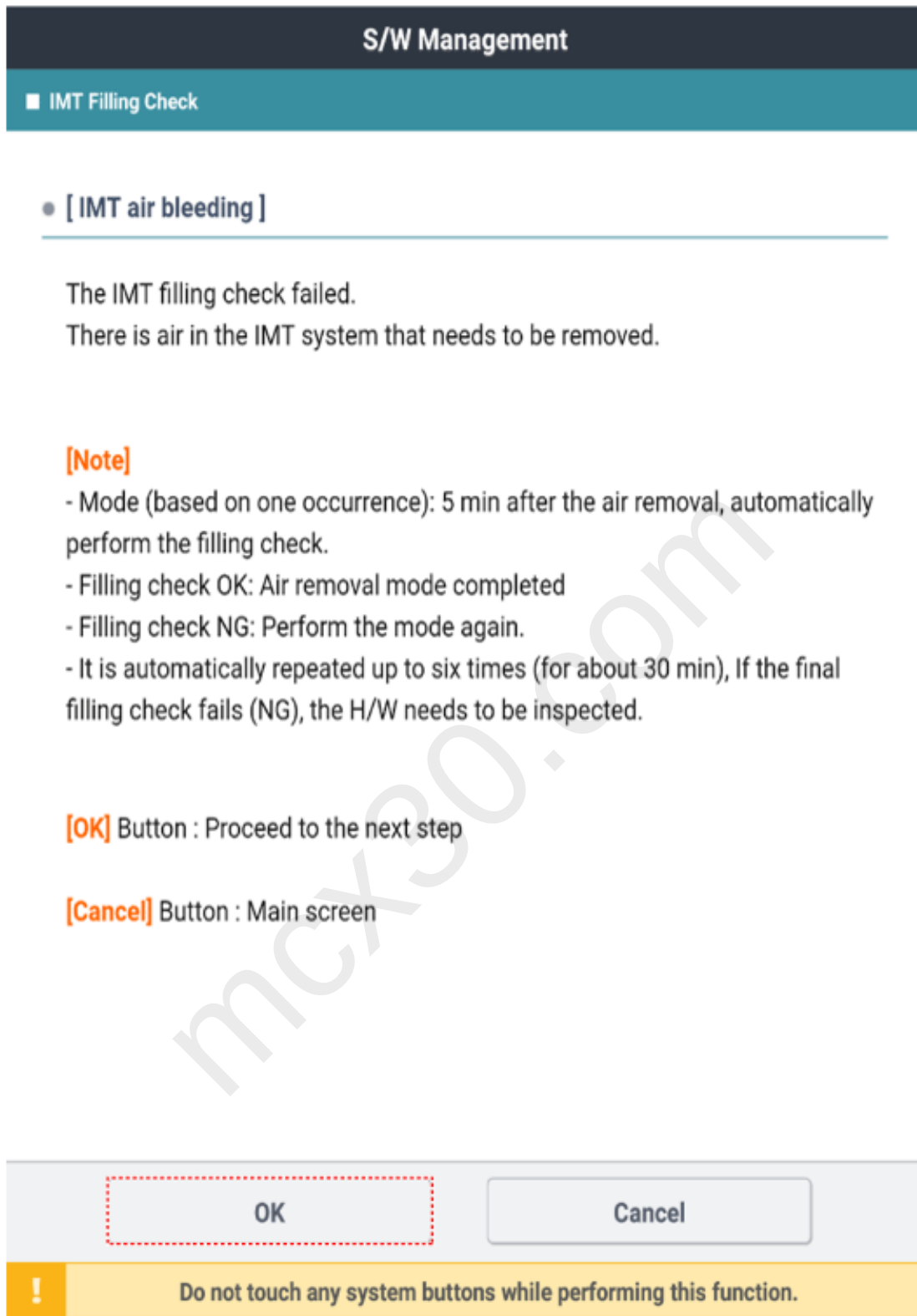
OK

Cancel



Do not touch any system buttons while performing this function.

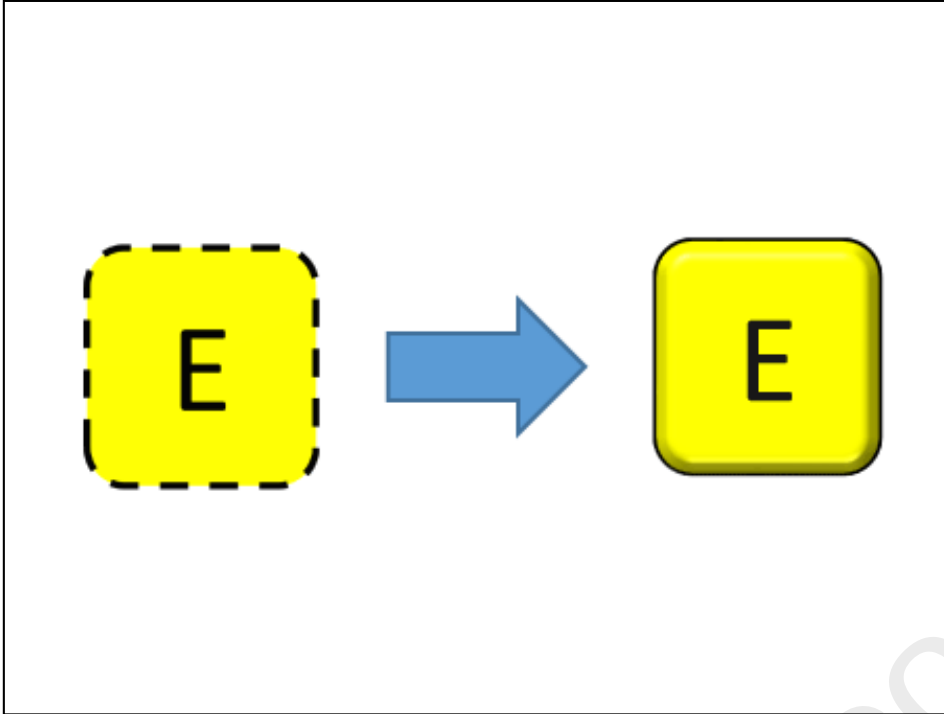
13. If the IMT filling check failed, perform the air bleeding procedures.



Running-in of actuator



- Filling check status can be checked through the cluster lamp.
- Prior to filling check, E lamp blinks. After filling check is completed, the "E" lamp lights up.



14. IMT system actuator forced operation should be performed, if replaced IMT system actuator with a new one.



- After complete the filling check, selecting combo box pops up for choosing.

15. When the engine power is turned on, the touch point learning would be performed automatically.



- If driver interrupt the learning by manipulating any pedals, the learning would be stopped. When the condition of the learning is satisfied, the learning would be performed anytime.

Clutch touch-point learning



- Clutch touch-point learning status can be checked through the cluster lamp.
- Prior to learning, "E" lamp turns on. After learning, the current gear position (N) replaces the "E" lamp and blinks.

16. Check the below sensor data by using the diagnostic tool.

- (1) Current gear "N"
- (2) Accel. Position Sensor 0 %
- (3) Clutch pedal sensor 0 %



- Engine power on
- Current gear "N"
- Accel. Position Sensor 0 %
- Clutch pedal sensor 0 %

17. When the engine power is turned on, the touch point learning would be performed automatically.



- If driver interrupt the learning by manipulating any pedals, the learning would be stopped. When the condition of the learning is satisfied, the learning would be performed anytime.

18. Check a sensor data value.

"Touch-point learning finished"



- If the shift lever is located "N" but the sensor data of "Current gear" isn't displayed "N", inspection of the lever and control cable is required.
(Refer to IMT(intelligent Manual Transaxle) Control System - "Control Cable")

Torque - Stroke learning



- Clutch torque - Stroke learning status can be checked through the cluster lamp.
- Prior to learning, the current gear position (N) lamp blinks. After learning, the current gear position (4) lamp lights up.

19. Drive the vehicle with below condition.

- (1) Launch the vehicle and shift gear 1→2→3 rapidly under 30 kph.
- (2) Drive the vehicle with below APS 30% in 3rd gear for about 20 seconds up to 70 kph. (APS have to be keep the least of fluctuating)
- (3) Shift the gear to 3rd -> 4th above 70 kph vehicle speed.

20. Check a sensor data value.

"Torque - stroke learning finished"
