



# SERVICE INFORMATION BULLETIN

Bulletin Number: 14-004A      Models: FE/FG      Revised Date: April 2014      Page 1 of 8

**NOTE:** The information contained in this document is intended for use by trained, professional technicians with the knowledge, tools, and equipment to properly and safely perform diagnoses and repairs. It informs service technicians about conditions that may occur in some vehicles, or provides information that could assist in proper vehicle diagnosis, service, or repair, and does not indicate that a defect is present. DO NOT assume that a symptom or condition, or a described cause of a symptom or condition, affects any particular vehicle or that a described repair applies to any particular vehicle. There can be multiple causes resulting in the same symptoms or conditions, and trained professional service technicians must use their diagnostic skills to make evaluations on a case-by-case basis.

**REMOVE S.I.B. 14-004 DATED FEBRUARY 2014 AND REPLACE WITH THIS S.I.B.**

**SUBJECT:**

Waffle Clutch-equipped DUONIC™ Transmission ECU Reprogramming and Initialization

**POTENTIALLY AFFECTED MODELS:**

2012 M/Y and up Canter vehicles with newly installed waffle type clutch transmissions.

**DESCRIPTION:**

Please see the attached reprogramming and initialization procedures for waffle clutch-equipped DUONIC™ transmissions.

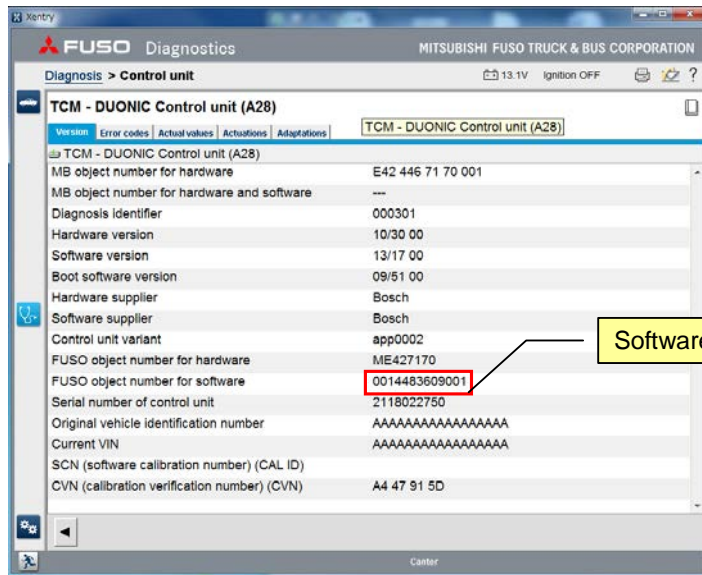
All Canter vehicles built after August 1, 2013 are produced with a DUONIC™ transmission incorporating this new clutch design. When installing a waffle clutch equipped DUONIC™ transmission (FE - ME530181XR/FG - ME530223XR) in earlier Canters, it is imperative to download correct software for correct application pressure. Failure to apply correct software will result in premature clutch failure. Such failures will not be covered by warranty!

Please initial and route to the following personnel before filing.

Service Mgr.		Warranty Mgr.		Service Technicians - Initial in boxes below.								
Shop Foreman		Parts Mgr.										

## DUONIC ECU Reprogramming for Waffle clutch upgrade

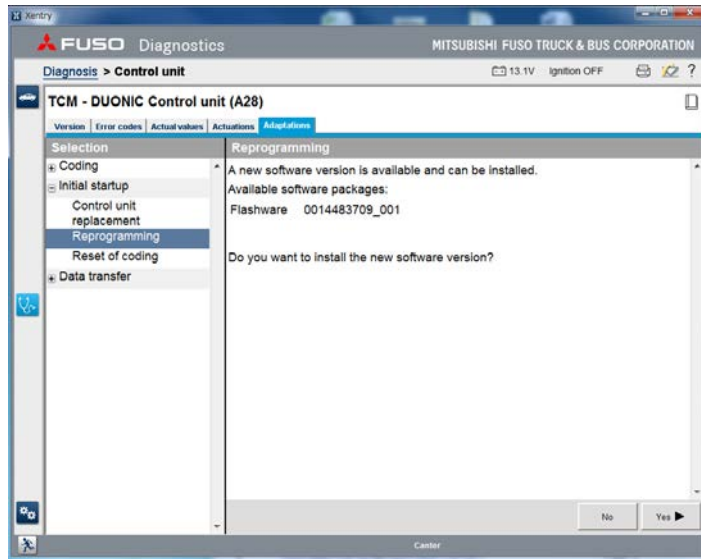
### (1) Start FUSO Diagnostics



Check the software object number and version under the "Version" tab in the TCM.

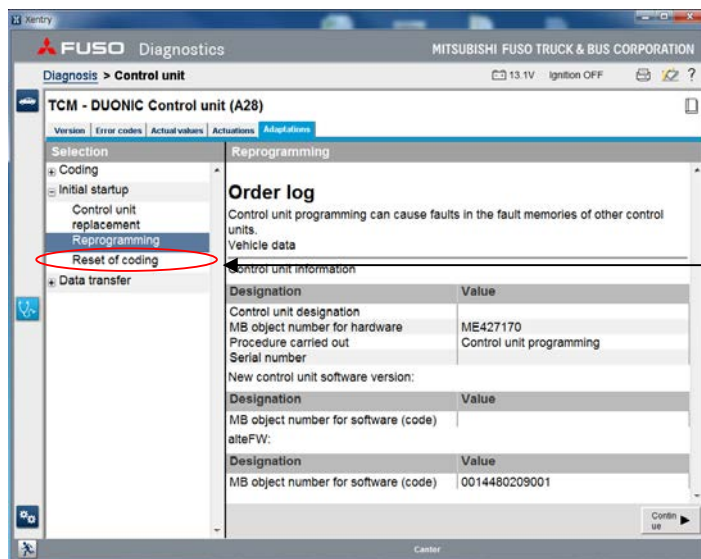
Component name	New Object # (w/ Waffle Clutch)	Old Object # (w/o Waffle Clutch)	Model
TCM	0014483809001	0004486109001	Class 3 (FEC52)
		0004484709001	
		0004486609001	
		0004487609001	
		0004488009001	
		0004488909001	
		0014480309001	
		0014481309001	
	0014481809001*1		
	0014484109001	0004484909001	Class 4 Class 5 (FEC72, FGB72, and FEC92)
		0004486009001	
		0004486509001	
		0004487509001	
		0004487909001	
		0004488809001	
		0004489209001	
		0014480709001	
		0014480609001	
		0014481509001	
		0014482109001*1	

## (2) Reprogramming



Perform Reprogramming.

\* Download an Inquiry Number and Password from the MFTBC Field Rewrite Network (FRN) in advance.

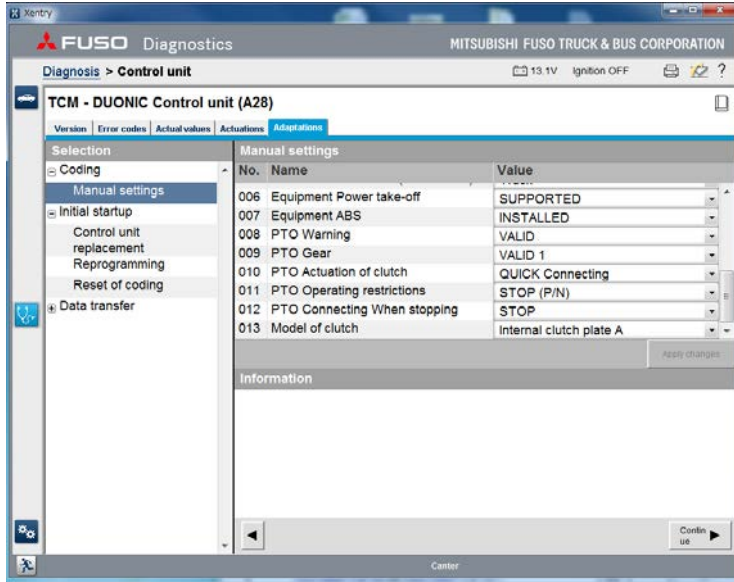


When the software update is complete, confirm the software object number and version under the "Version" tab in the TCM.

Perform "Reset of coding".

Note: If coding is not reset, some items may not be displayed during the parameter coding described later.

(3) Check #013 "Model of clutch" and change parameters according to the vehicle's clutch type.



When installing a waffle type clutch equipped transmission, change Model of clutch to "Inner clutch plate B".

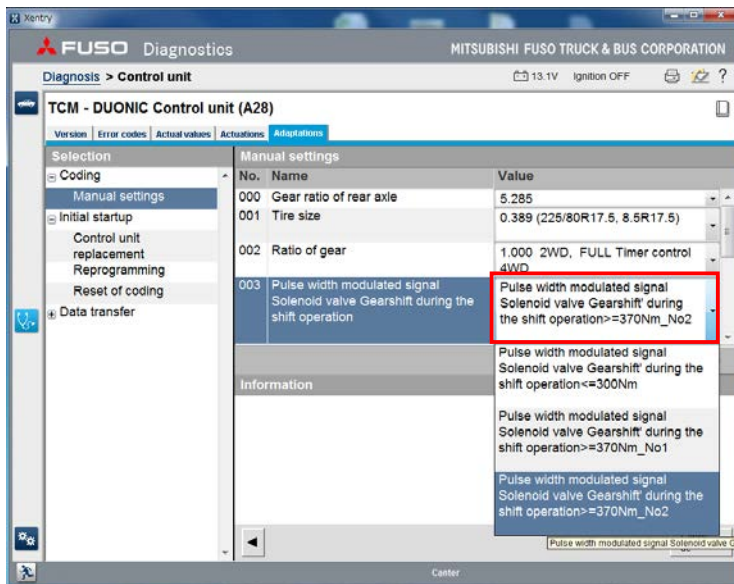
Model of clutch

<b>Internal clutch plate A</b>	[Old] Radial (dot) type
<b>Internal clutch plate B</b>	<b>[New] Waffle type</b>

**Caution:**

- If the selected clutch type does not match the clutch on the vehicle, the high temperature alarm may not sound correctly, which can cause ATF temperature to rise in the clutch, resulting in a clutch seizure.
  - When updating to new software, the initial parameter is set to "inner clutch A" (radial (dot) type: old clutch).
- If only a software update has been performed, without installing a waffle style clutch equipped transmission, coding for the clutch type is not required. However, always check the parameter to ensure the proper clutch parameter is set properly.
- Check the parameter at Actual value #185-6 (calibration value) "Model of clutch".

(4) After checking clutch type, check coding #003: Pulse width modulated signal 'Solenoid valve "Gearshift"' during the shift operation



Confirm that the value is "Pulse width modulated signal Solenoid valve Gearshift during the shift operation <=370\_No2". If it is any other value but this, change it.

**(5) Afterrun**

• Turn the ignition off and wait 60 seconds. Turn the ignition on again and check for DTC's.

**(6) Perform DUONIC Initialization (see next page)**

**(7) Upload ECU data**

• Perform "Copying to USB storage device" and Upload ECU data

**(8) Perform an ECU quick test. Clear any stored codes from all ECU's if no active codes exist. Diagnose and repair any active codes.**

# DUONIC™ Transmission Initialization Procedure for the Waffle Type Clutch

## MODELS:

2014 M/Y FEC52, FEC72, FEC92, and FGB72 Canter vehicles produced after August 1, 2013.

## DESCRIPTION:

The DUONIC™ electronic control unit initialization process memorizes the transmission's initial setting. Initialization must be performed after any of the following have occurred:

- Service has been performed on the engine and/or transmission which may have altered or changed their characteristics.
- Automatic transmission fluid (ATF) in the dual clutch housing or the transmission gear oil has been replaced.
- A body has been installed on the chassis.

Before beginning the initialization procedure, ensure that:

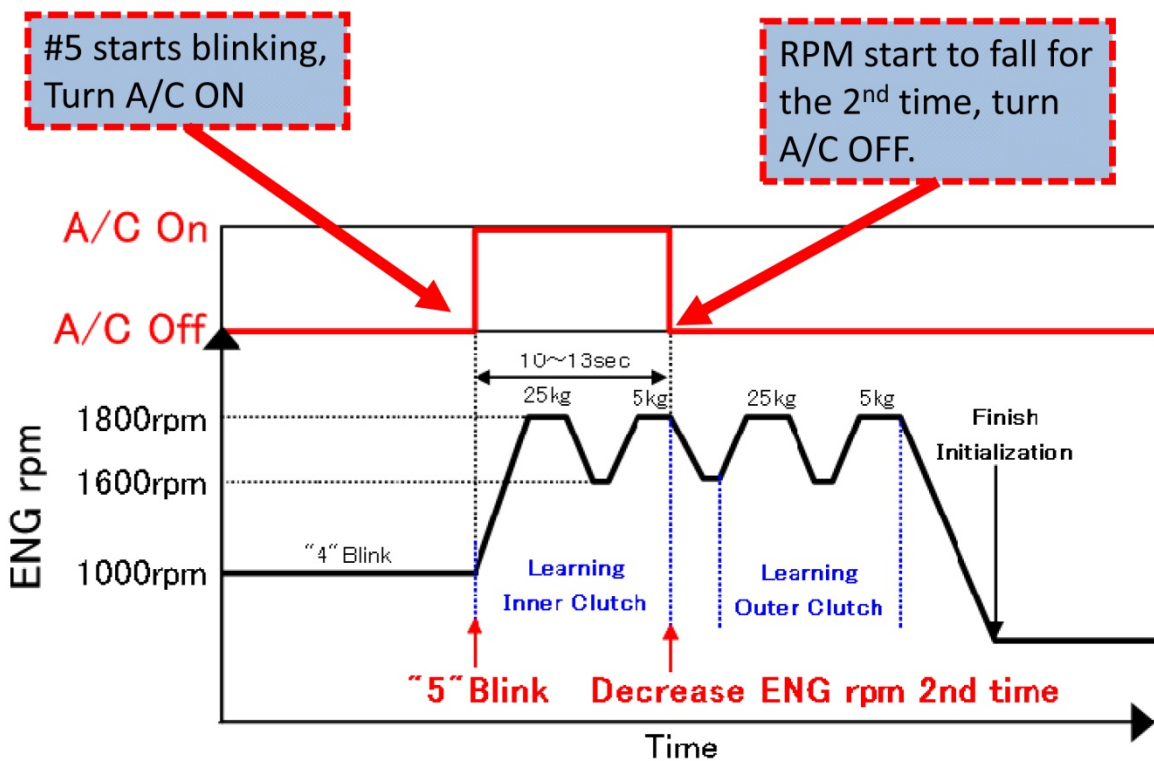
- Transmission fluid temperatures have reached at least 120°F (50°C).
- ATF has been sufficiently circulated through the system by starting the engine and cycling the gear shift lever through the following positions, remaining in each position for approximately 3 to 5 seconds: "P" → "D" → "R" → "D" → "R" → "D" → "R" → "P"
- Tire air pressures are at proper specification.

## DUONIC™ Transmission Initialization Procedure:

1. Park the vehicle on a flat, level surface and chock the wheels to prevent movement of the vehicle.
2. Fully engage the parking brake.
3. Insert the key into the ignition switch and turn to the "ON" position. **(DO NOT START!)**
4. Using your right foot, fully depress the accelerator to the floor (100% throttle) and hold the pedal in this position until Step 11.
5. With your left foot, fully depress the brake pedal and hold it in this position until Step 13.
6. With your left hand, move the gearshift selector lever down from the "P" position through "R", to "N", and then left to the "D" position for 1 second.
7. Using your left hand, move the selector lever to the "A/M" position and hold it in this position until Step 10.
8. Using your right hand, release and fully engage the parking brake lever for 1 second.

9. Release and fully engage the parking brake a second time, then leave the parking brake fully engaged. The gear position indicator should display a flashing "1" in the multi-information display.
10. Release the selector lever and move it to the "P" position.
11. Release the accelerator pedal.
12. Start the engine and leave it running at an idle.
13. Release the brake pedal. The gear position indicator should display a flashing "2".
14. Monitor the gear shift indicator in the multi-information display. Immediately after the indicator starts flashing "5", turn on the A/C to complete Inner Clutch Torque Learning.
 

**NOTE:** The A/C system is used to add a load to the engine. If the ambient temperature is below 70°F, use the cab heater to fill the cabin with a heat load to utilize the A/C system.
15. After approximately 10 to 13 seconds, the engine rotation decreases for a second time. Turn off the A/C to complete Outer Clutch Torque Learning (See Graph below)

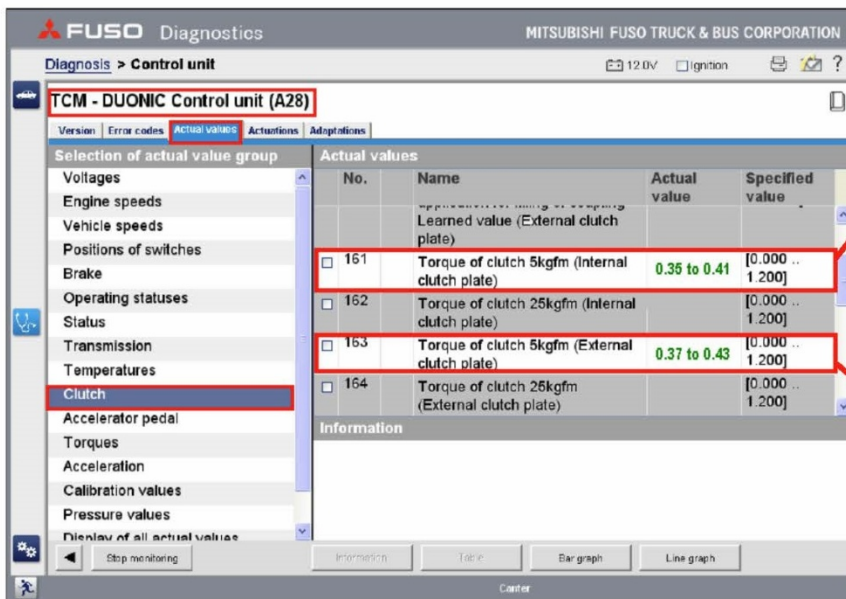


16. When the gear shift indicator flashes "N", this initialization is complete.
17. Confirm the initialization results. (See next page)

# Confirmation Method of the Initialization Results

Confirm (A) and (B) to make sure the initialization is completed. Even if the actual value of (A) is out of range, perform procedure (B) to confirm whether there is excessive shift shock or not. If there is no excessive shift shock present, initialization is complete. If the vehicle fails confirmation (A) or (B), please perform the initialization again.

**A) The actual values of the clutch (5kgfm) are within the following values.**



**341 to 412 mA**

Torque of clutch 5kgfm (Internal clutch plate) ..... 0.35 to 0.41(A) or 341 to 412 mA.

**369 to 435 mA**

Torque of clutch 5kgfm (External clutch plate) ..... 0.37 to 0.43(A) or 369 to 435 mA.

**B) Ensure there is no shift shock when moving the gear selector lever from “N” to “R”, and then “R” to “N” while the vehicle is parked.**