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# EVO: Specific Troubleshooting

## General Practices & Procedures

### ECM Password Learn Procedure

The TSM/TSSM/HFSM modules share a password with the ECM/ICM and Speedometer (2004-later) during operation. When replacing an ECM/ICM or TSSM/HFSM or Speedometer, you must go through a password learn procedure. If the procedure is not followed, the engine will start and run for a few seconds, and then stall. This will typically produce a P1009 or P1010 diagnostic code.

The learn procedure **MUST** be followed from start to finish without any interruption. If interrupted, starting over from the beginning is the only option.

**Connect the motorcycle up to a trickle charger and pull the headlight fuse before starting these steps, which take more than 30 minutes to complete.**

For information about removing/replacing the TSM/TSSM, click this [XLForum Thread](#) by XLForum member 'Cosmo Kramer' on the topic.

If the engine starts but stalls, check DTCs for P1009 (Incorrect Pwd) or P1010 (Missing Pwd) <sup>1)</sup>	
Device Being Serviced	Password Learn Procedure Required
TSM replacing TSM	NO
TSM replacing HFSM or TSSM	YES
HFSM or TSSM new unit installed	YES
ECM new unit installed	YES
Speedometer new unit installed	YES

### Setting TSM/HFSM and ECM Password

Step #	Action	Confirmation	Notes	2)
	Ignition must be turned off for at least 15 seconds.	With ignition turned off, Check Engine Lamp and Security Lamp will be off.	Remember to pull the headlight fuse to prevent draining the battery. This procedure takes more than 30 minutes to complete.	
1	Install new TSM/HFSM or ECM.			
2	Set <b>RUN/STOP</b> switch to <b>RUN</b> .			
3	Turn <b>IGN</b> key <b>ON</b> .	Verify Check Engine Lamp and Security Lamp illuminate and then turn off.	TSM/HFSM enables starter relay.	
4	Attempt normal start <b>one</b> time.	Engine starts and stalls. Check Engine Lamp illuminates and stays on.	Password has not been learned. ECM sets DTC P1009.	
5	Wait ten seconds. Security lamp will illuminate and stay on.	Security Lamp illuminates.	ECM enters Password Learning mode for ten minutes. Do not cycle ignition switch or interrupt vehicle power or Password Learn will be unsuccessful.	
6	Wait until Security Lamp turns off.		This takes ten minutes. (If no speedo or security light is available, wait <b>at least 10 minutes</b> .)	
7	Quickly (within two seconds) turn <b>IGN</b> key OFF- <b>ON</b> .		ECM must not be allowed to shutdown.	
8	Wait until Security Lamp turns off.		This takes ten minutes. (If no speedo or security light is available, wait <b>at least 10 minutes</b> .)	
9	Quickly (within two seconds) turn <b>IGN</b> key OFF- <b>ON</b> .		ECM must not be allowed to shutdown.	
10	Wait until Security Lamp turns off.		This takes ten minutes. (If no speedo or security light is available, wait <b>at least 10 minutes</b> .)	
11	Quickly (within two seconds) turn <b>IGN</b> key OFF- <b>ON</b> .		ECM must not be allowed to shutdown.	
12	Turn <b>IGN</b> key <b>OFF</b> . <u>Wait 15 seconds before turning IGN on.</u> Turn <b>IGN</b> switch <b>ON</b> and start engine to confirm successful Password Learn procedure. Clear diagnostic trouble codes.			
13	If the learn procedure is interrupted or fails in any way, you must restart your attempt from the beginning of the procedure!			

(This section contributed by Screw Loose Dan )

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1)

See 2007 Harley-Davidson Sportster Electrical Diagnostic Manual Section 3.25, pg 3-72

2)

See 2007 Harley-Davidson Sportster Electrical Diagnostic Manual Section 3.25, pg 3-73

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