

P & A SERVICE BULLETIN

TO ALL HARLEY-DAVIDSON DEALERS

P-49

November 17, 2000

SCREAMIN' EAGLE MULTIPLE USE DOWNLOAD CARTRIDGES FOR ECM RECALIBRATION OF TOURING AND SOFTAIL MODELS

Multiple Use Download Cartridges

Due to a worldwide shortage of microchips, Harley-Davidson has worked closely with SPX Corporation to develop new multiple download/calibration cartridges. This development will help to ensure that dealer demand for EFI performance stage kits is satisfied. The multiple use download cartridges contain either **five or ten** downloads to support multiple combinations of performance stage kit reprogramming. This bulletin explains some of the possible download combinations, as well as the steps required to reprogram ECM's using the multiple use download cartridges.

NOTE

There is no option for returning to stock calibration after downloading a performance calibration.

Download Combinations

Depending upon the cartridge selected, the new multiple use download cartridges allow the ECM to be reprogrammed either five or ten times using any combination of stored calibrations. For example, the two EVO calibrations (Stage I/ Stage II) are available on one multiple use cartridge that contains a total of five downloads. This means you can download two Stage II Kits and three Stage I Kits, four Stage I Kits and one Stage II Kit, five Stage I Kits and zero Stage II Kits, and so on. Therefore, the cartridge now becomes a service tool with a known lifespan, instead of a single use kit component.

Download Routine

Scanalyzer connection and cartridge installation is the same as it has been with the single use download cartridges. The downloading process is also similar, except that the technician is now prompted to select the desired calibration. Once the system verifies that the vehicle is correct for the selected calibration, the cartridge is downloaded through the Scanalyzer. Upon completion of the routine, the system displays the number of downloads remaining on the cartridge and returns to the Main Menu.

If you wish to verify that the calibration has been successfully downloaded, press the number "1" key from the main menu to display the system ID. The software version code should reflect the upgrade as shown in Table 1.

If an error occurs at any point in the download process, an error message is displayed and the system returns to the beginning of the program. Whenever a routine is aborted in this manner, the number of reflashes remaining on the cartridge is not reduced. The flow charts on pages 2 and 4 show the screens that may be displayed during a successful download operation.

Table 1. Calibration Codes

Model	Engine	Performance Kit	Code
Touring, '95-'01'			
EVO Touring, '95-'98', all	1340	Stage I	271AR006
		Stage II	271AS114
		Stage II HC	242AS116
TC Touring, '99-'01', all	1450	Stage I	270CC015
	1550	Stage I	270CF211
		Stage II R	270CG278
Softail, '95-'01'			
All Except FLSTI	1450B	Stage I shorty dual, shotgun exhaust	32830-01
FLSTSI		Stage I crossover exhaust	32831-01
All Except FLSTI	1550B	Stage I shorty dual, shotgun exhaust	32832-01
FLSTSI		Stage I crossover exhaust	32833-01
All Except FLSTI	1550B	Stage II shorty dual, shotgun exhaust	32834-01
FLSTSI		Stage II crossover exhaust	32835-01

NOTE

Harley-Davidson strongly recommends a tracking sheet for each cartridge to ensure that there is an invoice/repair order associated with each download. See Figure 5 for an example.

The multiple use cartridges also feature a report that lists the stored calibrations and the number of downloads remaining. To generate this screen, install the cartridge into the Scanalyzer and press the "F2" key, followed by the "0" key. Depending upon the number of calibrations residing on the cartridge, it may take as long as 12 minutes to generate the report.

NOTE

There will not be any change to the 1450 Stage II kit (P/N 29490-99A). A single use cartridge will continue to be provided as a kit part.

Finally, remember that all vehicles must be recalibrated whenever a performance stage kit is added. If any questions

Touring Recalibration

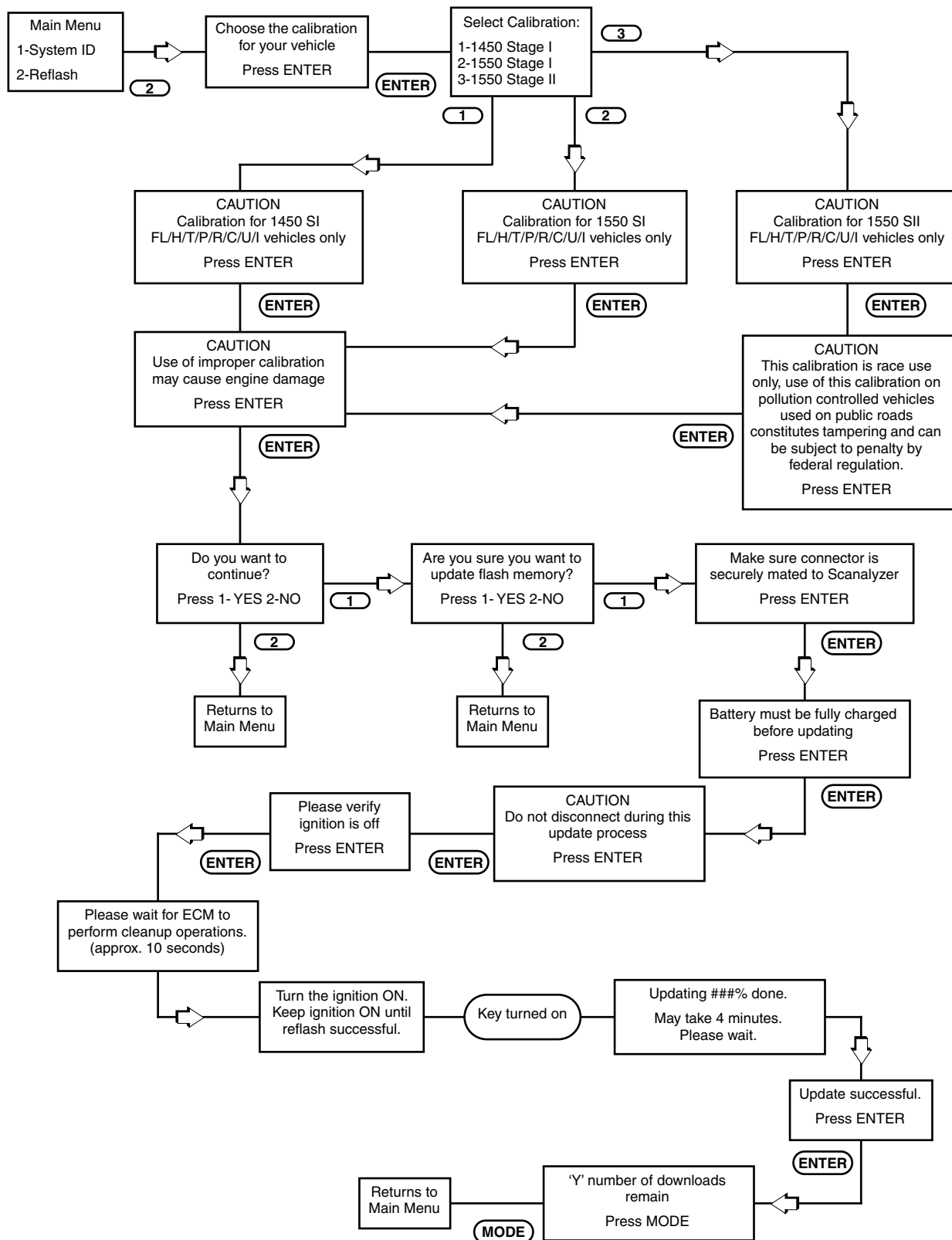


Figure 1. Example of Touring ECM Recalibration Routine

Softail Recalibration

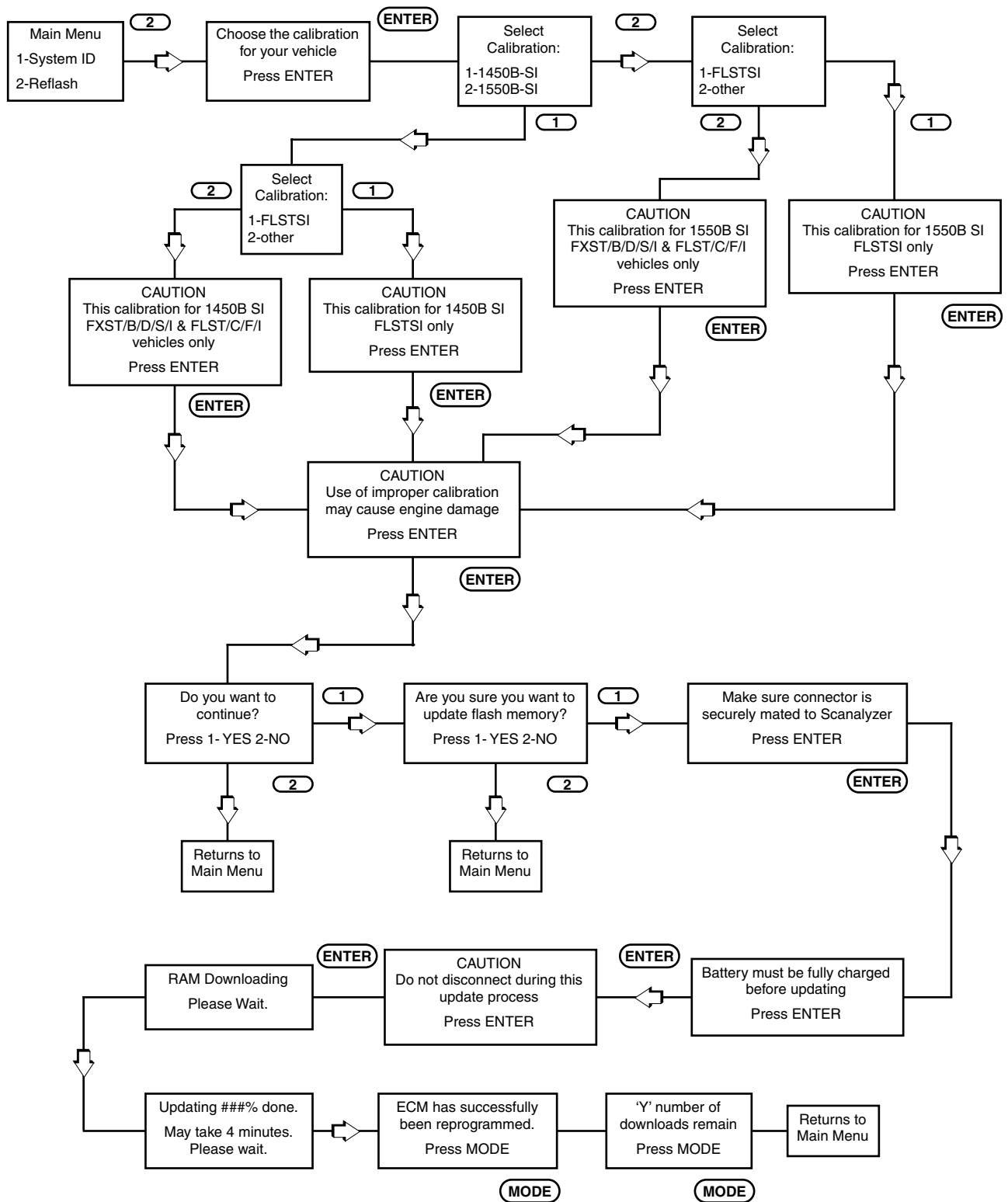


Figure 2. Example of Softail ECM Recalibration Routine

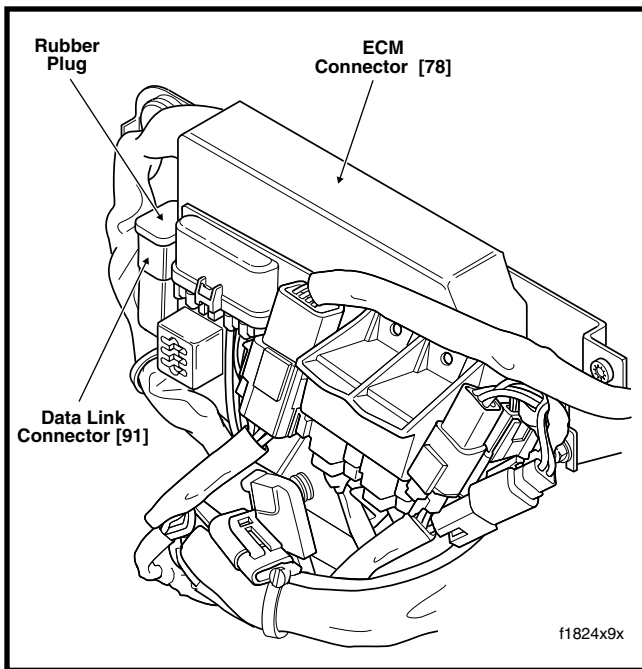


Figure 3. Locate Data Link Connector Under Right Side Cover - Touring

arise with regard to this information, please contact Harley-Davidson Technical Service.

Touring ECM Recalibration

1. Raise lid of right side saddlebag. Grasp bail wire inside saddlebag and rotate each stud 1/4 turn in a counter-clockwise direction. Remove bail head studs with flat washers. Remove saddlebag.
2. Gently pull side cover from frame downtubes (no tools required).
3. Locate Data Link connector (pin side of 4-place Deutsch) on the electrical bracket. See Figure 3. Push connector up to disengage small end of slot on attachment clip from T-stud.
4. Remove rubber protective plug from open end of Data Link connector.
5. Plug the Scanalyzer (HD-41325) into the Data Link Connector.
6. Turn the Ignition/Light Key Switch to IGNITION. Turn the handlebar mounted Engine Stop Switch to the RUN position (but do not start the engine).
7. Insert the multiple use download cartridge into the Scanalyzer. During the next few seconds, the Scanalyzer sequences through a series of screens that reflect a power-on self test, the system copyright, and then an attempt at communications with the ECM. Once communications is established, the Main Menu appears on the Scanalyzer data display.
8. From the Main Menu, press the number "2" key to begin the recalibration routine. See the flow chart in Figure 1 for an example.

9. When the ECM has been recalibrated, the Scanalyzer returns to the Main Menu. Disconnect the Scanalyzer and turn the Ignition/Light Key Switch to OFF. Turn the handlebar mounted Engine Stop Switch to the OFF position.
10. Install the protective plug into pin side of Data Link Connector. Place large end of slot on attachment clip over T-stud on electrical bracket. Push connector toward wire end to engage small end of slot.
11. Align barbed studs in side cover with grommets in frame downtubes and push firmly into place (no tools required).
12. Position right side saddlebag on vehicle. Verify that molded rubber insert at bottom of saddlebag fits snugly on lower saddlebag support rail.
13. Place flat washers on bail head studs. With groove at end of stud held in a horizontal position, insert stud through holes in saddlebag and front mounting bracket. When groove engages wire form of spring plate on inboard side of bracket, turn stud clockwise 1/4 turn until it snaps in place. Install rear bail head stud in the same manner.

Softail ECM Recalibration

1. Remove seat.
2. Locate Data Link connector (pin side of 4-place Deutsch) on left side of frame crossmember. See Figure 4. Push connector rearward to disengage small end of slot on attachment clip from T-stud.
3. Remove rubber protective plug from open end of Data Link connector.
4. Plug the Scanalyzer (HD-41325) into the Data Link Connector.
5. Turn the Ignition/Light Key Switch to IGNITION. Turn the handlebar mounted Engine Stop Switch to the RUN position (but do not start the engine).

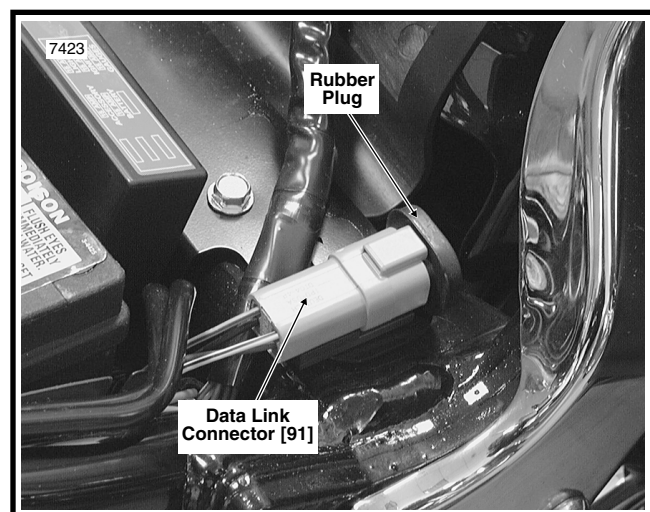


Figure 4. Locate Data Link Connector Under Seat - Softail

6. Insert the multiple use download cartridge into the Scanalyzer. During the next few seconds, the Scanalyzer sequences through a series of screens that reflect a power-on self test, the system copyright, and then an attempt at communications with the ECM. Once communications is established, the Main Menu appears on the Scanalyzer data display.
7. From the Main Menu, press the number "2" key to begin the recalibration routine. See the flow chart in Figure 2 for an example.
8. When the ECM has been recalibrated, the Scanalyzer returns to the Main Menu. Disconnect the Scanalyzer and turn the Ignition/Light Key Switch to OFF. Turn the handlebar mounted Engine Stop Switch to the OFF position.
9. Install the protective plug into pin side of Data Link Connector. Place large end of slot on attachment clip over T-stud. Push connector toward front of vehicle to engage small end of slot.
10. Install seat.

⚠ WARNING

Pull up on seat to verify that it is properly secured, front and rear. A loose seat may shift during vehicle operation and startle the rider, possibly causing loss of vehicle control resulting in death or serious injury.

ROUTING	SERVICE MANAGER	SALES MANAGER	PARTS MANAGER	LEAD TECHNICIAN	TECHNICIAN NO. 1	TECHNICIAN NO. 2	TECHNICIAN NO. 3	TECHNICIAN NO. 4	RETURN THIS TO:
INITIAL HERE									

2000 Harley-Davidson® Motor Company

SAMPLE TRACKING SHEETS

10 DOWNLOADS

CARTRIDGE PART NO. _____				
MULTIPLE DOWNLOAD CALIBRATION CARTRIDGE TRACKING SHEET				
Calibration		Work Order Number	Technician	Date
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

5 DOWNLOADS

CARTRIDGE PART NO. _____				
MULTIPLE DOWNLOAD CALIBRATION CARTRIDGE TRACKING SHEET				
Calibration		Work Order Number	Technician	Date
1				
2				
3				
4				
5				

Figure 5. Track All Cartridge Downloads