INSTRUCTIONS

Kit Number RJ10013-00

2005-2006 SOFTAIL™ DELUXE™ CRUISE CONTROL KIT

GENERAL

This cruise control kit is designed for installation on 2005-2006 Softail Deluxe (FLSTN/FLSTNI) Model Motorcycles, or for 2004-2006 Softails that have had the stock speedometer replaced with one not equipped with a cruise indicator light. This kit requires associated model dependent idle cable. If motorcycle is carburetor equipped, a cruise control carburetor conversion kit will also be required. See attached service parts list for kit contents.

WARNING

Failure to correctly install this kit may adversly affect the function of your motorcycle. If you are unsure of your capabilites to correctly install this kit, or if you are lacking any of the proper facilities, manuals, or tools you must have this kit installed by a qualified service technician. *IMPROPER INSTALLATION AND VEHICLE REASSEMBLY MAY RESULT IN PROPERTY LOSS, BODILY INJURY OR DEATH!*

WARNING

It is imperative that the kill switch (on the right hand control) operates properly. After installation, and before each vehicle operation, the kill switch must be tested. In the event the kill switch does not function correctly, do not operate the vehicle until proper operation has been restored. Never under any circumstance remove right hand from controls. In the event the cruise control or vehicle malfunctions, immediately stop the engine with the kill switch. Always use kill switch to shut off motorcycle, so that you're are familiar with it's position and operation. *IMPROPER KILL SWITCH OPERATION MAY RESULT IN PROPERTY LOSS, BODILY INJURY OR DEATH!*

Service Manual Required

This instruction sheet refers the installer to the appropriate Softail service manual for many procedures. Therefore, you must not attempt to install this kit without having a copy of the Softail service manual applicable to your vehicle.

NOTE

If you do not have the correct service manual for your motorcycle, please contact your Harley-Davidson dealer to obtain one.

Shop Supplies Required

- Liquid Thread Lock
- Materials for splicing wires (refer to service manual for proper materials)

Specialty Tools Required

DO NOT ATTEMPT CRUISE CONTROL INSTALLATION WITHOUT PROPER TOOLS

- Tools for splicing wires (refer to service manual for proper tools)
- As per service manual, tools to remove and install the following: fuel tank, rear wheel, air cleaner, hand controls, battery, instrument panel, rear inner fender, and seat.

INSTALLATION

1. Remove seat, battery, rear wheel, fuse cover, instrument panel, air cleaner, fuel tank and rear inner fender following instructions in applicable service manual.

2. See Figure 1. Remove bolts in fuse block bracket. Move fuse block bracket forward on right side of motorcycle. Feed 10-place female Packard connector of the cruise control wire harness (CCWH) down through hole beside main wire harness to the main circuit breaker and the turn signal module. Align top of wire conduit on CCWH to top of wire conduit on main harness (routed to the main circuit breaker and turn signal module). Reinstall fuse block bracket and bolts.

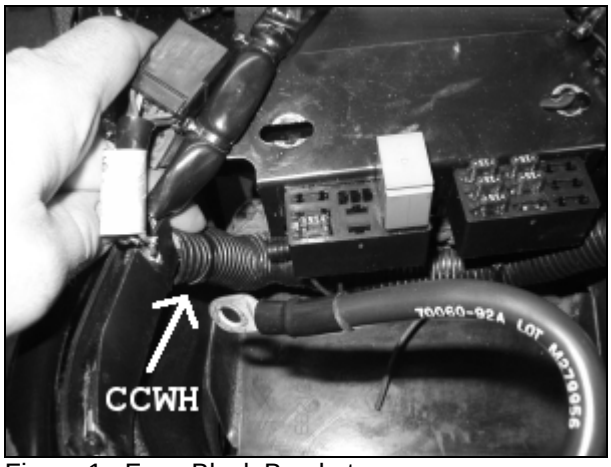

Figure 1. Fuse Block Bracket

3. See Figure 2. Uncoil cruise control cable attached to main cruise module. Feed cruise control cable out through right side frame, above lower frame member and under rear fork pivot shaft and exhaust. Temporarily leave cruise control cable protruding out right side of motorcycle. Connect 10-place female Packard connector on CCWH to main cruise module.

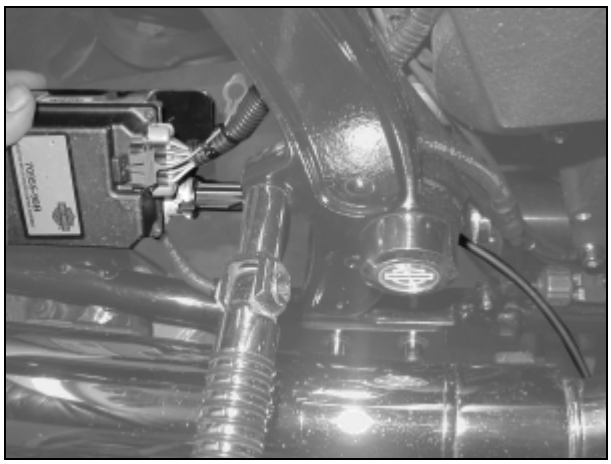
Figure 2. Main Cruise Module

4. See Figure 3. Unplug security siren connector from holder, and remove harness from electrical bracket (you will reposition this later). Position cruise control module bracket on motorcycle such that the top mounting slots fit over the security siren "hooks" on electrical bracket. The lower two cruise control module bracket bolt holes will line up with holes in the transmission casting. Position nut retaining plate on top of transmission casting over the two holes. Apply liquid thread lock to provided ¼" bolts and insert through cruise control bracket, through transmission casting and tighten into nut retaining plate, being careful not to cross-thread. Reinsert security siren connector into its original position on electrical bracket. If the motorcycle is equipped with a siren, invert siren and fasten to electrical bracket with two long cable ties.

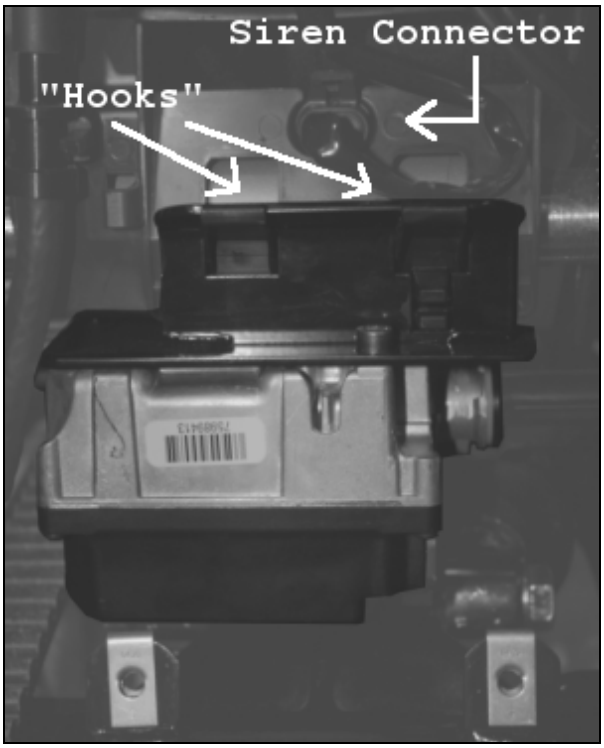

Figure 3. Cruise Control Module Installed

5. Secure CCWH to main circuit breaker wire harness using supplied cable ties. See Figure 3 – CCWH is visible to right of cruise control module.

6. Secure CCWH to main wire harness using supplied cable tie approximately one inch below top of wire conduit. Trim and splice red wire with yellow stripe to brake light power (red wire with yellow stripe) according to splicing instructions in service manual. The brake light power wire will be exposed from the main wiring harness near the end of the CCWH conduit. **If the motorcycle is equipped with an LED taillight or a brake light flasher module, there are some special instructions to ensure correct co-operation. Refer to "Brake Light Flasher/LED Taillight" addendum before splicing red/yellow wires.**

NOTE

In the following step, it is important to insert fuse terminals into fuse block **before** securing CCWH with cable ties.

7. See Figure 4. Remove left bolt and loosen right bolt on wire clamp. Route left and right side of CCWH to right side of sheild loom. Route right side of CCWH under right side of wire clamp. (right side harness can be identified by black Deutsch male connector housing and includes two connectors for the throttle roll-off switch). Route left side of CCWH in cross wire trough of the shield loom (left side harness can be identified by grounding connector, Deutsch male connector housing). Place left side of CCWH including Deutsch connector under wire clamp closest to the left wire clamp bolt. Insert fuse terminals into unused fuse position, next to spare fuse holders on relay side of fuse block. **Make certain that you are using the unused fuse position that does not have an existing fuse terminal!** (fuse terminals are very difficult to remove once inserted) Refer to service manual for empty fuse position location. Install supplied 10 amp fuse into fuse position. Splice white wire with green stripe to vehicle speed signal (white wire with green stripe in wiring harness from engine control module, if fuel injected, or from ignition control module, if carburetor equipped). Trim to length if necessary. Place ground connector under existing left side ground connectors and replace left wire clamp bolt. Tighten both wire clamp bolts. Evenly distribute and secure CCWH to shield loom by replacing factory cable ties with supplied ties.

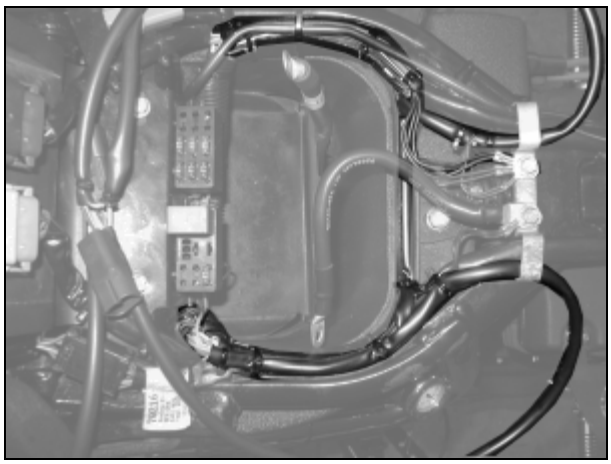

Figure 4. CCWH Position

8. See Figure 5. Place right and left side CCWH in right and left side of wire trough located under fuel tank. Remove push-in fastener from right side of the fuel tank rubber trim, this will allow access to wire harness located underneath. Secure right and left side of CCWH by replacing existing cable ties and cable ties supplied. Left and right side Deutsch male connector should be positioned next to frame so it will be covered by the fuel tank rubber trim. Throttle roll-off connectors on right side CCWH should be left unsecured. On left side CCWH, secure wire harness extension (containing pink wire and red wire with gray stripe) with supplied cable ties to existing harness terminating under instrument panel.

Figure 5. Frame Under Fuel Tank Rubber Trim

9. Insert socket terminal on pink wire into cavity #3 of mini-packard connector that plugs into back of speedometer. If other accessories are occupying this socket, splice pink wire into existing pink wire. Splice red wire with gray strip to accessory power wire from ignition switch before fuse (red wire with gray stripe). Refer to service manual to ensure correct wire color codes and proper procedures when. Trim wires to length if necessary.

10. Reinstall rear inner fender, rear wheel, and fuse cover.

CAUTION

Refer to service manual for proper procedure to remove right-hand switch housing assembly. Failure to utilize a proper spacer, as described in the service manual, could damage front brake light switch assembly.

11. Remove right and left switch assembly housing according to service manual.

NOTE

Pay close attention to existing harness routing and cable ties before completely removing switch

housing assemblies. You will need to reinstall switch housing assembly cables (supplied in kit) in the same manner.

12. See Figure 6. Route cruise control cable along lower frame tube until it is below the cam position sensor cover. From that point forward follow clutch cable routing up to the point where the clutch cable retaining ring attaches to frame on left side of bike.

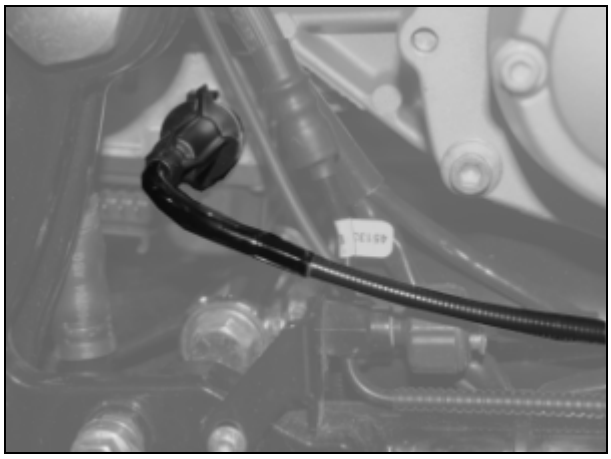

Figure 6. Cruise Control Cable from Module

13. See Figure 7. Feed cruise control cable through space between clutch cable and frame (above where clutch cable adjustment attaches to frame), and then under left side of the fuel tank rubber trim and toward right side of bike between front cylinder head and top engine mount.

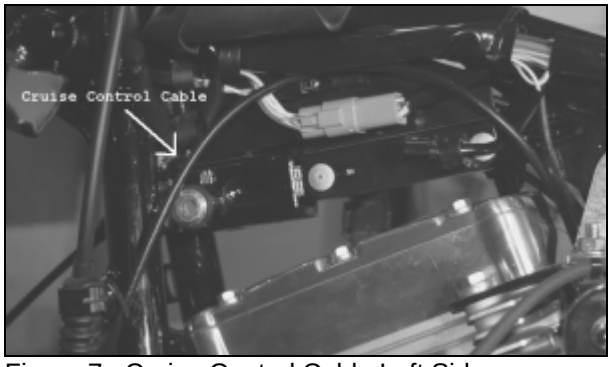

Figure 7. Cruise Control Cable Left Side

14. If motorcycle is fuel-injected, skip to Step 21. If motorcycle is equipped with a carburetor, continue to install Cruise Control Carburetor Conversion Kit (sold separately from Main Cruise Control Kit).

15. Remove carburetor (refer to Service Manual).

16. See Figure 8. Remove rod from throttle shaft boss by removing cotter pin. Discard cotter pin and white collar but retain zinc plated washer for reinstallation.

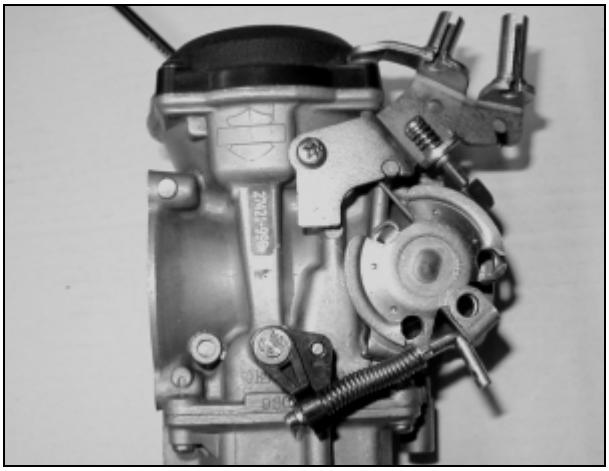

Figure 8. Carburetor - Rod and Collar Removed

17. See Figure 9. Install cruise control cable bracket to throttle cable bracket using supplied machine screws and lock nuts. Use liquid thread lock on machine screws before assembling. Make sure screw heads are on throttle cable bracket side and lock nuts are on cruise control cable bracket side. Make sure cruise control cable bracket hole and slot face away from carburetor.

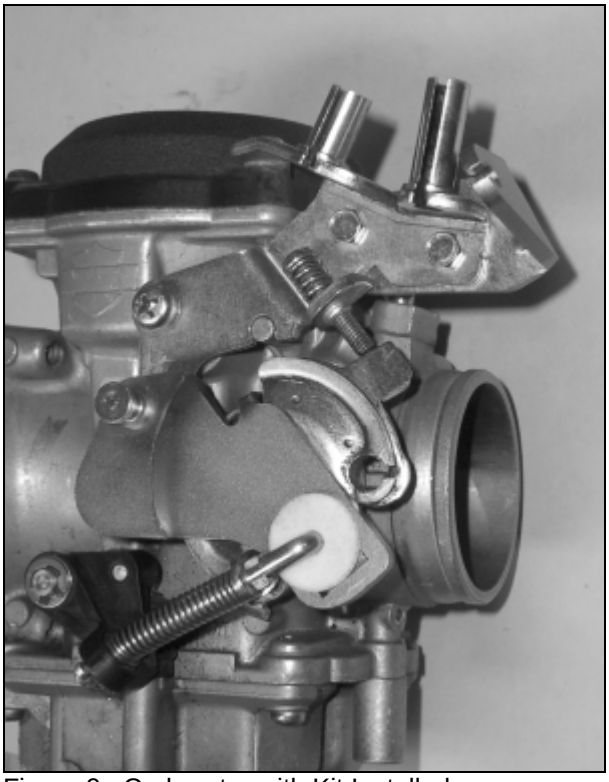

Figure 9. Carburetor with Kit Installed

18. See Figure 9. Position cruise control wheel pin bracket so retaining leg near wheel pin end of bracket will engage throttle shaft boss. Position opposite end of bracket over the protruding end of throttle shaft boss where collar was removed in Step 16.

19. Replace collar with new collar from cruise control carburetor conversion kit. The new collar will aid in holding cruise control wheel pin bracket in place. Reinstall rod into throttle shaft boss using zinc washer retained in Step 16 and supplied cotter pin.

20. Do not reinstall carburetor until cruise cable is attached. It is much easier to install cruise cable when carburetor is not attached to engine.

21. See Figure 10. Note idle cable routing. Remove idle cable and replace with supplied idle cable following same route as original cable (refer to service manual for procedure). Ensure throttle roll-off switch connector prongs are pointing down. Plug throttle roll-off switch connectors from CCWH into throttle roll-off switch. Once idle cable is installed, refer to "Idle Cable Adjustment" addendum included with kit for additional adjustment procedures.

WARNING

Do not operate cruise control unless idle cable equipped with functioning throttle roll-off switch is installed.

Figure 10. Throttle Roll-off Switch

22. See Figure 11. Install cruise cable end fitting onto wheel pin on cruise control wheel pin bracket (if carburetor equipped), or onto wheel pin of throttle wheel (if fuel injected). It will snap securely into place when properly seated.

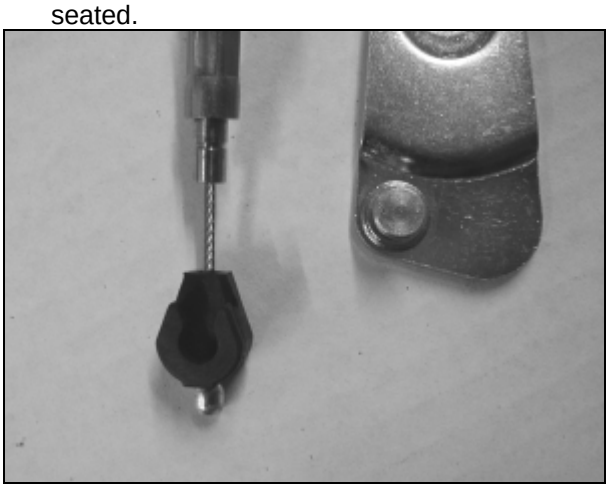

Figure 11. Cruise Cable End and Wheel Pin

23. Place cable through cruise control cable bracket slot (if carburetor equipped) or through throttle cable bracket slot for cruise control cable (if fuel injected). Slip cruise cable housing into cable guide. Install supplied e-clip into grove on cable housing, securing it to bracket. If carburetor equipped, reinstall carburetor according to service manual instructions.

24. Secure cruse control cable to frame using supplied cable ties.

WARNING

Do not operate motorcycle if throttle function is impeded in any way. Throttle must be able to fully close when throttle hand control is released.

IMPROPER THROTTLE OPERATION MAY RESULT IN PROPERTY LOSS, BODILY INJURY OR DEATH!

25. See Figure 12. Verify that there is sufficient slack in cruise control cable to allow throttle to fully close unimpeded.

26. Install right and left switch housing assemblies according to service manual. Use supplied wiring retainers.

27. Connect the 4-place Deutsch hand control harness connector to 4-place Deutsch connector on the CCWH on each side.

Figure 12. Check for Slack in Cable

28. Replace cable ties that secure right and left switch housing assembly wiring harnesses in their original positions.

29. Reinstall fuel tank rubber trim and push-in fastener on right side of the fuel tank rubber trim.

30. Reinstall air cleaner using supplied gasket (refer to service manual).

31. Reinstall fuel tank using supplied fuel hose clamp (if carburetor equipped) and fuel hose crossover clamp (refer to service manual).

32. Reinstall instrument panel (refer to service manual).

WARNING

Always connect the positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

33. Reconnect battery, positive cable first.

34. Install seat (refer to Service Manual).

WARNING

Make sure seat is properly installed according to procedure in service manual. Failure to install seat properly may result in injury or death.

Cruise Cable Adjustment and Final Test

35. Perform cruise cable adjustment. See "Cable Lash Initialization" addendum.

36. Refer to addendum titled, "Cruise Control Operation" for cruise control operating instructions.

37. Verify proper function of all hand controls.

WARNING

It is imperative that the kill switch (on the right hand control) operates properly. After installation, and before each vehicle operation, the kill switch must be tested. In the event the kill switch does not function correctly, do not operate the vehicle until proper operation has been restored. Never under any circumstance remove right hand from controls. In the event the cruise control or vehicle malfunctions, immediately stop the engine with the kill switch. Always use kill switch to shut off motorcycle, so that you're are familiar with it's position and operation. ***IMPROPER KILL SWITCH OPERATION MAY RESULT IN PROPERTY LOSS, BODILY INJURY OR DEATH!***

38. Test ride motorcycle and verify cruise control is operating properly. If cruise control acts inappropriately immediately stop engine with kill switch. **Do not operate the vehicle until proper operation has been restored.**