TECH *by Tyler Greenblatt*

INSTALLING APES

How to bolt a set of 1-1/2″ Carlini 16″ apes onto a Road King

TO MOST RIDERS, A ROAD KING IS THE PERFECTLY SIZED bike. It's long, balanced, and should be able to handle just about anyone. There are exceptions, of course, such as our Chief Operating Officer Terry O'Brien, who claims to get mistaken for a Chicago Bears linebacker at airports.

He might not be quite as ripped and dangerous as the legendary Brian Urlacher, but Terry's definitely a big guy. So when he bought his 1999 Road King last year, it needed some immediate improvements to make it work for him. First up was a new seat from Mustang and a set of extended forward controls from Accutronix. Both of those improved his ride dramatically, but the right set of handlebars would be the finishing touch.

With traditional lines, just the right amount of chrome, and an overall classy demeanor, Terry's Road King would need handlebars that both looked and functioned phenomenally. It didn't take him long to decide on Carlini Design's 1-1/2″-thick, 16″-tall Original Apes ($300). Original Apes have a total width of 41″, sports 8″ of pullback, and is available in 13″, 16″, and 18″ heights. Carlini also supplied one of its Road King risers (#HHR-3/$175) for 1-1/2″ handlebars, which is made of billet aluminum and fits under the stock riser cover.

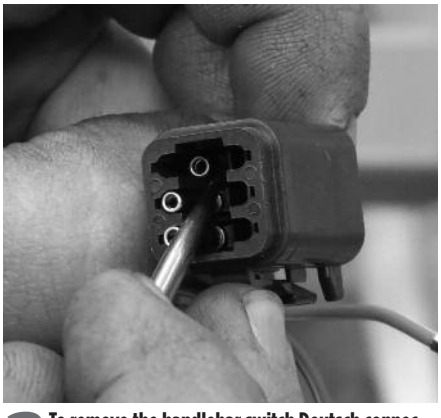
To keep those big boy bars tracking, we went with H-D's Magnum Diameter Get-A-Grip handgrips (#5610009/$59.77). With chrome outsides and grippy rubber where your hands go, the Get-A-Grips were designed for a daily rider where rain, mist, or crazy drivers require a solid hold on your handlebars. Terry quickly warmed

PHOTOS BY CHRIS MAIDA

1 Here's our 1999 Road King up on Dan's lift ready to receive its new 16" Carlini apes. The transmission end cover and exhaust system, as well as the handlebars and headlight nacelle, have been removed. After we removed the seat, the battery ground cable was also disconnected.

TOOLS NEEDED

- Q-tips
- Brake clean
- Strong string
- Solder
- Soldering gun
- Dremel tool
- WD-40
- Blue Loctite
- Red Loctite
- Cardboard wedge
- Flat file
- Phillips screwdriver
- Snap ring pliers (internal)
- T-25 Torx
- T-27 Torx
- T-40 Torx
- 1/8″ Allen
- 3/16″ Allen
- 5/16″ Allen
- 5/16″ wrench
- 3/8″ wrench (12-point)
- 7/16″ wrench
- 9/16″ wrench
- 1/2″ socket
- 3/4″ socket
- Torque wrench (in-lbs.)
- Torque wrench (ft-lbs.)



2 To remove the handlebar switch Deutsch connectors from their harnesses, Dan uses a pick tool to lift up the little black tab inside the connector that's over a pin before pulling the pin out of the connector.

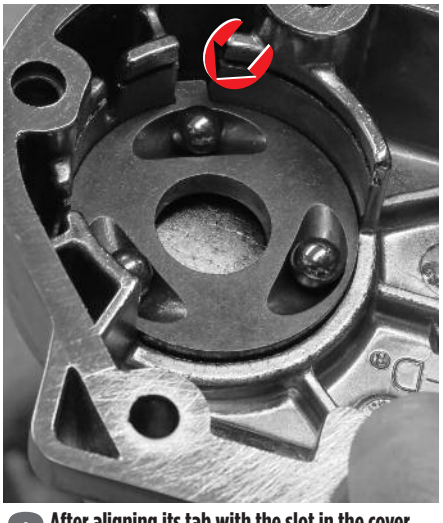
3 Dan now plugs the Tec switch harness extensions into the stock switch harnesses. Though they don't need to be, Dan also solders each connection before covering it with the Tec-supplied shrink wrap.

4 After covering the entire harness with the Tec-supplied shrink wrap, Dan blows a guide string through the bars. This string is to take up slack in the harness as it is fed into the bars, not to pull the harness through.

5 With a guide string taped to the end of the wiring harness, Dan coats the harness with a little WD-40 and feeds it into the switch hole while a buddy gently pulls on the guide string.

6 Once both harnesses are through the bars, Dan can reassemble the connectors by inserting the pins as per his diagram and popping in the end cap, followed by the rubber moisture barrier.

7 With the new Tec stainless steel clutch cable routed to the tranny, Dan slips a new O-ring onto the cable and then threads the new cable into the stock end cover. It's easy to cross thread this cable, so be careful.



8 After aligning its tab with the slot in the cover (arrow), Dan drops in the outer clutch ramp, followed by the three stock balls.

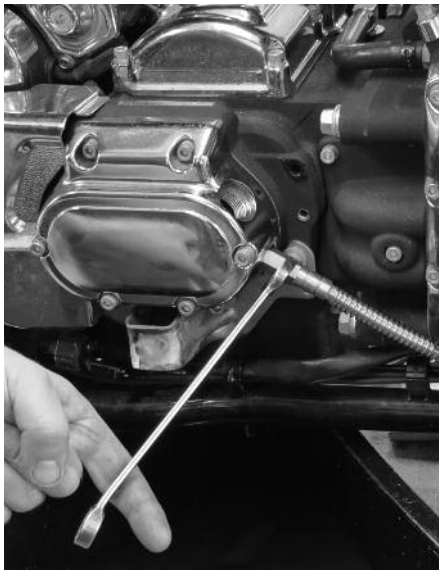
9 After attaching the stock cable holder onto the end of the new Tec/Barnett cable, Dan slips the stock inner ramp onto the holder and rotates it so the cable holder engages the ramp.

10 With the inner ramp positioned over the outer ramp so the balls are in their pockets, Dan secures the outer ramp to the end cover using the stock retaining ring and internal snap ring pliers.

11 With a new gasket on the tranny, Dan reinstalls the end cover using the stock bolts, blue Loctite, and a 3/16" Allen. He torques the bolts to 100 in-lbs.

up to the magnum sizing, which is a bit bigger than what he was used to. We also went with Harley's polyurethane riser isolators (#56298-03/$29.85) so he would have a factory-quality connection to the top triple tree.

We're always looking for companies or products that can make a difficult install easier and help us do it right the first time. That's why we spoke to the good folks at TEC Distributing, the one-stop shop for the complicated aspect of installing apehangers, namely the wiring extensions, and stainless braided cables and brake lines. We told



12 Dan tightens the cable using a 9/16" wrench and only one finger, since the cable end can be broken off if you tighten it too much. He then adds the correct grade and amount of transmission oil.

13 After putting a little WD-40 on them, Dan slips the lower part of the H-D riser bushing set (aluminum and neoprene) into the bottom of the top triple tree. Note: you'll have to turn the front end to get them in.

14 After putting a little WD-40 on them, the rest of the H-D riser bushing set (aluminum and neoprene) goes into the top of the top triple tree.

them what bike we were working on, the size of the bars, and they sent us a complete, ready-to-go kit with everything we needed to get the job done.

Though many know him for engine builds and custom dyno tuning, we did this handlebar swap at Rob's Dyno (RD) in Gardener, Massachusetts, with RD mechanic Dan. Dan has done many of these upgrades, and he's the guy who turned us on to Tec Distributing.

Terry, in all his publishing executive and Bears linebacker greatness, loves his new setup and actually looks normal on his Road King now. More impor-

15 Before he pulled them out from under the gas tank, Dan tied a string to each of the old throttle cables so he could use the strings to pull the new Tec/Barnett stainless steel throttle cables through along the same route.

16 After removing the air cleaner cover using a 5/16" Allen, Dan attaches the new cables to the throttle wheel, first the pull cable and then the push cable, which goes into the top hole (arrow). This year bike does not use a spring on the push cable.

17 After putting wire-ties on the clutch and throttle cables, Dan attaches the Tec stainless steel brake line spider to the bottom of the bottom triple tree using the stock hardware, blue Loctite, and a T-40 Torx.

avon

18 With a new Tec-supplied crush washer under the head of the stock banjo bolt, Dan slips the bolt into the banjo fitting on the new brake line, followed by another crush washer.

19 He then attaches the line to the stock brake caliper using a 12-point 3/8" wrench. After positioning the banjo so the line follows the same route as the stock line, Dan torques the bolt to 17-22 ft-lbs.

20 Once Dan has slipped the stock handlebar ground strap over a 1/2" x 2-1/4" coarse-threaded bolt, he threads the bolt into the Carlini riser using red Loctite and a 3/4" socket.

21 After slipping a 1/2" flat washer onto the other riser bolt and then installing it, Dan torques both bolts to 35 ft-lbs. using a 3/4" socket. And, yes, you'll have to turn the front end to get the riser bolts into the top tree.

TIPS & TRICKS

BEFORE DISASSEMBLING THE switch harness connectors, use the Tec-supplied diagram to write down which colored wires go where. When making the diagram, use the connector's locking tab as a reference point.

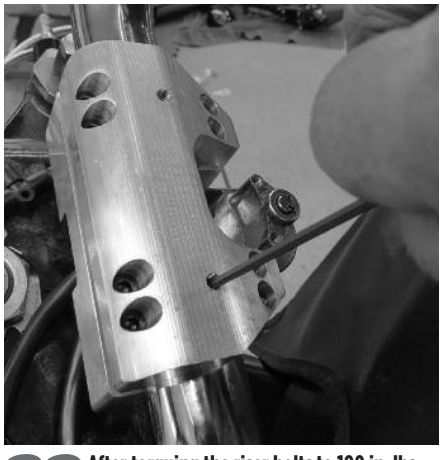
Since they'll be covered by the switch housings, Dan enlarged the wiring harness holes in the handlebars until they're 1/2" wide and 3/4"-1" long using a Dremel to make it easier to pull the wiring harnesses through the bars.

To blow the guide string through the bars, Dan tapes up all the holes in the bars except the one the string goes in and the one it comes out. The pressurized air stream will bring the string right out the other end.

Before reinstalling the tranny's end cover, Dan cleans out all the boltholes in the case with a Q-tip and brake clean. He also removes all old gasket material.

Dan had to file down the nub at the riser end of the headlight nacelle's top trim so that it will clear the new Carlini risers. ■

22 After threading the wiring through the slot in the lower riser, Dan installs the bars and riser top using the Carlini-supplied bolts, blue Loctite, and a 3/16" Allen. Make sure the gap on both sides of the riser are even.



23 After torquing the riser bolts to 100 in-lbs., Dan puts some blue Loctite on the two Carlini-supplied handlebar setscrews. He then installs them into the riser top using a 1/8" Allen.

SOURCES

CARLINI DESIGN
714/432-9000
CarliniDesign.com

HARLEY-DAVIDSON MOTOR COMPANY
414/343-4056
Harley-Davidson.com

ROB'S DYNO SERVICE
978/895-0441
RobsDyno.com

TEC DISTRIBUTING
978/352-4710
TecDistributing.com

24 After positioning the clutch perch onto the Carlini bars and against the switch housing, Dan uses the stock bolts and a T-27 Torx to loosely secure it to the bars.

25 Dan then pushes the new H-D chrome and rubber handgrip onto the bars until it reaches the switch housings. He then reinstalls the clutch lever using just its pivot pin.

26 After he positions the clutch perch so the lever is comfortable for Terry, Dan secures the switch housing to the handlebars using the two stock bolts and a T-25 Torx. He torques the bolts to 25-35 in-lbs.

wana ride

27 Once he has routed the clutch cable to the left hand lever, Dan reassembles the clutch lever setup using all stock parts. He then torques the bolts to 60-80 in-lbs.

30 Once he has installed the Tec/Barnett upper front brake line from the brake line spider to the master cylinder following the stock route, Dan connects it using a 3/8" 12-point wrench and a 7/16" wrench.

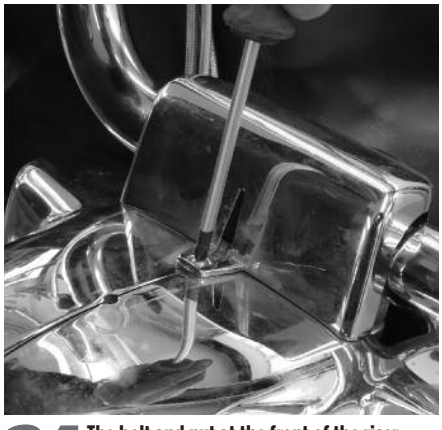
28 On the right switch housing, Dan connects the cables to the new H-D handgrip. The pull cable goes into the forward hole of the switch housing and in the lower hole (arrow) on the handgrip.

31 After reconnecting the nacelle's switches, Dan loosely installs the headlight nacelle using the stock washers and nuts. The throttle cables and brake line are routed through the riser opening (arrow) in the nacelle.

29 With a wedge of cardboard between the brake lever and its perch to prevent the lever from breaking the front brake light switch (it's in the switch housing), Dan installs the master cylinder.

32 Dan positions the spotlight assembly onto its stock mounting points and reattaches the two switch harness connectors. He then checks that all switches and lights, except for the headlight, work.

33 After securing all the wiring with wire-ties, Dan installs the riser cover using the two stock screws and a Phillips screwdriver. After aligning the front of both nacelle halves, he tightens the nacelle and spotlight nuts using a 1/2" socket.



34 The bolt and nut at the front of the riser cover is tightened using a Phillips screwdriver and 5/16" wrench. This year bike also has a clip that joins both nacelle halves at the front of the nacelle.

35 After sliding the headlight trim into place on top of the nacelle and reattaching the headlight connector, Dan reinstalls the headlight assembly using the stock seven screws and a Phillips screwdriver.

biker barn

J&p

frankenstein

tantly, the handlebars and stainless braided lines make his bike look like something the real number 54 would want to be seen cruising around on. I'd better stop there before I get called into a 5 o'clock meeting with number 53-1/2.

36 Once the headlight trim is back in place, Dan reinstalls the single stock screw using a Phillips screwdriver. He then adjusts the clutch cable as per the H-D service manual procedure.

37 Here's how our finished Road King looks with its new 1-1/2" Carlini 16" apes. MB