

## TC BROS. CHOPPERS

PART #102-0081 &amp; #102-0082 (No Pegs)

## FORWARD CONTROLS KIT FOR ALL 1986-1990 HARLEY DAVIDSON SPORTSTER MODELS

*If downloading & printing these instructions online, be sure to set your printer to "Full Scale"*

**Note:** Please be aware that this procedure may exceed your technical abilities. Please read instructions completely and carefully before attempting installation. If you are unsure of your abilities, please consult a service professional.

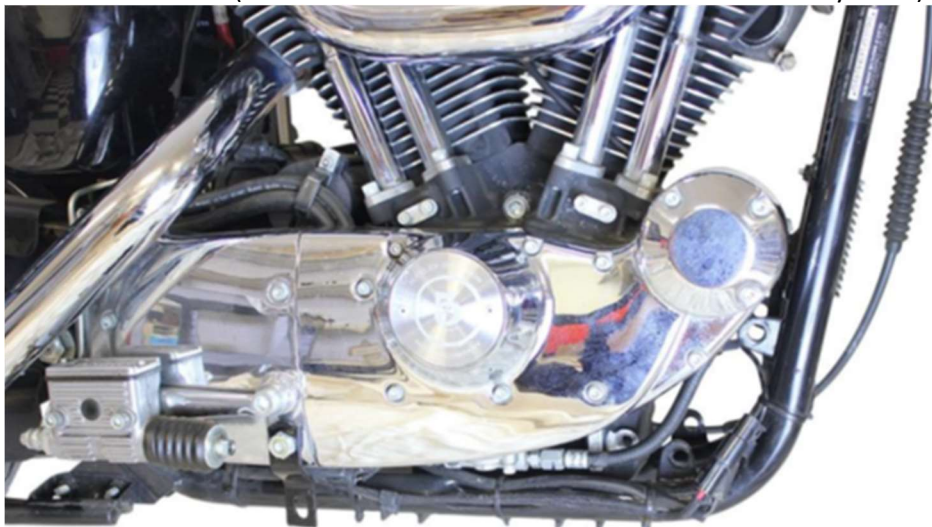
**WARNING: INSTALL & USE AT YOUR OWN RISK!** Always wear and use all proper safety gear at all times when installing this product. We have made every attempt to ensure that these instructions are concise and easy to follow, but if any mistakes are found, or you require additional information, we can be reached M-F from 8:00am-5:00pm EST by calling 419-265-9399 or via email at sales@tcbroschoppers.com. TC Bros Choppers LLC assumes no liability for any personal injury or property damage caused by the installation and/or use or misuse of this or any other product.

**Recommended Tools for Installation:**

- 1.) Combination Wrenches in 7/16", 1/2", 9/16" and 3/4" sizes
- 2.) Torque Wrench that measures in ft-lbs or N-m
- 3.) Standard Hex Key Wrenches (a.k.a. "Allen Wrenches")
- 4.) Ratchet and Socket set
- 5.) Loctite #243 Medium Strength Threadlocker (Blue) or equivalent

**FORWARD CONTROLS INSTALLATION INSTRUCTIONS:**

- 1.) Remove Front Exhaust Pipe.
- 2.) If your bike has factory mid controls, remove shifter, brake pedal, footpegs, and front lower engine mounts. (Rear brake line can remain connected to master cylinder)
- 3.) If your bike has factory forward controls, first disconnect linkage rods, then remove all forward controls mounts and hardware. (Rear brake line can remain connected to master cylinder)



- 4.) Please refer to supplied parts diagrams on following pages for part number references for remainder of installation instructions. **NOTE: Apply threadlocker to all threaded mounting hardware.**
- 5.) Insert 1/2"-13x6" bolt (part #119-0053) through brake side forward control mount (part #MB883XL-R). It will pass all the way through the welded spacer and threads will protrude out the other side.

- 6.) Install brake side forward control mount (part #MB883XL-R) loosely to bike using quantity two 3/8-16x1" hex flange bolts (part #119-0162) and quantity two 3/8-16 flanged hex locknuts (part #119-0163). It will install in the same location as your stock brake side motor mount that you removed in step 2 or step 3.



- 7.) Insert 1/2-13x3/4" (part #119-0156) through shifter side forward control mount (part #MB883XL-L). It will pass all the way through the welded spacer and threads will protrude out the other side.
- 8.) Install shifter side forward control mount (part #MB883XL-L) loosely to bike using quantity two 3/8-16x1 1/2" hex flange bolts (part #119-0161), quantity two 1/2" long aluminum spacers (Part #119-0158), and quantity two 3/8-16 flanged hex locknuts (part #119-0163). Make sure spacers are between forward control mount and frame tabs. It will install in the same location as your stock shifter side motor mount that you removed in step 2 or step 3.



- 9.) Continue loosely installing shifter side forward control mount (Part #MB883XL-L) using 3/8-24x5 1/2" (fine threaded) hex bolt (part #119-0160) and 3/8" flat washer (part #119-0026). The part #119-0160 bolt passes through the engine case and threads into the threaded hole of the supplied brake side forward controls mount (part #MB883XL-R) that you previously installed in step 6. Take care as to not cross thread the bolt into the brake side forward control mount (part #MB883XL-R) or you may damage the threads beyond repair.

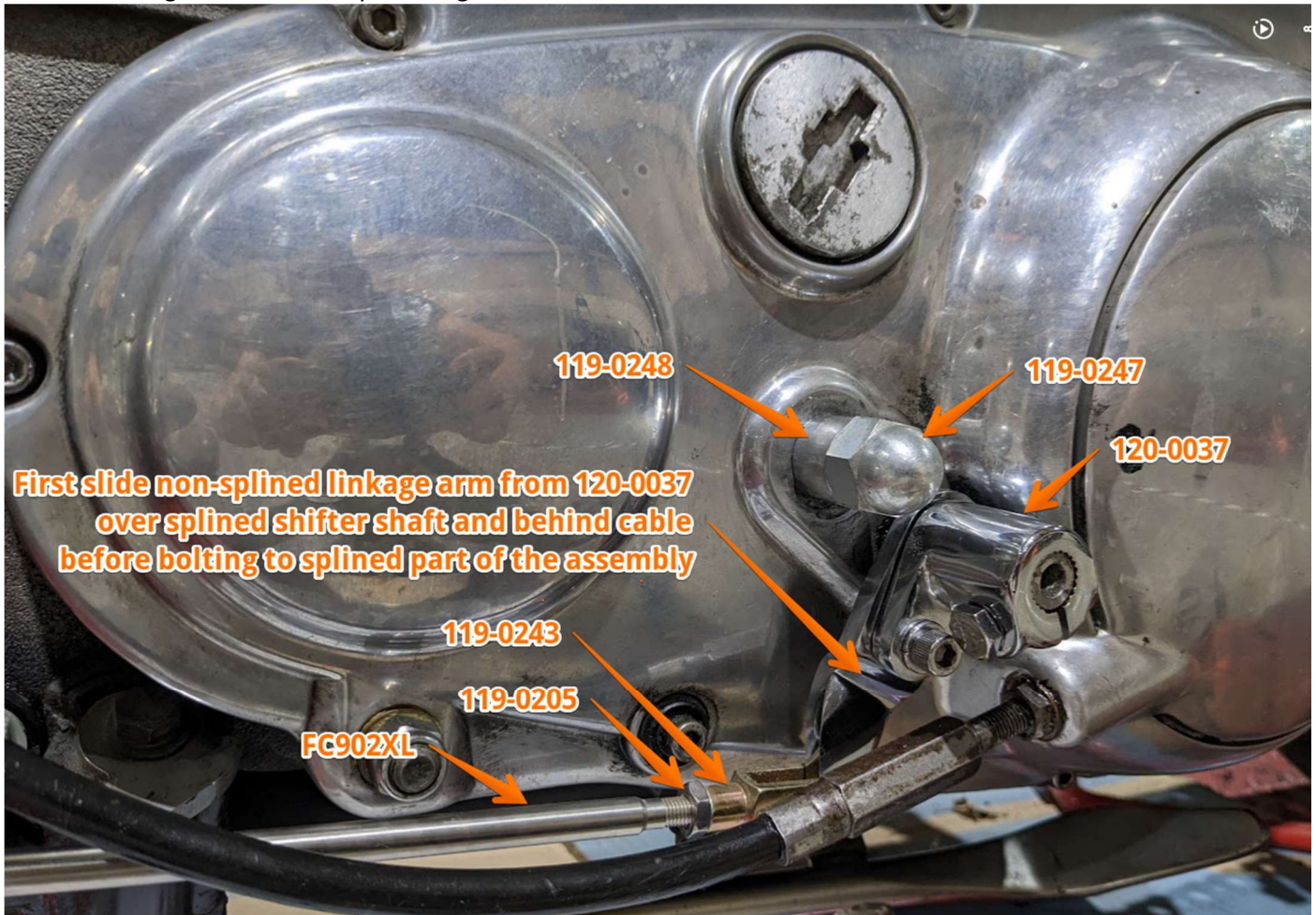
- 10.) Finish loosely installing the shifter side and brake side forward controls mounts using 3/8-16x5½" (coarse threaded) hex bolt (part #119-0164), 3/8" flat washer (part #119-0026), and 3/8-16 flanged hex locknut (part #119-0163).



- 11.) Now that both sides of the bike have the mounting bracket have all of the hardware loosely installed, please take a moment to double check that it is all in the proper arrangement as shown in the supplied parts diagram in the following pages of these instructions, and that threadlocker has been applied to all fasteners. If everything is correct, it is time to torque the fasteners. Using a torque wrench, torque all of the 3/8" fasteners to 30 ft-lbs (40.7 N-m).
- 12.) Install the brake side forward control assembly to the mounting bracket (#MB883XL-R) using the ½-13x6" bolt (part #119-0053) that you installed in step 5. Be sure to orient the footpeg mounting clevis (part #FC888XL) so that the milled slot of the clevis is approximately at a 45 degree angle to the ground. This angle will assist the peg in folding if it were ever to contact the ground while riding. You most likely will not be able to reach the head of the 119-0053 bolt with a torque wrench, so just liberally apply threadlocker to the threads and tighten securely using a ¾" combination wrench.
- 13.) Begin assembly of the brake linkage rod by first installing a 5/16-24 jam nut (part #119-0103) onto either end of the part #FC892XL linkage rod. Then continue by installing a 5/16" female heim joint (part #119-0009) onto only one end of the part #FC892XL linkage rod.
- 14.) Thread the other end of the part #FC892XL linkage rod into the stock master cylinder and secure with jam nut (part #119-0103).
- 15.) Loosely attach the front of the linkage rod to the hole in the bottom of the forward control pivot plate (part #FC894XL) using 5/16-18x1½" button head bolt (part #119-0036), 3/8" long aluminum spacer (part #119-0139), and 5/16-18 locknut (part #119-0004).
- 16.) If you purchased part #102-0081, you can skip this step. If you purchased part #102-0082 (forward controls without pegs), now is time to install your footpeg (not included) using the supplied 3/8-16x1¼ (Part #119-0040) button head bolt and 3/8-16 (part #119-0155) locknut. Follow by installing toe peg (not included).
- 17.) While seated on the bike, check that brake pedal is in a comfortable position and you can operate it easily with your foot. You can adjust the position of the pedal by unbolting the heim joint (part #119-0009) from the pivot plate (part #FC894XL) and adjusting the length of the linkage rod by threading it in or out of the master cylinder or heim joint, then reinstalling the linkage to the forward control. Take care to maintain a minimum of 5/16" of linkage rod thread engagement in both the master cylinder as well as the heim joint. Remember to tighten the

#119-0103 jam nuts to the master cylinder and heim joint as well. At this time, the brake side forward control installation is complete.

- 18.) Install the shifter side forward control assembly to the mounting bracket (#MB883XL-L) using the ½-13x3¼" bolt (part #119-0156) in the same manner as you did on the brake side (45 degree clevis, threadlocker, etc.).
- 19.) Install the shift lever assembly (part #120-0037) to the splined shifter shaft protruding from your engine by sliding the back half of the assembly on first then tap the splined front half into position with a soft faced mallet until it is fully seated onto the shaft. Be sure to orient the shift lever so that the threaded linkage attachment hole is in the 6:00 position. Tighten supplied socket head bolt securely to secure the front half to the back half. Now use the hex bolt to clamp the shift lever to shift shaft.
- 20.) Install supplied 5/16-24 hex jam nut (part #119-0103) onto one end of shift linkage rod (part #FC891XL) and ¼-28 hex jam nut (part #119-0205) on the other end. Follow by installing supplied 5/16" heim joint (part #119-0009) onto one end and ¼-28 clevis (part #119-0243) on the other end of linkage rod as well.
- 21.) Attach shift linkage rod to shift lever installed in step 19 by sliding clevis pin (part #119-0244) through clevis (part #119-0243) and shift lever assembly (part #120-0037) then secure clevis pin with cotter pin (part #119-0245). Follow by loosely installing remaining end of shift linkage rod to forward control pivot plate (part #FC893XL) using 5/16-18x1¼" button head bolt (part #119-0035) and 5/16-18 locknut (part #119-0004). Be sure to orient shift linkage rod (part #FC891XL) so that there is no contact with the engine case, and the heim joint is not binding. Please refer to parts diagram for orientation.



- 22.) If you purchased part #102-0081, you can skip this step. If you purchased part #102-0082 (forward controls without pegs), now is time to install your footpeg (not included) in the same manner as the brake side. Follow by installing toe peg (not included).
- 23.) While seated on the bike, check that the shifter pedal is adjusted properly in a similar manner as was completed on the brake side in step 17. You can adjust the length of the rod in a similar manner as step 17 as well.

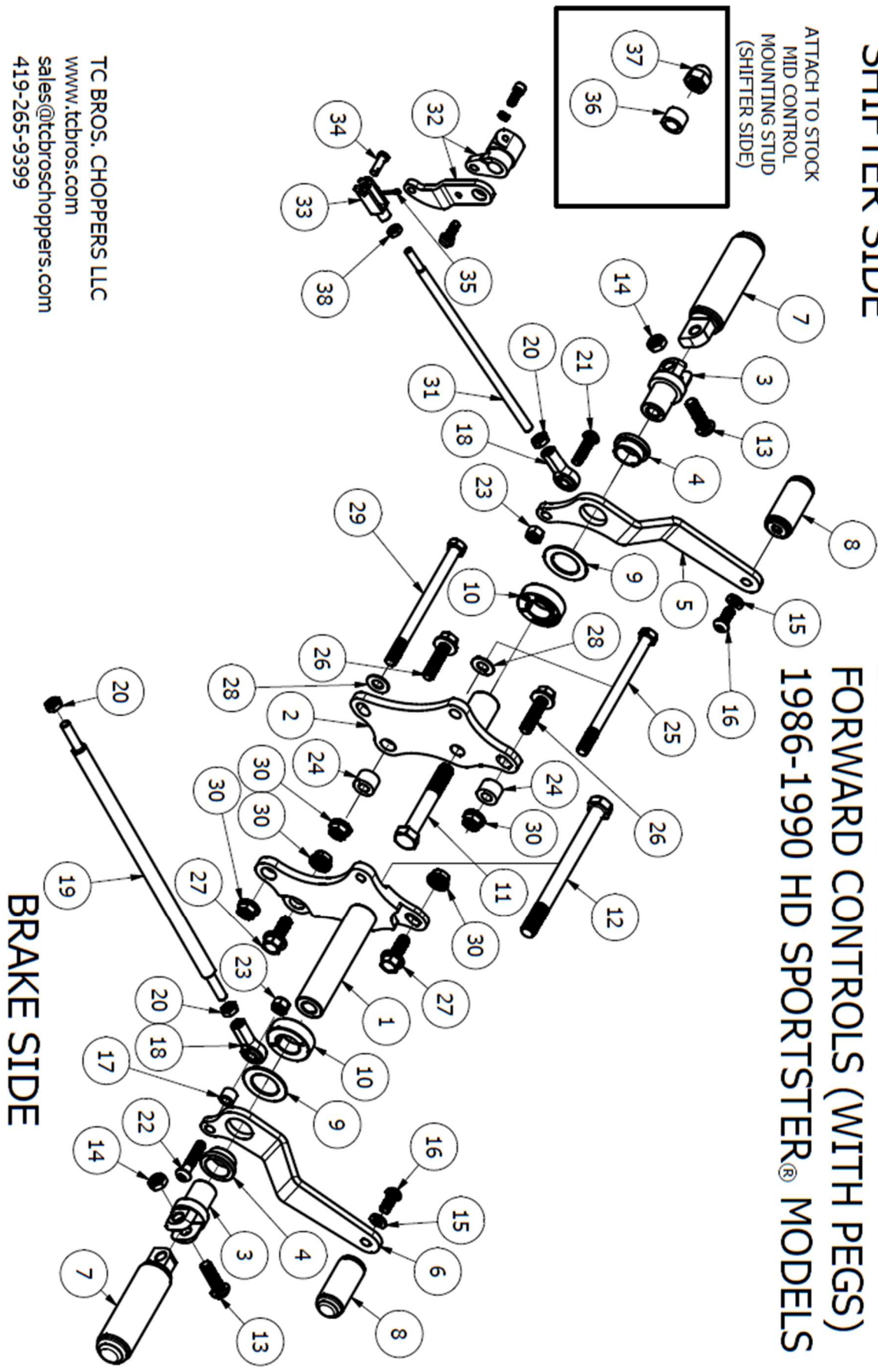
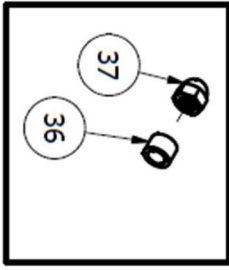
Remember to maintain a minimum of 5/16" of linkage rod thread engagement in heim joint and clevis.

Remember to tighten the #119-0103 jam nuts to the clevis and heim joint as well.

- 24.) If your bike had factory mid controls you can use the spacer (part #119-0248) and the ½"-13 acorn nut (part #119-0247) to conceal the ½" stud the factory foot peg mount was attached to. At this time, the shifter side forward control installation is complete.
- 25.) Now that both sides of the forward controls have been installed, and the linkages have been adjusted properly, it is time to apply threadlocker and tighten all remaining hardware securely. Once completed, double check that both the shifter and brake operate smoothly and comfortably before use.

# SHIFTER SIDE

ATTACH TO STOCK  
MID CONTROL  
MOUNTING STUD  
(SHIFTER SIDE)



PART #102-0081

FORWARD CONTROLS (WITH PEGS)  
1986-1990 HD SPORTSTER® MODELS

BRAKE SIDE

TC BROS. CHOPPERS LLC  
www.tcbros.com  
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# TC BROS. CHOPPERS®

PART #102-0081

FORWARD CONTROLS (WITH PEGS) PARTS LIST

1986-1990 HD SPORTSTER® MODELS

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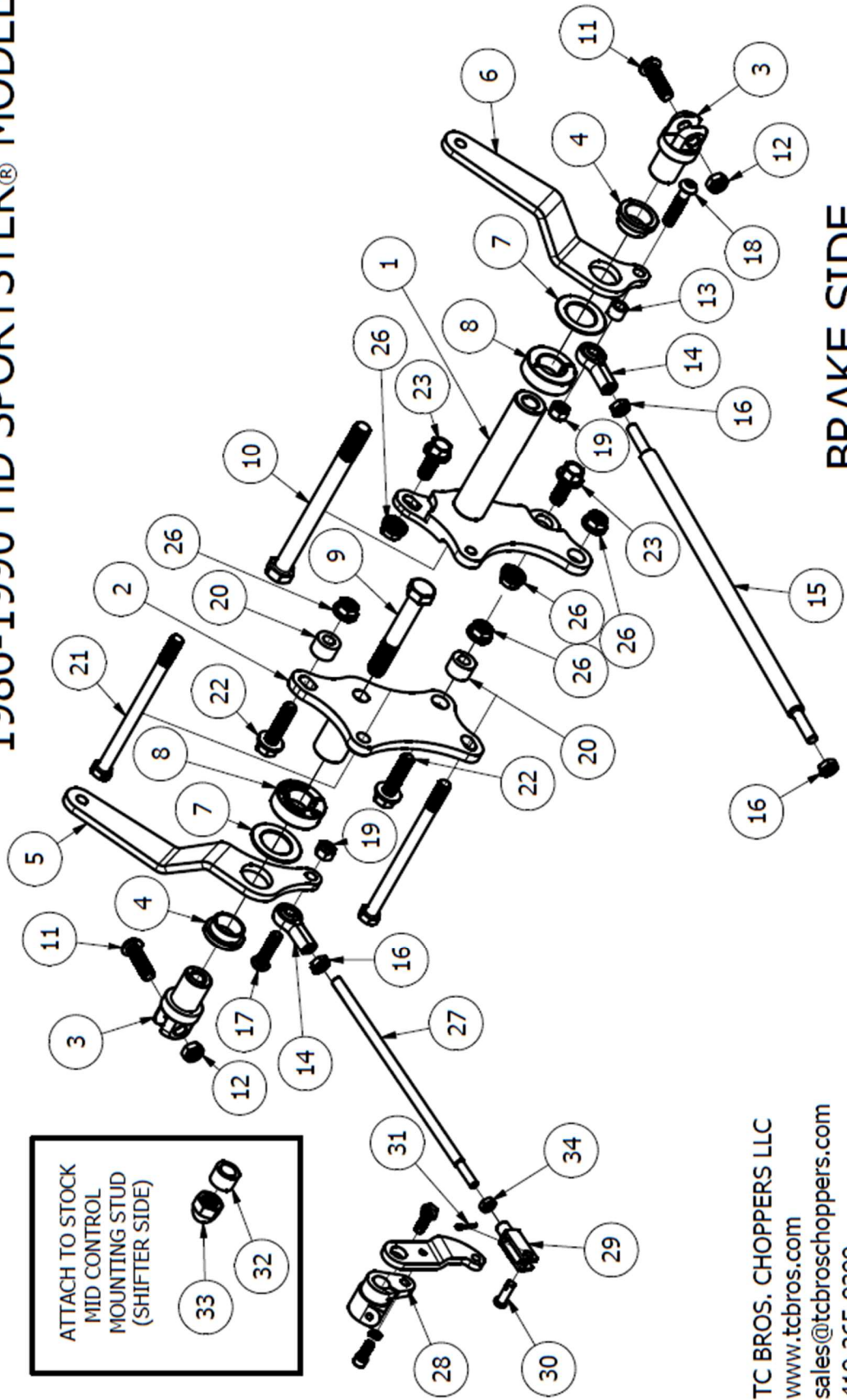
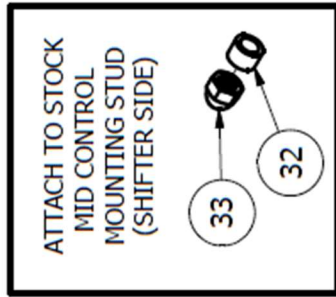
sales@tcbroschoppers.com

419-265-9399

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	MB883XL-R	BRAKE SIDE FC MOUNT
2	1	MB883XL-L	SHIFT SIDE FC MOUNT
3	2	FC888XL	FC CLEVIS
4	2	119-0153	7/8"IDx1"ODx1/2"LG BRONZE FLANGE BUSHING
5	1	FC893XL	SHIFT SIDE PIVOT
6	1	FC894XL	BRAKE SIDE PIVOT
7	2	FP883XL	HD FOOTPEG
8	2	FP884XL	HD TOE PEG
9	2	119-0154	1"ID x1-5/8"OD x1/16"TH BRONZE THRUST WASHER
10	2	119-0152	7/8 IDx1-5/8 OD ALUMINUM SHAFT COLLAR
11	1	119-0156	1/2-13 x 3-1/4 HEX BOLT
12	1	119-0053	1/2-13x6 HEX BOLT
13	2	119-0040	3/8-16x1-1/4 SS BUTTON HEAD BOLT
14	2	119-0155	3/8-16 THIN HEX LOCKNUT SS
15	2	119-0018	5/16 SS LOCK WASHER
16	2	119-0157	5/16-24x3/4 SS BUTTON HEAD BOLT
17	1	119-0139	.500ODx.319IDx.375LG ALUMINUM SPACER
18	2	119-0009	5/16-24 FEMALE HEIM JOINT
19	1	FC892XL	BRAKE ROD
20	3	119-0103	5/16-24 SS JAM NUT
21	1	119-0035	5/16-18x1-1/4 SS BUTTON HEAD BOLT
22	1	119-0036	5/16-18x1-1/2 SS BUTTON HEAD BOLT
23	2	119-0004	5/16-18 SS NYLOCK NUT
24	2	119-0158	3/8 IDx3/4 ODx1/2 LG ALUMINUM SPACER
25	1	119-0160	3/8-24 x5-1/2" HEX BOLT
26	2	119-0161	3/8-16 x1-1/2" HEX FLANGE BOLT
27	2	119-0162	3/8-16 x1" HEX FLANGE BOLT
28	2	119-0026	3/8 SAE WASHER
29	1	119-0164	3/8-16 x5-1/2" HEX BOLT
30	5	119-0163	3/8-16 SERRATED FLANGE HEX LOCK NUT
31	1	FC902XL	SHIFTER ROD
32	1	120-0037	SHIFT LEVER ASSEMBLY (WITH BOLTS)
33	1	119-0243	1/4-28 CLEVIS
34	1	119-0244	1/4 CLEVIS PIN
35	1	119-0245	3/32 COTTER PIN
36	1	119-0248	1/2 X 1/2 ALUMINUM SPACER
37	1	119-0247	1/2-13 ACORN NUT
38	1	119-0205	1/4-28 SS JAM NUT

**PART #102-0082  
 FORWARD CONTROLS (NO PEGS)  
 1986-1990 HD SPORTSTER® MODELS**

**SHIFTER SIDE**



**BRAKE SIDE**

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# TC BROS. CHOPPERS®

PART #102-0082

FORWARD CONTROLS (NO PEGS) PARTS LIST

1986-1990 HD SPORTSTER® MODELS

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	MB883XL-R	BRAKE SIDE FC MOUNT
2	1	MB883XL-L	SHIFT SIDE FC MOUNT
3	2	FC888XL	FC CLEVIS
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5	1	FC893XL	SHIFT SIDE PIVOT
6	1	FC894XL	BRAKE SIDE PIVOT
7	2	119-0154	1"ID x1-5/8"OD x1/16"TH BRONZE THRUST WASHER
8	2	119-0152	7/8 IDx1-5/8 OD ALUMINUM SHAFT COLLAR
9	1	119-0156	1/2-13 x 3-1/4 HEX BOLT
10	1	119-0053	1/2-13x6 HEX BOLT
11	2	119-0040	3/8-16x1-1/4 SS BUTTON HEAD BOLT
12	2	119-0155	3/8-16 THIN HEX LOCKNUT SS
13	1	119-0139	.500ODx.319IDx.375LG ALUMINUM SPACER
14	2	119-0009	5/16-24 FEMALE HEIM JOINT
15	1	FC892XL	BRAKE ROD
16	3	119-0103	5/16-24 SS JAM NUT
17	1	119-0035	5/16-18x1-1/4 SS BUTTON HEAD BOLT
18	1	119-0036	5/16-18x1-1/2 SS BUTTON HEAD BOLT
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26	5	119-0163	3/8-16 SERRATED FLANGE HEX LOCK NUT
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29	1	119-0243	1/4-28 CLEVIS
30	1	119-0244	1/4 CLEVIS PIN
31	1	119-0245	3/32 COTTER PIN
32	1	119-0248	1/2 X 1/2 ALUMINUM SPACER
33	1	119-0247	1/2-13 ACORN NUT
34	1	119-0205	1/4-28 SS JAM NUT

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# TC BROS. CHOPPERS

## 102-0081 & 102-0082 HD SPORTSTER FORWARD CONTROLS HARDWARE DIAGRAM (FULL SIZE)

