

## PART #'S:

3030, 3031, 3035, 3040, 3042, 3045, 3046, 3047, 3048, 3050, 3051

## **IMPORTANT NOTICE:**

This installation should be done by an experienced mechanic who has access to a factory service manual and all required tools.

Incorrect installation can cause engine damage not covered under warranty. Failure to install components correctly can cause engine seizure. Engine seizure may result in serious injury to motorcycle, operator, passenger, and/or others. Improperly torqued bolts may result in oil leaks and distortion of components. If replacing the engines head bolts or studs always use new head & base gaskets.

Some fastener kits may include fasteners not applicable to your model.

## INSTRUCTIONS:

- Refer to the proper service manual for your model motorcycle engine.
- 2. Wash, clean and inspect all new Feuling hardware.
- 3. Clean and inspect all bolt holes.
- 4. Lightly coat the under head flange of all bolts with moly lube as well as washers when applicable.
- Lightly coat threads with Loctite when and where applicable. (See owners manual)
- It is recommended to use new gaskets and 0-rings to insure proper sealing.
- Check gaskets and 0-rings for proper installation.
- 8. When installing fasteners on moving parts always rotate engine over several times before tightening to insure the parts are centered.
- 9. First finger tight each fastener using the proper sequence from your service manual, if no sequence is giving always use an alternating sequence starting in the center working your way out.
- 10. Torque the fasteners following your recommended torque values and always tighten fasteners stepping the torque value in small increments.

# U.S. STANDARD TORQUE VALUES BY



FASTENER DIAMETER TORQUE ARP LUBE (FT/LBS.) PRELOAD (LBS.)

1/4"	12	3,492
5/16"	24	5,805
3/8"	45	8,622



### \* STANDARD 1 YEAR WARRANTY:

- WARRANTY COVERS MANUFACTURE DEFECTS.
- DOES NOT COVER PARTS THAT HAVE FAILED DUE TO IMPROPER INSTALLATION. MAINTENANCE. EXCESSIVE CRANKSHAFT RUNOUT. OR MISUSE.
- DOES NOT COVER ANY CONSEQUENTIAL DAMAGE RESULTING FROM A FAILURE OF A OIL TANK MUST BE DROPPED & CLEANED. FEULING PRODUCT.

#### \* OPTIONAL 2 YEAR WARRANTY:

- ADDITIONAL YEAR WARRANTY IS ONLY AVAILABLE IF PARTS ARE INSTALLED BY A PROFESSIONAL INSTALLER.
- THE ONLINE WARRANTY FORM MUST BE COMPLETED BY THE DEALER PRIOR TO BIKE DELIVERY.
- CRANKSHAFT RUNOUT MUST BE BELOW 0.005"

NOTE: FOR FULL WARRANTY INFORMATION VISIT WWW.FEULINGPARTS.COM/WARRANTY

1000	Part #	<u>Description</u>	<u>Qty.</u>
1900-02		T/C CYLINDER STUDS & HEAD BOLTS	0
3000-03			-
1005			-
3006		T/C CYLINDER STUDS (3000-01)	
19025			
1900			
3025-01   EVO CYLINDER STUDS (3025-01)   8	3000-02	Head Bolts (short) 1.875"	4
3026			=
3030			
3030-01			8
3030-02   Stainless Washer 5/16"   9   3030-03   Stainless 12 point 5/16 - 18 x 3.750" (CVO center bott)   1   1   3031-01   Stainless 12 point 5/16 - 18 x 3.000"   12   3031-02   Stainless Washer 5/16"   12   3031-03   Stainless Washer 5/16"   12   3031-03   Stainless Washer 5/16"   12   3031-03   Stainless 12 point 5/16 - 18 x 3.750" (CVO center bott)   1   3033   1/C 12 PT. LIFTER BLOCK BOLT KIT   3033-01   Stainless 12 point 1/4-20 x 1.000"   8   3035-01   Stainless 12 point 1/4-20 x 1.000"   8   3035-01   Lifter Block, stainless ¼-20 x 1.000   8   3035-02   Cam Cover, stainless ¼-20 x 1.000   3   3035-03   Oil Filter adapter, stainless ¼-20 x 1.000   3   3035-03   Oil Filter adapter, stainless ½-20 x 1.000   3   3035-04   Crank sensor, stainless ½-20 x 0.500   1   3040-01   Rocker Cover, stainless 5/16-18 x 1.000   6   3040-02   Rocker Cover, stainless 5/16-18 x 1.750   6   3042-01   Camshaft Bolt, blk, oxide 5/16-18 x 1.750   1   3042-02   Pinion Shaft, blk, oxide 5/16-18 x 1.750   1   3042-02   Pinion Shaft, blk, oxide 5/16-18 x 1.750   1   3042-04   Pinion Shaft Washer, blk, oxide 5/16-18 x 2.750   1   3042-04   Pinion Shaft Washer, blk, oxide 5/16-18 x 2.750   4   3045-04   Rocker Arm Supports, blk, oxide 5/16-18 x 2.750   4   3045-03   Rocker Box Housing, blk, oxide 5/16-18 x 2.750   4   3045-03   Rocker Box Housing, blk, oxide 5/16-18 x 1.250   4   3045-05   Breathers, blk, oxide ½-20 x 2.250   4   3045-06   Rocker Box Housing, blk, oxide 5/16-18 x 1.250   4   3045-05   Breathers, blk, oxide ½-20 x 2.250   4   3045-06   Rocker Box Housing, blk, oxide 5/16-18 x 1.250   4   3045-05   Breathers, blk, oxide ½-20 x 2.250   4   3045-06   Rocker Box Housing, blk, oxide 5/16-18 x 1.250   4   3045-06   Rocker Box Housing, blk, oxide 5/16-18 x 1.250   4   3045-05   Breathers, blk, oxide ½-20 x 2.250   4   30			0
3030-03			-
3031-01   Stainless 12 point 5/16 — 18 x 3.000"   12   3031-02   Stainless 12 point 5/16 — 18 x 3.750" (CV0 center bott)   1   12   3031-03   Stainless 12 point 5/16 — 18 x 3.750" (CV0 center bott)   1   1   3033   3033-01   Stainless 12 point 1/4-20 x 1.000"   8   3035-01   Stainless 12 point 1/4-20 x 1.000"   8   3035-01   Stainless 12 point 1/4-20 x 1.000   8   3035-02   Cam Cover, stainless 1/4-20 x 1.000   8   3035-02   Cam Cover, stainless 1/4-20 x 1.000   3   3035-03   Oil Filter adapter, stainless 1/4-20 x 1.000   3   3035-04   Crank sensor, stainless 1/4-20 x 0.500   1   3040   T/C ROCKER COVERS   3040-01   Rocker Cover, stainless 5/16-18 x 1.000   6   3040-02   Rocker Cover, stainless 5/16-18 x 1.000   6   3040-02   Rocker Cover, stainless 5/16-18 x 1.750   6   3042-02   Pinion Shaft, blk. oxide 3/8-24 x 1.750   1   3042-02   Pinion Shaft, blk. oxide 5/16-18 x 7.50   1   3042-03   Camshaft Bolt, blk. oxide 3/8-24 x 1.750   1   3042-03   Camshaft Washer, blk. oxide 3/8   1   3042-04   Pinion Shaft, blk. oxide 5/16-18 x 2.750   1   3045-01   Rocker Arm Supports, blk. oxide 5/16-18 x 2.500   4   3045-02   Rocker Arm Supports, blk. oxide 5/16-18 x 2.500   4   3045-03   Rocker Box Housing, blk. oxide 5/16-18 x 1.750   4   3045-05   Breathers, blk oxide 1/2-02 x 2.250   4   3045-05   Breathe	1 0000		
3031-02   Stainless Washer 5/16"   12   3031-03   Stainless 12 point 5/16 - 18 x 3.750" (CVO center bott)   1			
3031-03   Stainless 12 point 5/16 - 18 x 3.750" (CV0 center bott)   1			
3033   T/C 12 PT. LIFTER BLOCK BOLT KIT			
3033-01   Stainless 12 point 1/4-20 x 1.000"   8		·	<u>'</u>
OIL FILTER ADAPTER, CRANK SENSOR			8
OIL FILTER ADAPTER, CRANK SENSOR	3035	,	
3035-02   Cam Cover, stainless ¼-20 x 1.250   10		OIL FILTER ADAPTER, CRANK SENSOR	
3035-03			-
3040	1		
3040   T/C ROCKER COVERS   3040-01   Rocker Cover, stainless 5/16-18 x 1.000   6   3040-02   Rocker Cover, stainless 5/16-18 x 1.750   6   6   8   3042-01   Rocker Cover, stainless 5/16-18 x 1.750   6   6   8   3042-01   Camshaft Bolt, blk. oxide 3/8-24 x 1.750   1   3042-02   Pinion Shaft, blk. oxide 5/16-18 x .750   1   3042-03   Camshaft Washer, blk. oxide 3/8   1   3042-04   Pinion Shaft Washer, blk. oxide 5/16   1   1   3045   T/C 12PT. ROCKER ARM SUPPORTS, HOUSINGS, BREATHERS ('99-'00 DYNA & FLI, '00-'01 SOFTAIL)   3045-01   Rocker Arm Supports, blk. oxide 5/16-18 x 2.750   4   3045-02   Rocker Box Housing, blk. oxide 5/16-18 x 2.500   4   3045-03   Rocker Box Housing, blk. oxide 5/16-18 x 1.250   8   3045-05   Breathers, blk oxide ½-20 x 2.250   4   3045-05   Breathers, blk oxide ½-20 x 2.250   4   3045-05   Rocker Arm Supports, blk. oxide 5/16-18 x 1.250   8   3045-05   Rocker Arm Supports, blk. oxide 5/16-18 x 1.250   8   3045-05   Rocker Arm Supports, blk. oxide 5/16-18 x 1.250   8   3045-05   Rocker Arm Supports, blk. oxide 5/16-18 x 1.250 (use washer)   8   3045-03   Rocker Box Housing, blk. oxide 5/16-18 x 1.250 (use washer)   8   3045-04   Rocker Box Housing, blk. oxide 5/16-18 x 1.250 (use washer)   8   3045-05   Breathers, blk oxide ¼-20 x 2.250 (early model)   4   3045-06   Rocker Arm Supports/Housings washers, blk oxide 5/16   20   3046-07   Breathers, blk oxide ¼-20 x 2.250 (early model)   4   3045-06   Rocker Arm Supports/Housings washers, blk oxide 5/16   20   3046-08   Breathers, blk oxide ½-20 x 1.675 (late model, use washer)   4   3048-01   Exhaust Studs 5/16 x 1.700   4   3048-01   Exhaust Studs 5/16 x 1.700   4   3048-02   12 pt. self locking nut 5/16-24   4	1		
3040-01			
3042   3042			6
3042-01   Camshaft Bolt, blk. oxide 3/8-24 x 1.750   1     3042-02   Pinion Shaft, blk. oxide 5/16-18 x .750   1     3042-03   Camshaft Washer, blk. oxide 3/8   1     3042-04   Pinion Shaft Washer, blk. oxide 5/16   1     3045   T/C 12PT. ROCKER ARM SUPPORTS, HOUSINGS, BREATHERS ('99-'00 DYNA & FLT, '00-'01 SOFTAIL)     3045-01   Rocker Arm Supports, blk. oxide 5/16-18 x 2.750   4     3045-02   Rocker Arm Supports, blk. oxide 5/16-18 x 2.500   4     3045-03   Rocker Box Housing, blk. oxide 5/16-18 x 1.750   4     3045-04   Rocker Box Housing, blk. oxide 5/16-18 x 1.250   8     3045-05   Breathers, blk oxide ½-20 x 2.250   4     3046   T/C 12PT. ROCKER ARM SUPPORTS, HOUSINGS, BREATHERS ('01-PRESENT DYNA & FLT, '02-PRESENT SOFTAIL)     3045-02   Rocker Arm Supports, blk. oxide 5/16-18 x 2.500 (use washer)   8     3045-03   Rocker Box Housing, blk. oxide 5/16-18 x 1.750 (use washer)   4     3045-04   Rocker Box Housing, blk. oxide 5/16-18 x 1.250 (use washer)   4     3045-05   Breathers, blk oxide ½-20 x 2.250 (early model)   4     3045-06   Rocker Arm Supports/Housings washers, blk oxide 5/16   20     3046-07   Breathers, blk oxide ½-20 x 1.675 (late model, use washer)   4     3048   T/C EXHAUST STUD KIT   Exhaust Studs 5/16 x 1.700   4     3048-01   Exhaust Studs 5/16 x 1.700   4     3048-02   12 pt. self locking nut 5/16-24   4	3040-02	Rocker Cover, stainless 5/16-18 x 1.750	6
3042-02			_
3042-03   Camshaft Washer, blk. oxide 3/8   1   3042-04   Pinion Shaft Washer, blk. oxide 5/16   1   1	1		=
3045			=
Comparison		· · · · · · · · · · · · · · · · · · ·	
3045-01   Rocker Arm Supports, blk. oxide 5/16-18 x 2.750   4   3045-02   Rocker Arm Supports, blk. oxide 5/16-18 x 2.500   4   3045-03   Rocker Box Housing, blk. oxide 5/16-18 x 1.750   4   3045-04   Rocker Box Housing, blk. oxide 5/16-18 x 1.250   8   3045-05   Breathers, blk oxide ½-20 x 2.250   4     3045-05   Breathers, blk oxide ½-20 x 2.250   4     3046   T/C 12PT. ROCKER ARM SUPPORTS, HOUSINGS, BREATHERS (**01-PRESENT DYNA & FLT, **102-PRESENT SOFTAIL**)   3045-02   Rocker Arm Supports, blk. oxide 5/16-18 x 2.500 (use washer)   8   3045-03   Rocker Box Housing, blk. oxide 5/16-18 x 1.750 (use washer)   4   3045-04   Rocker Box Housing, blk. oxide 5/16-18 x 1.250 (use washer)   8   3045-05   Breathers, blk oxide ½-20 x 2.250 (early model)   4   3045-06   Rocker Arm Supports/Housings washers, blk oxide 5/16   20   3046-07   Breathers, blk oxide ½-20 x 1.675 (late model, use washer)   4   3046-08   Breather bolt washers, small OD, blk oxide 1/4   4     3048-01   Exhaust Studs 5/16 x 1.700   4   3048-01   Exhaust Studs 5/16 x 1.700   4   3048-02   12 pt. self locking nut 5/16-24   4	3045	T/C 12PT. ROCKER ARM SUPPORTS, HOUSINGS, BREATHERS	
3045-02   Rocker Arm Supports, blk. oxide 5/16-18 x 2.500   4   3045-03   Rocker Box Housing, blk. oxide 5/16-18 x 1.750   4   3045-04   Rocker Box Housing, blk. oxide 5/16-18 x 1.250   8   3045-05   Breathers, blk oxide ½-20 x 2.250   4     3046   T/C 12PT. ROCKER ARM SUPPORTS, HOUSINGS, BREATHERS (**01-PRESENT DYNA & FLT, **02-PRESENT SOFTAIL**)   3045-02   Rocker Arm Supports, blk. oxide 5/16-18 x 2.500 (use washer)   8   3045-03   Rocker Box Housing, blk. oxide 5/16-18 x 1.750 (use washer)   4   3045-04   Rocker Box Housing, blk. oxide 5/16-18 x 1.250 (use washer)   8   3045-05   Breathers, blk oxide ½-20 x 2.250 (early model)   4   3045-06   Rocker Arm Supports/Housings washers, blk oxide 5/16   20   3046-07   Breathers, blk oxide ½-20 x 1.675 (late model, use washer)   4   3046-08   Breather bolt washers, small 0D, blk oxide 1/4   4     3048-01   Exhaust Studs 5/16 x 1.700   4   3048-02   12 pt. self locking nut 5/16-24   4	00/5 04		,
3045-03   Rocker Box Housing, blk. oxide 5/16-18 x 1.750   4   3045-04   Rocker Box Housing, blk. oxide 5/16-18 x 1.250   8   3045-05   Breathers, blk oxide ½-20 x 2.250   4     3046   T/C 12PT. ROCKER ARM SUPPORTS, HOUSINGS, BREATHERS (**01-PRESENT DYNA & FLT, **102-PRESENT SOFTAIL**)   3045-02   Rocker Arm Supports, blk. oxide 5/16-18 x 2.500 (use washer)   8   3045-03   Rocker Box Housing, blk. oxide 5/16-18 x 1.750 (use washer)   4   3045-04   Rocker Box Housing, blk. oxide 5/16-18 x 1.250 (use washer)   8   3045-05   Breathers, blk oxide ½-20 x 2.250 (early model)   4   3045-06   Rocker Arm Supports/Housings washers, blk oxide 5/16   20   3046-07   Breathers, blk oxide ½-20 x 1.675 (late model, use washer)   4   3046-08   Breather bolt washers, small OD, blk oxide 1/4   4     3048-01   Exhaust Studs 5/16 x 1.700   4   3048-02   12 pt. self locking nut 5/16-24   4			-
3045-04   Rocker Box Housing, blk. oxide 5/16-18 x 1.250   8   3045-05   Breathers, blk oxide ½-20 x 2.250   4     3046   T/C 12PT. ROCKER ARM SUPPORTS, HOUSINGS, BREATHERS (**01-PRESENT DYNA & FLT, **102-PRESENT SOFTAIL**)   3045-02   Rocker Arm Supports, blk. oxide 5/16-18 x 2.500 (use washer)   8   3045-03   Rocker Box Housing, blk. oxide 5/16-18 x 1.750 (use washer)   4   3045-04   Rocker Box Housing, blk. oxide 5/16-18 x 1.250 (use washer)   8   3045-05   Breathers, blk oxide ½-20 x 2.250 (early model)   4   3045-06   Rocker Arm Supports/Housings washers, blk oxide 5/16   20   3046-07   Breathers, blk oxide ½-20 x 1.675 (late model, use washer)   4   3046-08   Breather bolt washers, small 0D, blk oxide 1/4   4     3048-01   Exhaust Studs 5/16 x 1.700   4   3048-02   12 pt. self locking nut 5/16-24   4			•
3045-05   Breathers, blk oxide ¼-20 x 2.250   4			-
CO1-PRESENT DYNA & FLT, '02-PRESENT SOFTAIL)   3045-02			_
3045-02       Rocker Arm Supports, blk. oxide 5/16-18 x 2.500 (use washer)       8         3045-03       Rocker Box Housing, blk. oxide 5/16-18 x 1.750 (use washer)       4         3045-04       Rocker Box Housing, blk. oxide 5/16-18 x 1.250 (use washer)       8         3045-05       Breathers, blk oxide ½-20 x 2.250 (early model)       4         3045-06       Rocker Arm Supports/Housings washers, blk oxide 5/16       20         3046-07       Breathers, blk oxide ½-20 x 1.675 (late model, use washer)       4         3046-08       Breather bolt washers, small OD, blk oxide 1/4       4         3048       T/C EXHAUST STUD KIT         3048-01       Exhaust Studs 5/16 x 1.700       4         3048-02       12 pt. self locking nut 5/16-24       4	3046		
3045-03       Rocker Box Housing, blk. oxide 5/16-18 x 1.750 (use washer)       4         3045-04       Rocker Box Housing, blk. oxide 5/16-18 x 1.250 (use washer)       8         3045-05       Breathers, blk oxide ½-20 x 2.250 (early model)       4         3045-06       Rocker Arm Supports/Housings washers, blk oxide 5/16       20         3046-07       Breathers, blk oxide ½-20 x 1.675 (late model, use washer)       4         3046-08       Breather bolt washers, small OD, blk oxide 1/4       4         3048       T/C EXHAUST STUD KIT         3048-01       Exhaust Studs 5/16 x 1.700       4         3048-02       12 pt. self locking nut 5/16-24       4	3045_02		Ω
3045-04       Rocker Box Housing, blk. oxide 5/16-18 x 1.250 (use washer)       8         3045-05       Breathers, blk oxide ½-20 x 2.250 (early model)       4         3045-06       Rocker Arm Supports/Housings washers, blk oxide 5/16       20         3046-07       Breathers, blk oxide ½-20 x 1.675 (late model, use washer)       4         3046-08       Breather bolt washers, small OD, blk oxide 1/4       4         3048       T/C EXHAUST STUD KIT         3048-01       Exhaust Studs 5/16 x 1.700       4         3048-02       12 pt. self locking nut 5/16-24       4			-
3045-06       Rocker Arm Supports/Housings washers, blk oxide 5/16       20         3046-07       Breathers, blk oxide ½-20 x 1.675 (late model, use washer)       4         3046-08       Breather bolt washers, small OD, blk oxide 1/4       4         3048       T/C EXHAUST STUD KIT         3048-01       Exhaust Studs 5/16 x 1.700       4         3048-02       12 pt. self locking nut 5/16-24       4	3045-04	Rocker Box Housing, blk. oxide 5/16-18 x 1.250 (use washer)	8
3046-07       Breathers, blk oxide ½-20 x 1.675 (late model, use washer)       4         3046-08       Breather bolt washers, small OD, blk oxide 1/4       4         3048       T/C EXHAUST STUD KIT         3048-01       Exhaust Studs 5/16 x 1.700       4         3048-02       12 pt. self locking nut 5/16-24       4			-
3046-08         Breather bolt washers, small OD, blk oxide 1/4         4           3048         T/C EXHAUST STUD KIT         3048-01         Exhaust Studs 5/16 x 1.700         4           3048-02         12 pt. self locking nut 5/16-24         4			
3048-01       Exhaust Studs 5/16 x 1.700       4         3048-02       12 pt. self locking nut 5/16-24       4		Breather bolt washers, small OD, blk oxide 1/4	-
3048-02 12 pt. self locking nut 5/16-24 4			
		•	4





PART #3042





